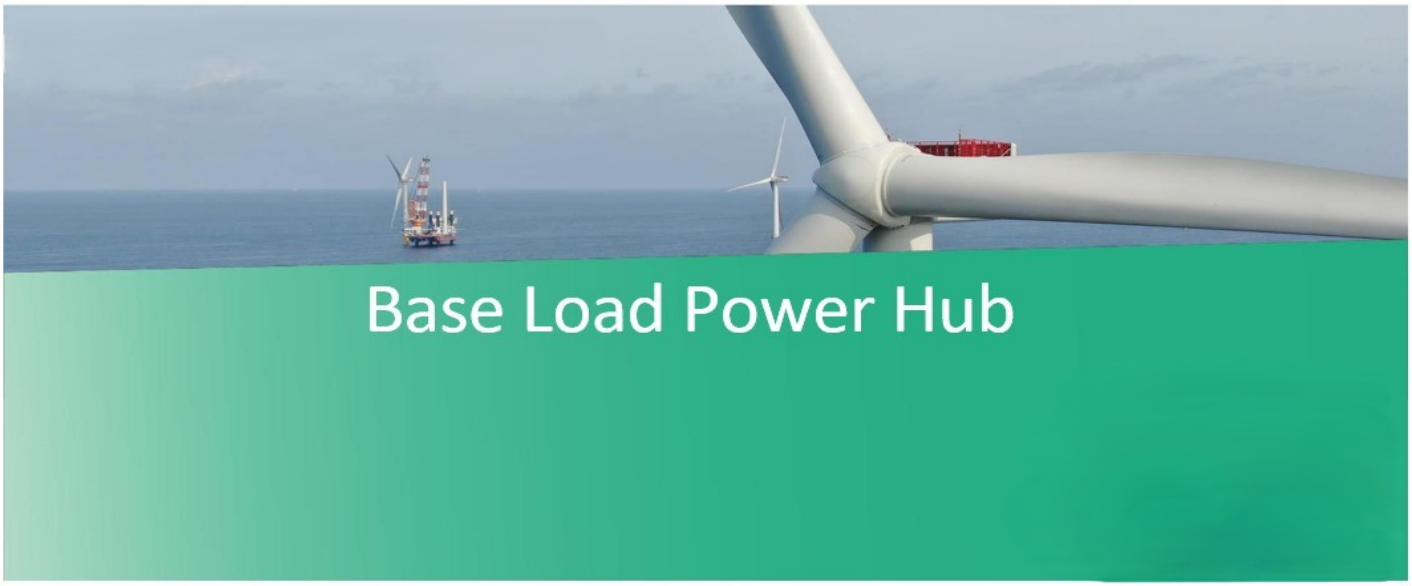
CROSSWIND

ROSETTI MARINO

PROVERLIS

PROJECT **123A90 - HOLLANDSE KUST NOORD WIND PARK**
BLPH Project



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	90 Structural, Architectural
SUBSYSTEM	90-03 UPS System Equipment Room B-300

CROSSWIND	123A90 - HOLLANDSE KUST NOORD WIND PARK BLPH Project MECHANICAL COMPLETION DOSSIER INDEX	ROSETTI MARINO

Sub System N°:	90-03	Tick as appropriate	ONSHORE	O
Description:	UPS System Equipment Room B-300		OFFSHORE	NA

1.	***READY FOR COMMISSIONING CERTIFICATE*** *Ready For Commissioning Certificate (RFC)*	O
2.	***CONSOLIDATED PUNCH LISTS*** *Cleared and Residual Items*	O
3.	***SYSTEM/SUB-SYSTEM LIMIT DRAWINGS*** *Mark-up drawings showing the limits of the relevant System/Sub-System*	NA
4.	***MECHANICAL COMPLETION STATUS INDEX – BUILDING DISCIPLINE*** *Building Sub-System Status Index (Print out) and Check/Test sheets*	NA
5.	***MECHANICAL COMPLETION STATUS INDEX – ELECTRICAL DISCIPLINE*** *Electrical Sub-System Status Index (Print out) and Check/Test Sheets* *Hazardous Area Equipment Detailed Inspection*	O
6.	***MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE*** *Instrumental Sub-System Status Index (Print out) and Check/Test Sheets*	O
7.	***MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE*** *Mechanical SubSystem Status Index (Print out) and Check/Test Sheets*	NA
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	NA
9.	***MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE*** *HVAC Sub-System Status Index (Print out) and Check/Test Sheets*	NA
10.	***MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE*** *Piping Sub-System Status Index and Check/Test Sheets*	NA
11.	***MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE*** *Safety Sub-System Status Index (Print out) and Check/Test Sheets*	NA
12.	***FAT / VENDOR REPORTS*** *Fat reports issued by vendors and/or vendor reports*	NA
13.	***MECHANICAL COMPLETION CHANGES / MARK-UPS*** *A copy of the changes initiated during the Mechanical Completion process pertaining to the relevant Sub-System will be incorporated in this section*	NA

Note: Under the generic terminology “Building” are also covered the following disciplines: **Structural, Painting**

Under the generic terminology “Instrumental” is also covered the following discipline: **Fire & Gas**

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2025-02-27	
System:	90	/	Structural, Architectural		
SubSystem:	90-03	/	UPS System Equipment Room B-300		

1	COMPANY has, at its option and if required, reviewed the mechanical completion associated with the above-named system/sub-system of the SCOPE and observed that such functional sub-system has been brought into readiness for commencement of the associated pre-commissioning and commissioning activities, but for the outstanding punch list items, if any, attached and referred in this Certificate.
2	Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.
3	Mechanical Completion Status Index attached (per Discipline) Punch List report attached (Outstanding and Cleared)

PUNCH LIST	PENDING POINTS	
Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate	A '0	B 4

REMARKS:

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	CPY NOT PRESENT	CPY NOT PRESENT
Date	2025-02-28	2025-02-28	2025-02-28	2025-02-28
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2025-02-28T14:56:55.554Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-02-28T15:53:12.364Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-02-28T16:19:18.612Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-02-28T16:19:25.882Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 90-03 & process: MC

Electrical	90-03 UPS System Equipment Room B-300						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	ONSHORE	C10002288	CPX30A	100	2024-10-03	RFC 1
		ONSHORE	C10002289	CPX30B	100	2025-02-21	RFC 1
E-MCT-301	Multi Cable Transit	ONSHORE	C10001872	CPX29	100	2025-02-19	RFC 1
E-MCT-302	Multi Cable Transit	ONSHORE	C10001873	CPX29	100	2025-01-24	RFC 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 90-03 & process: MC

Instrumental	90-03 UPS System Equipment Room B-300						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
CABLE_TRAY_B300_INS	Cable Tray B300 - Instrumental	ONSHORE	C10002290	CJX30A	100	2024-10-03	RFC 1
		ONSHORE	C10002291	CJX30B	100	2025-02-21	RFC 1
I-MCT-301	Multi Cable Transit	ONSHORE	C10001900	CJX29	100	2025-01-11	RFC 1
I-MCT-302	Multi Cable Transit	ONSHORE	C10001901	CJX29	100	2025-01-22	RFC 1
I-MCT-303	Multi Cable Transit	ONSHORE	C10001902	CJX29	100	2025-02-08	RFC 1

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	90	Structural, Architectural
SUBSYSTEM	90-03	UPS System Equipment Room B-300

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000133	B	CABLE_TRAY_B300_ELE_LV C10002288	Cabletray not installed L-600-101-LVT-036	.		Gtangianu 2024-10-03	2025-01-03	Gtangianu 2025-01-03	2025-01-03
C30000134	B	CABLE_TRAY_B300_ELE_LV C10002288	Cabletray not installed; L-300-100-LVT-048 and L-300-100-LVT-047	.		Gtangianu 2024-10-03	2025-01-03	Gtangianu 2025-01-03	2025-01-03
C30000135	B	CABLE_TRAY_B300_ELE_LV C10002288	Missing copper grease on all earthing connection.	.		Gtangianu 2024-10-03	Alambertini 2024-10-16	Ecarotenuto 2024-10-16	2024-10-16
C30003190	B	E-MCT-302 C10001873	Missing traffolyte tag on both side of MCT	.		Pschintu 2025-01-24	2025-02-07	Pschintu 2025-02-07	2025-02-07
C30003194	B	E-MCT-302 C10001873	MCT composition to be checked after temporary cables are removed	.		Pschintu 2025-01-24			
C30004063	B	CABLE_TRAY_B300_ELE_LV C10002289	Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10	.		Ecarotenuto 2025-02-21			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 90 Structural, Architectural

SUBSYSTEM 90-03 UPS System Equipment Room B-300

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000136	B	CABLE_TRAY_B300_INS C10002290	Missing copper grease on all earthing connection.	.		Gtangianu 2024-10-03	Alambertini 2024-10-16	Ecarotenuto 2024-10-16	2024-10-16
C30000137	B	CABLE_TRAY_B300_INS C10002290	Cables tray "W200X80mm" found installed above L200-101-IST-063 ,Drawing to be update 123A90-DDL-IN-DL-40115 Rev 00.	.		Gtangianu 2024-10-03	2025-02-13	Gtangianu 2025-02-13	2025-02-13
C30002686	B	I-MCT-301 C10001900	Missing traffolyte tag on both sides of MCT	.		Pschintu 2025-01-11	2025-02-03	Pschintu 2025-02-03	2025-02-03
C30002687	B	I-MCT-301 C10001900	MCT composition to be checked after temporary cables are removed	.		Pschintu 2025-01-11			
C30003161	B	I-MCT-302 C10001901	Missing traffolyte tag on both side of MCT	.		Pschintu 2025-01-22	2025-02-03	Pschintu 2025-02-03	2025-02-03
C30004064	B	CABLE_TRAY_B300_INS C10002291	Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10	.		Ecarotenuto 2025-02-21			

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	90	Structural, Architectural
SUBSYSTEM	90-03	UPS System Equipment Room B-300

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000133	B	CABLE_TRAY_B300_ELE_LV C10002288	Cabletray not installed L-600-101-LVT-036	.		Gtangianu 2024-10-03	2025-01-03	Gtangianu 2025-01-03	2025-01-03
C30000134	B	CABLE_TRAY_B300_ELE_LV C10002288	Cabletray not installed; L-300-100-LVT-048 and L-300-100-LVT-047	.		Gtangianu 2024-10-03	2025-01-03	Gtangianu 2025-01-03	2025-01-03
C30000135	B	CABLE_TRAY_B300_ELE_LV C10002288	Missing copper grease on all earthing connection.	.		Gtangianu 2024-10-03	Alambertini 2024-10-16	Ecarotenuto 2024-10-16	2024-10-16
C30003190	B	E-MCT-302 C10001873	Missing traffolyte tag on both side of MCT	.		Pschintu 2025-01-24	2025-02-07	Pschintu 2025-02-07	2025-02-07
C30003194	B	E-MCT-302 C10001873	MCT composition to be checked after temporary cables are removed	.		Pschintu 2025-01-24	2025-03-04	JKrizanic 2025-03-04	2025-03-04
C30004063	B	CABLE_TRAY_B300_ELE_LV C10002289	Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10	.		Ecarotenuto 2025-02-21	2025-03-01	Pschintu 2025-03-01	2025-03-01

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	90	Structural, Architectural
SUBSYSTEM	90-03	UPS System Equipment Room B-300

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000136	B	CABLE_TRAY_B300_INS C10002290	Missing copper grease on all earthing connection.	.		Gtangianu 2024-10-03	Alambertini 2024-10-16	Ecarotenuto 2024-10-16	2024-10-16
C30000137	B	CABLE_TRAY_B300_INS C10002290	Cables tray "W200X80mm" found installed above L200-101-IST-063 ,Drawing to be update 123A90-DDL-IN-DL-40115 Rev 00.	.		Gtangianu 2024-10-03	2025-02-13	Gtangianu 2025-02-13	2025-02-13
C30002686	B	I-MCT-301 C10001900	Missing traffolyte tag on both sides of MCT	.		Pschintu 2025-01-11	2025-02-03	Pschintu 2025-02-03	2025-02-03
C30002687	B	I-MCT-301 C10001900	MCT composition to be checked after temporary cables are removed	.		Pschintu 2025-01-11	2025-03-04	JKrizanic 2025-03-04	2025-03-04
C30003161	B	I-MCT-302 C10001901	Missing traffolyte tag on both side of MCT	.		Pschintu 2025-01-22	2025-02-03	Pschintu 2025-02-03	2025-02-03
C30004064	B	CABLE_TRAY_B300_INS C10002291	Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10	.		Ecarotenuto 2025-02-21	2025-03-01	Pschintu 2025-03-01	2025-03-01

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004064

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002291	1.4 Discipline	Instrumental
1.2 Item	CABLE_TRAY_B300_INS	Cable Tray B300 - Instrumental	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10

Name: Eleonora Carotenuto

Date: 2025-02-21

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-21
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Paolo Schintu

Date: 2025-03-01

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000133

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002288	1.4 Discipline	Electrical
1.2 Item	CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Cabletray not installed L-600-101-LVT-036

Name: Giovanni Tangianu

Date: 2024-10-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000134

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002288	1.4 Discipline	Electrical
1.2 Item	CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Cabletray not installed; L-300-100-LVT-048 and L-300-100-LVT-047

Name: Giovanni Tangianu

Date: 2024-10-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000135

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002288	1.4 Discipline	Electrical
1.2 Item	CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Missing copper grease on all earthing connection.

Name: Giovanni Tangianu
Date: 2024-10-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

-

Name: Andrea Lambertini
Date: 2024-10-16
Signature:

5 - CLEARANCE CHECK

Point Not Applicable

Name: Eleonora Carotenuto
Date: 2024-10-16
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000136

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002290	1.4 Discipline	Instrumental
1.2 Item	CABLE_TRAY_B300_INS	Cable Tray B300 - Instrumental	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Missing copper grease on all earthing connection.

Name: Giovanni Tangianu

Date: 2024-10-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

-

Name: Andrea Lambertini

Date: 2024-10-16

Signature:

5 - CLEARANCE CHECK

Point Not Applicable

Name: Eleonora Carotenuto

Date: 2024-10-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000137

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002290	1.4 Discipline	Instrumental
1.2 Item	CABLE_TRAY_B300_INS	Cable Tray B300 - Instrumental	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Cables tray "W200X80mm" found installed above L200-101-IST-063 ,Drawing to be update 123A90-DDL-IN-DL-40115 Rev 00.

Name: Giovanni Tangianu
Date: 2024-10-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-03
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu
Date: 2025-02-13
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002686

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001900	1.4 Discipline	Instrumental
1.2 Item	I-MCT-301	Multi Cable Transit	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Missing traffolyte tag on both sides of MCT

Name: Paolo Schintu

Date: 2025-01-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Paolo Schintu

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002687

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001900	1.4 Discipline	Instrumental
1.2 Item	I-MCT-301	Multi Cable Transit	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

MCT composition to be checked after temporary cables are removed

Name: Paolo Schintu

Date: 2025-01-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003161

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001901	1.4 Discipline	Instrumental
1.2 Item	I-MCT-302	Multi Cable Transit	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Missing traffolyte tag on both side of MCT

Name: Paolo Schintu

Date: 2025-01-22

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Paolo Schintu

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003190

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001873	1.4 Discipline	Electrical
1.2 Item	E-MCT-302	Multi Cable Transit	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Missing traffolyte tag on both side of MCT

Name: Paolo Schintu

Date: 2025-01-24

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-24
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Paolo Schintu

Date: 2025-02-07

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003194

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001873	1.4 Discipline	Electrical
1.2 Item	E-MCT-302	Multi Cable Transit	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

MCT composition to be checked after temporary cables are removed

Name: Paolo Schintu

Date: 2025-01-24

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-24
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE BUT AFTER COMMISSIONING TEMPRARY CABLE WILL NEED BE REMOWED.

Name: Josip Krizanic

Date: 2025-03-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004063

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002289	1.4 Discipline	Electrical
1.2 Item	CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	
1.3 Subsystem	90-03	UPS System Equipment Room B-300	

2 - OBSERVATION

Cables need to be fixed on cable trayS as per 123A90-DDL-EL-DD-20092, sh:10

Name: Eleonora Carotenuto

Date: 2025-02-21

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-21
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-03-01

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

NOT APPLICABLE

Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

NOT APPLICABLE

Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 90-03 & process: MC & discipline : E

Electrical	90-03 UPS System Equipment Room B-300						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
CABLE_TRAY_B300_ELE_LV	Cable Tray B300 - Electrical (Low Voltage)	ONSHORE	C10002288	CPX30A	100	2024-10-03	RFC 1
		ONSHORE	C10002289	CPX30B	100	2025-02-21	RFC 1
E-MCT-301	Multi Cable Transit	ONSHORE	C10001872	CPX29	100	2025-02-19	RFC 1
E-MCT-302	Multi Cable Transit	ONSHORE	C10001873	CPX29	100	2025-01-24	RFC 1

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	E-MCT-301	: Multi Cable Transit		Dwg	123A90-DDL-EL-DL-20115	
	S/Sys	90-03	: UPS System Equipment Room B-300		Module	LD_B-300_Ext	
TASK	code	C10001872	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX29	MCT Penetration Electrical

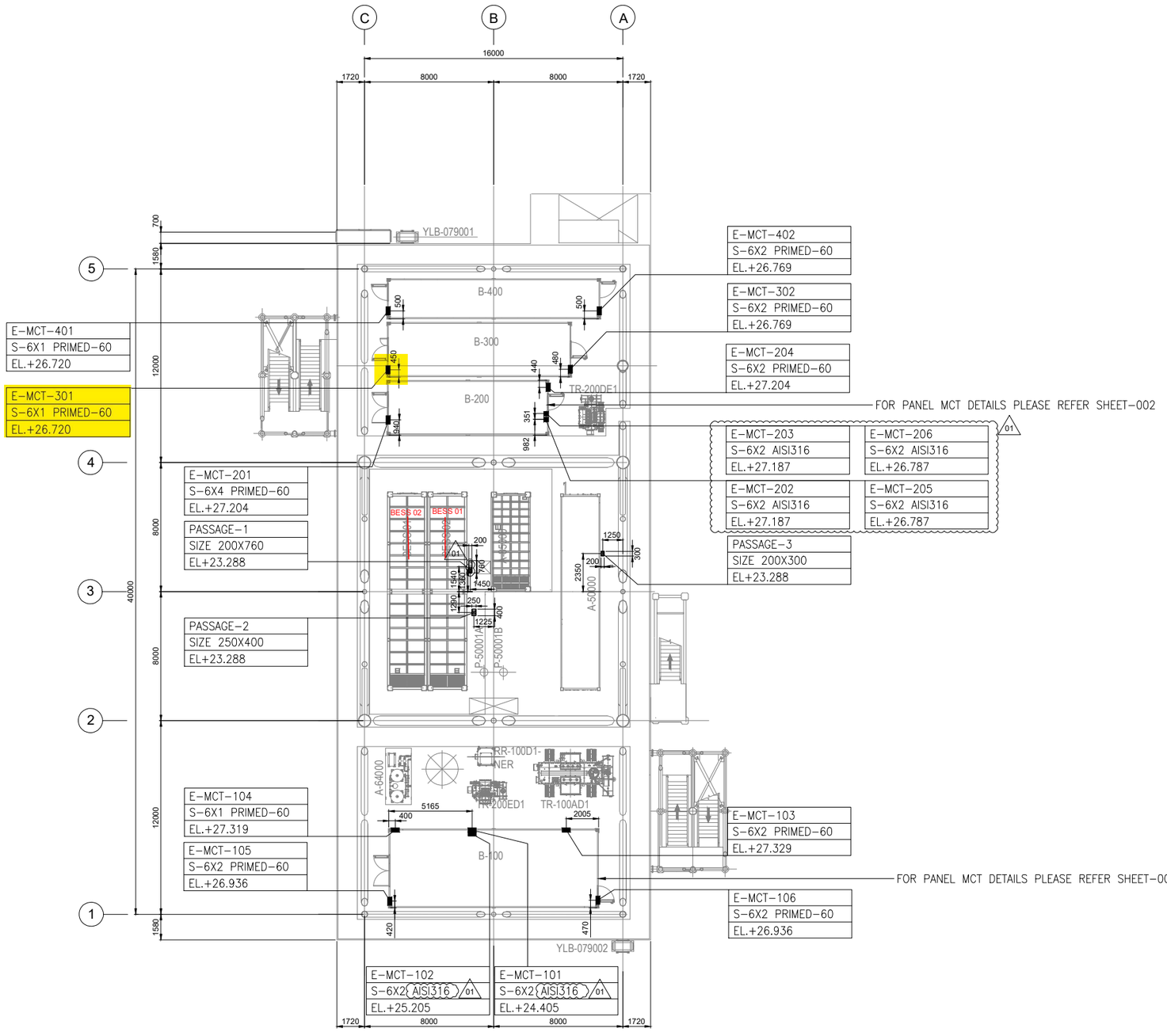
1	Check that MCT's conforms to revision and specification.	OK
2	Check MCT's is installed correctly in accordance with latest layout drawings without clashes with pipe runs or other equipment.	OK
3	Check MCT's is properly tagged, on both side of penetration	OK
4	Check the cable arrangement in MCT's is conform with the latest drawing.	Note
5	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 4: Refer to PL n* C30002351

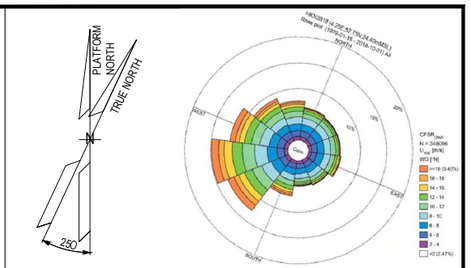
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-02-07	2025-02-19	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-02-07T13:59:57.187Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-02-19T10:16:00.795Z	

DRAWING NO. 123A90-DDL-EL-DL-20115

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

GENERAL NOTES:

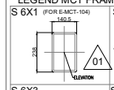
1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.

NOTES:

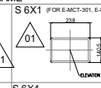
1. THIS DOCUMENT IS VALID FOR TAGGING, SIZE AND LOCATION OF THE MCT.

LEGEND

LEGEND MCT FRAME



LEGEND PASSAGE FRAME

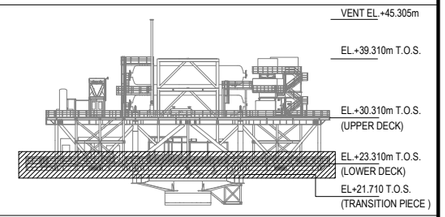


	HEIGHT in mm	WIDTH in mm
PASSAGE-1	100	300
PASSAGE-2	150	200
PASSAGE-3	100	200

MULTI CABLE TRANSIT
PASSAGE

TAG — TAGGING
SIZE-MATERIAL-DEPTH — TYPICAL
EL. — ELEVATION

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK
123A90-DDL-EL-DD-20095	MCT COMPOSITION
123A90-DDL-EL-DL-20114	ELECTRICAL MCT LAYOUT-TOP DECK
123A90-DDL-EL-DL-20116	ELECTRICAL MCT LAYOUT- BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/04/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL MCT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150	
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 18/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20115	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20115

RTD Version No: 4.37.4.0

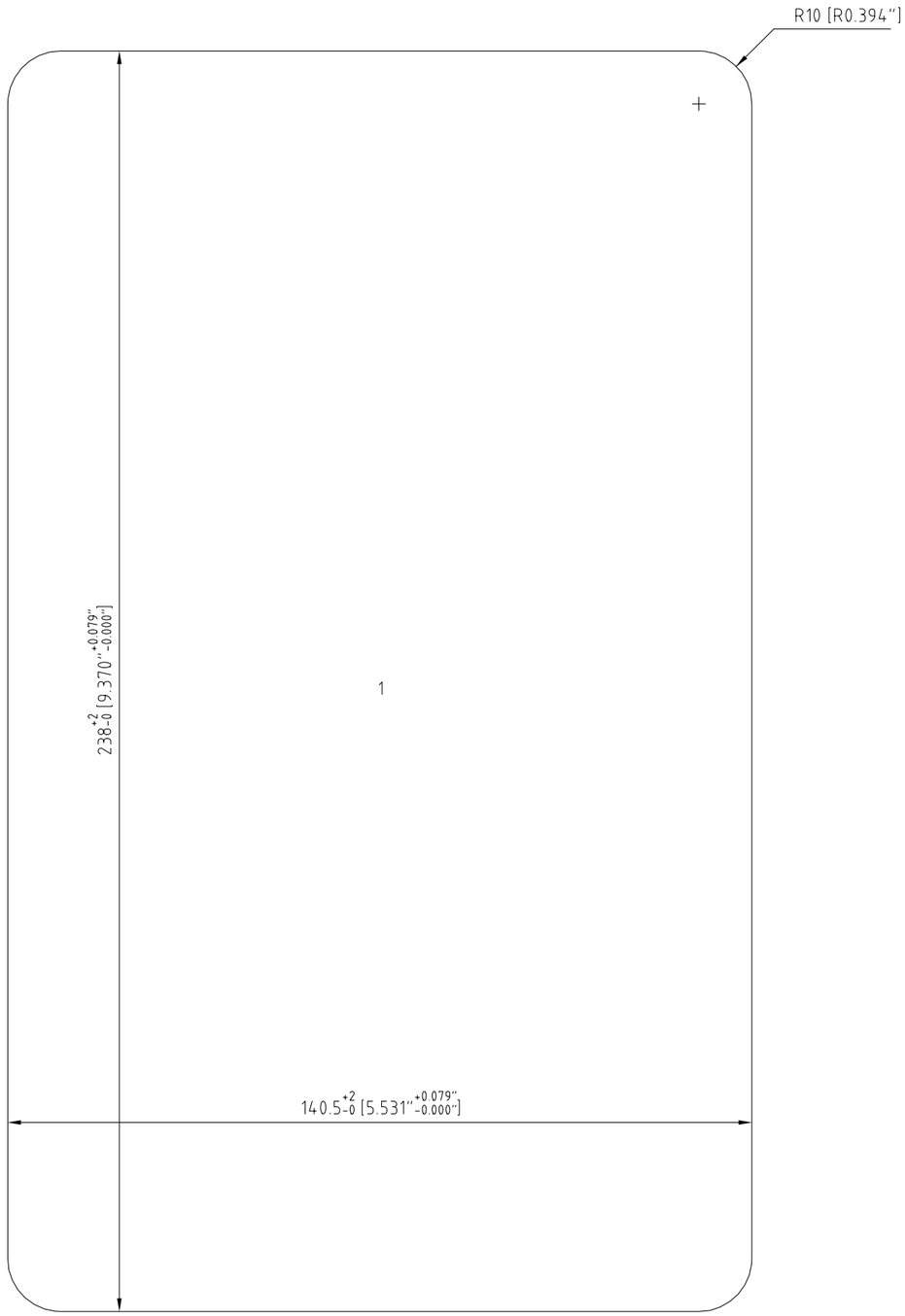
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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Cutout Detail

Frame: S 6x1 PRIMED Solution: 1

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]

Responsible	Created Date	Modify Date	Project / Location/ Sublocation	TotWeight
ARNESH	2024-07-10	2024-07-11	BLPH - ROS	6.8 [14.90]
Roxtec	Format: NTS		Transit name: E-MCT-301	Sheet No: 1/3
Client			Drawing number	Rev

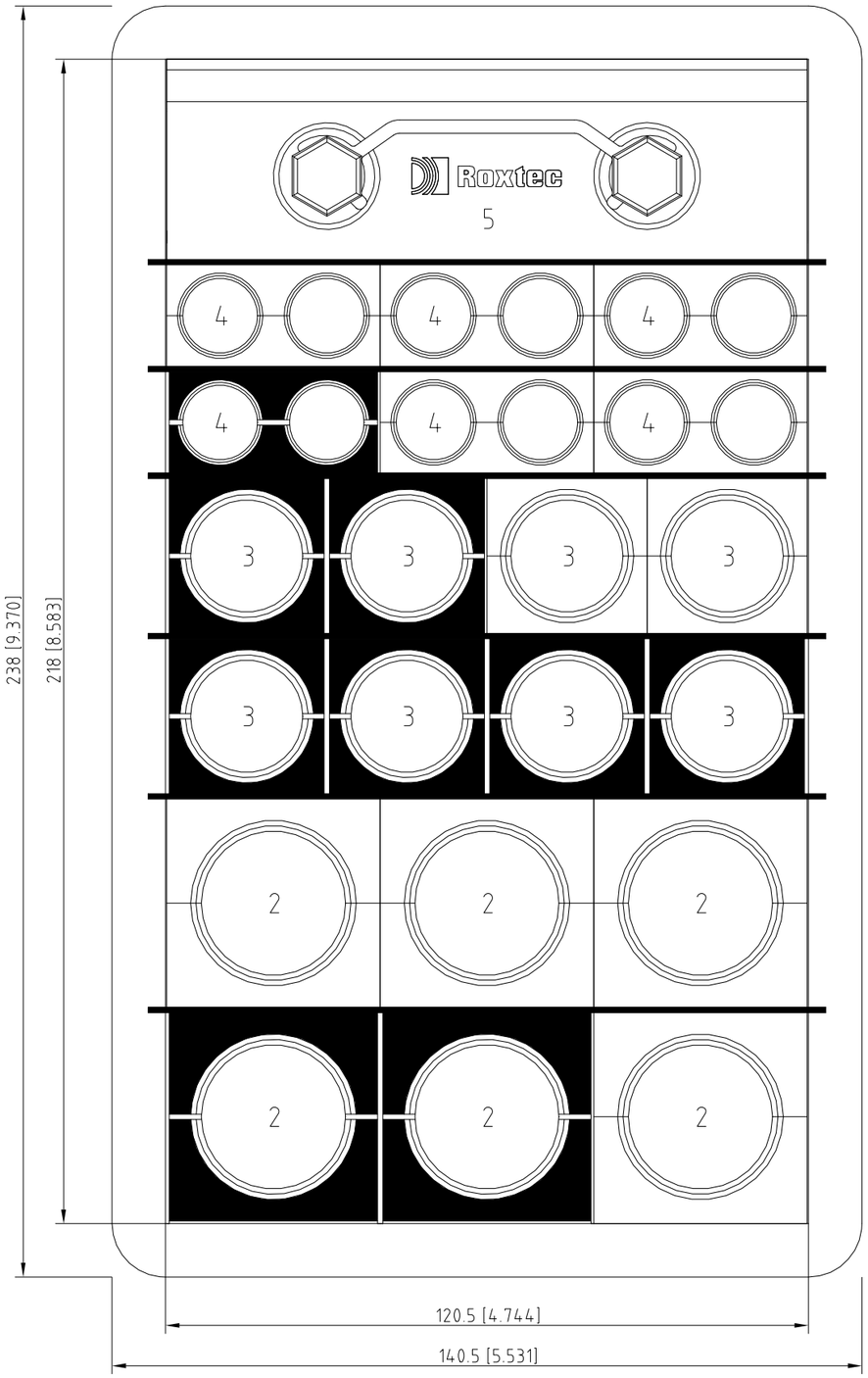
RTD Version No: 4.37.4.0

CUTOUT TO FIT SOLUTION WELDING, 140.5x238 [5.531"x9.370"]

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA



MODULE WITH PIPE | MODULE WITH CABLE | SPARE MODULE | SOLID MODULE

Detail Drawing

Solution: 1

Item	Qty	Roxtec Packing Material mm ['']	Roxtec Art No	Weight Kg [lb]
6	6	Stayplate 120 galv	ASP0001200018	0.1 [0.24]
5	1	Wedge 120 galv	ARW0001201018	0.8 [1.76]
4	6	RM 20W40 3.5-16.5 [0.138"-0.650"]	RM00120401000	0.1 [0.15]
3	8	RM 30 10-25 [0.394"-0.984"]	RM00100301000	0.1 [0.18]
2	6	RM 40/10-32 9.5-32.5 [0.374"-1.280"]	RM00140101000	0.1 [0.31]
1	1	S 6x1 PRIMED	S006000000112	3.4 [7.50]

Responsible	Created Date	Modify Date	Project	TotWeight
ARNESH	2024-07-10	2024-07-11	BLPH - ROS Location/ Sublocation	6.8 [14.90]
Roxtec	Format: NTS		Transit name: E-MCT-301	Sheet No: 2/3
	Client		Drawing number	Rev

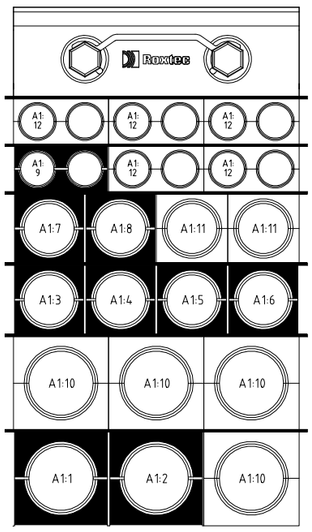
Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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A1

A1

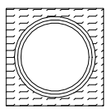


VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

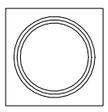
REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

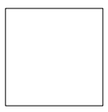
ROSETTI MARINO SpA

Pos	Cable ID	Name	Cable Type	Cable Category	OD (mm/ ["])	Module Type
A1:12						RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:11						RM 30 10-25 [0.394"-0.984"]
A1:10						RM 40/10-32 9.5-32.5 [0.374"-1.280"]
A1:9	72217-CEC	NAV AIDS Visibility meter	7C X 1.5	Control	13.5 [0.531"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:8	84317-CEL	UCP - HVAC ITER	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:7	84312-CEL	UCP - N2 Package	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:6	84311-CEL	UCP - Instrument Air Package A-63000	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:5	72210-CEC	PCS	2C X 2.5	Control	14.8 [0.583"]	RM 30 10-25 [0.394"-0.984"]
A1:4	72207-CEC	NAV AIDS Photocell	2C X 2.5	Control	14.8 [0.583"]	RM 30 10-25 [0.394"-0.984"]
A1:3	72201-CEL	NAV AIDS Main Yellow Lanterns	2C X 2.5	Power	14.8 [0.583"]	RM 30 10-25 [0.394"-0.984"]
A1:2	83037-CEL	DC UPS - NAVAID System - Feeder B	3G16	Power	23.6 [0.929"]	RM 40/10-32 9.5-32.5 [0.374"-1.280"]
A1:1	83036-CEL	DC UPS NAVAID System - Feeder A	3G16	Power	23.6 [0.929"]	RM 40/10-32 9.5-32.5 [0.374"-1.280"]


MODULE WITH PIPE


MODULE WITH CABLE


SPARE MODULE


SOLID MODULE

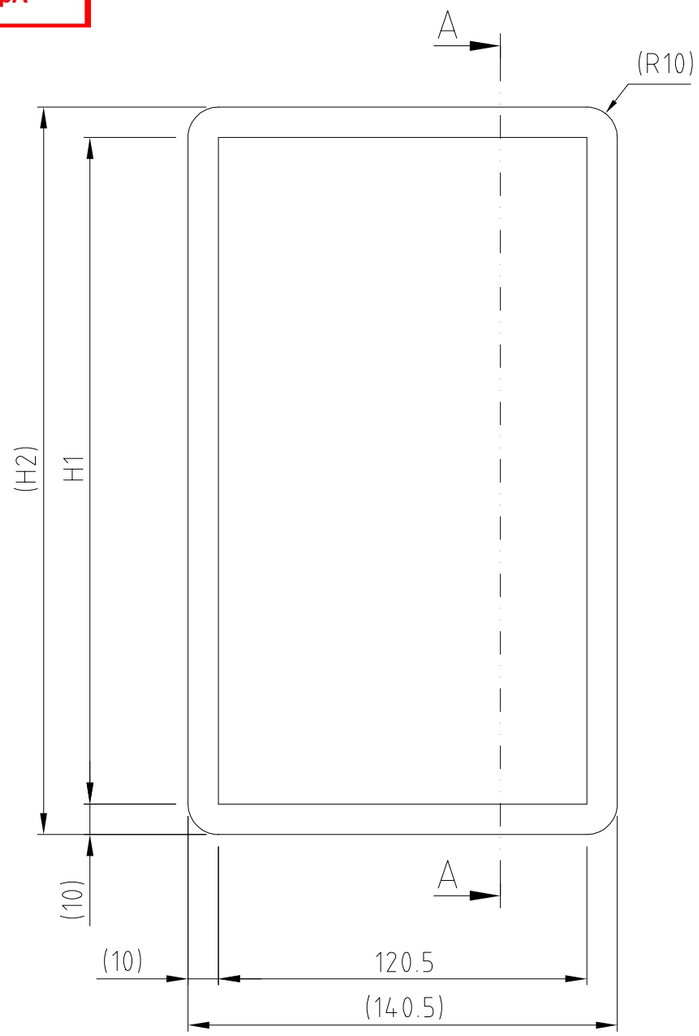
Responsible	Created Date	Modify Date	Project	TotWeight
ARNESH	2024-07-10	2024-07-11	BLPH - ROS Location/ Sublocation	6.8 [14.90]
Roxtec	Format: NTS		Transit name: E-MCT-301	Sheet No: 3/3
	Client		Drawing number	Rev

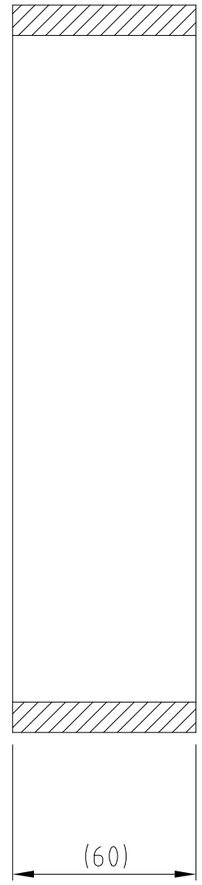
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VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA





A - A

TYPE	H1 (mm)	H2 (mm)
S 2x1	101	121
S 4x1	159.5	179.5
S 6x1	218	238
S 8x1	278	298

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Rev	Type of revision	Date	Sign
A	NEW LAYOUT/TITLE BLOCK	2006-12-21	R PETERSSON

Item	Qty	Designation	Specification	NetWeight

ROXTEC INTERNATIONAL AB
BOX 540 S-371 23 Karlskrona
TEL: +46 455 366700 FAX: +46 455 82012

Designed by: J HELLKVIST	Date: 2003-11-03	General tolerance DIN ISO 2768-1/2-m/K DIN ISO 13920-BF	Welded details EN ISO 5817-B EN ISO 10042-B	General surface roughness, Ra 12,5	TotWeight: –
Checked by: S MILTON	Format: A3	Title: S FRAME SINGLE FRAME			Projection method
Approved by: S MILTON	Scale: 1:2				
Restricted due to: INFORMATION DRAWING		Drawing number: S1005518			Rev: A

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT Feature	Required	Manufacturer Proposal	Comments	Rev.
1	General				00
2	Manufacturer	ROXTEC			01
3	Order Status	for purchase			00
4	Service	Electrical Multi-Cable Transit			00
5	Confirmity Assesment System (CAS) level				00
6	Environmental Conditions				00
7	Hazardous Area Classification	Zone 1 Ex e IIC or IIB+H2, T1			01
8	Ambient Temperature (min/nom/max)	-8.4 °C/ 10.5°C / 25.0°C			00
9	Relative Humidity (%)	Maximum 95 %			00
10	Atmospheric pressure (nominal) - hourly @ +10m	1013.7 bar			00
11	Annual average wind speed (at 100m)	33.1 m/s			00
12	Extreme wind speed for 50-year recurrence period (at 100 m)	41.0 m/s.			00
13	Atmosphere	Marine Offshore-fixed			00
14	Altitude > 1000m	not more than 1000m			00

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT				Rev.
	Feature	Required	Manufacturer Proposal	Comments	00
1	GENERAL DATA				00
2	Location	Outdoor			00
3	Depth	60 mm			00
4	Construction type	Primed Mild Steel - PRIMED			00
5	Type of Installation	by Welding			00
6	Fire Resistant Class	A0			00
7	Position	Shelter, Wall penetration, Floor penetration			00
8	Certification ATEX	Yes			00
9	MULTI CABLE TRANSIT SYSTEM - FRAMES				00
10	Description		Quantity	Notes	00
11	S 6x1 Ex PRIMED		14		00
12	Manufacturer: Roxtec				00
13	Art. No.: EXS006000000112				00
14	S 6x2 Ex PRIMED		1		00
15	Manufacturer: Roxtec				00
16	Art. No.: EXS006000000212				00
17	MULTI CABLE TRANSIT SYSTEM - MODULES				00
18	Module: RM 40 EX 21.5-34.5 [0.846"-1.358"]		57	48 Spares out of 57	01
19	Manufacturer: Roxtec				00
20	Art. No. EXRM00100401000				00
21	Module: RM 20W40 EX 3.5-16.5 [0.138"-0.650"]		21	19 Spares out of 21	01
22	Manufacturer: Roxtec				01
23	Art. No. EXRM00120401000				01
24	Module: RM 30 EX 10-25 [0.394"-0.984"]		176	153 Spares out of 176	01
25	Manufacturer: Roxtec				00
26	Art. No. EXRM00100301000				00
27	Module: RM 60 EX 28-54 [1.102"-2.126"]		22	17 Spares out of 22	01
28	Manufacturer: Roxtec				00
29	Art. No. EXRM00100601000				00
	NOTES				00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
33	MULTI CABLE TRANSIT - WEDGES			00
34	Description	Quantity	Notes	00
35	Wedge 120 Ex Galvanized	16		01
36	Manufacturer: Roxtec			00
37	Art. No. EXARW0001201018			00
38	MULTI CABLE TRANSIT - STAY PLATES			00
39	Stay Plate 120 Ex Galvanized	81		01
40	Manufacturer: Roxtec			00
41	Art. No. EXASP0001200018			00

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT				Rev.
	Feature	Required	Manufacturer Proposal	Comments	00
1	GENERAL DATA				00
2	Location	Outdoor			00
3	Depth	60 mm			00
4	Construction type	Primed Mild Steel - PRIMED			00
5	Type of Installation	by Welding			00
6	Fire Resistant Class	A0			00
7	Position	Shelter, Wall penetration, Floor penetration			00
8	Certification ATEX	No			00
10	MULTI CABLE TRANSIT SYSTEM - FRAMES				00
11	Description		Quantity	Notes	00
12	S 6x1 PRIMED		5		00
13	Manufacturer: Roxtec				00
14	Art. No.: S006000000112				00
15	S 6x2 PRIMED		6		01
16	Manufacturer: Roxtec				00
17	Art. No.: S006000000212				00
18	S 6x2 AISI316		6		01
19	Manufacturer: Roxtec				01
20	Art. No.: S006000000221				01
21	S 6x3 PRIMED		1		01
22	Manufacturer: Roxtec				01
23	Art. No.: S006000000312				01
24	S 6x4 PRIMED		1		01
25	Manufacturer: Roxtec				00
26	Art. No.: S006000000412				01
27	MULTI CABLE TRANSIT SYSTEM - MODULES				00
28	Module: RM 20W40 3.5-16.5 [0.138''-0.650'']		417	323 Spares out of 417	01
29	Manufacturer: Roxtec				01
30	Art. No. RM00120401000				01
31	Module: RM 40 21.5-34.5 [0.846''-1.358'']		326	208 Spares out of 326	01
32	Manufacturer: Roxtec				00
33	Art. No. RM00100401000				00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
37	MULTI CABLE TRANSIT SYSTEM - MODULES			00
38	Description	Quantity	Notes	00
39	Module: RM 40/10-32 9.5-32.5 [0.374''-1.280'']	10	6 Spares out of 10	01
40	Manufacturer: Roxtec			01
41	Art. No. RM00140101000			01
42	Module: RM 60 28-54 [1.102''-2.126'']	60	30 Spares out of 60	01
43	Manufacturer: Roxtec			00
44	Art. No. RM00100601000			00
45	Module: RM 30 10-25 [0.394"-0.984"]	436	307 Spares out of 436	01
46	Manufacturer: Roxtec			00
47	Art. No. RM00100301000			00
48	Module: RM 80 48-71 [1.890"-2.795"]	9	No Spare	01
49	Manufacturer: Roxtec			01
50	Art. No. 5RM0000003350			01
51	Module: RM 10/0x12	9	Solid Module	01
52	Manufacturer: Roxtec			00
53	Art. No. RM00310121000			00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
54	MULTI CABLE TRANSIT - WEDGES			00
55	Description	Quantity	Notes	00
56	Wedge 120 Galvanized	59		01
57	Manufacturer: Roxtec			00
58	Art. No. ARW0001201018			00
				00
59	Wedge 120 AISI 316	12		01
60	Manufacturer: Roxtec			01
61	Art. No. ARW0001201021			01
62	MULTI CABLE TRANSIT - STAY PLATES			00
63	Stay Plate 120 Galvanized	346		01
64	Manufacturer: Roxtec			00
65	Art. No. ASP0001200018			00
				00
66	Stayplate 120 AISI 316	56		01
67	Manufacturer: Roxtec			01
68	Art. No. ASP0001200021			01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	E-MCT-302	: Multi Cable Transit			Dwg	123A90-DDL-EL-DL-20115
	S/Sys	90-03	: UPS System Equipment Room B-300			Module	LD_B-300_Ext
TASK	code	C10001873		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX29 MCT Penetration Electrical

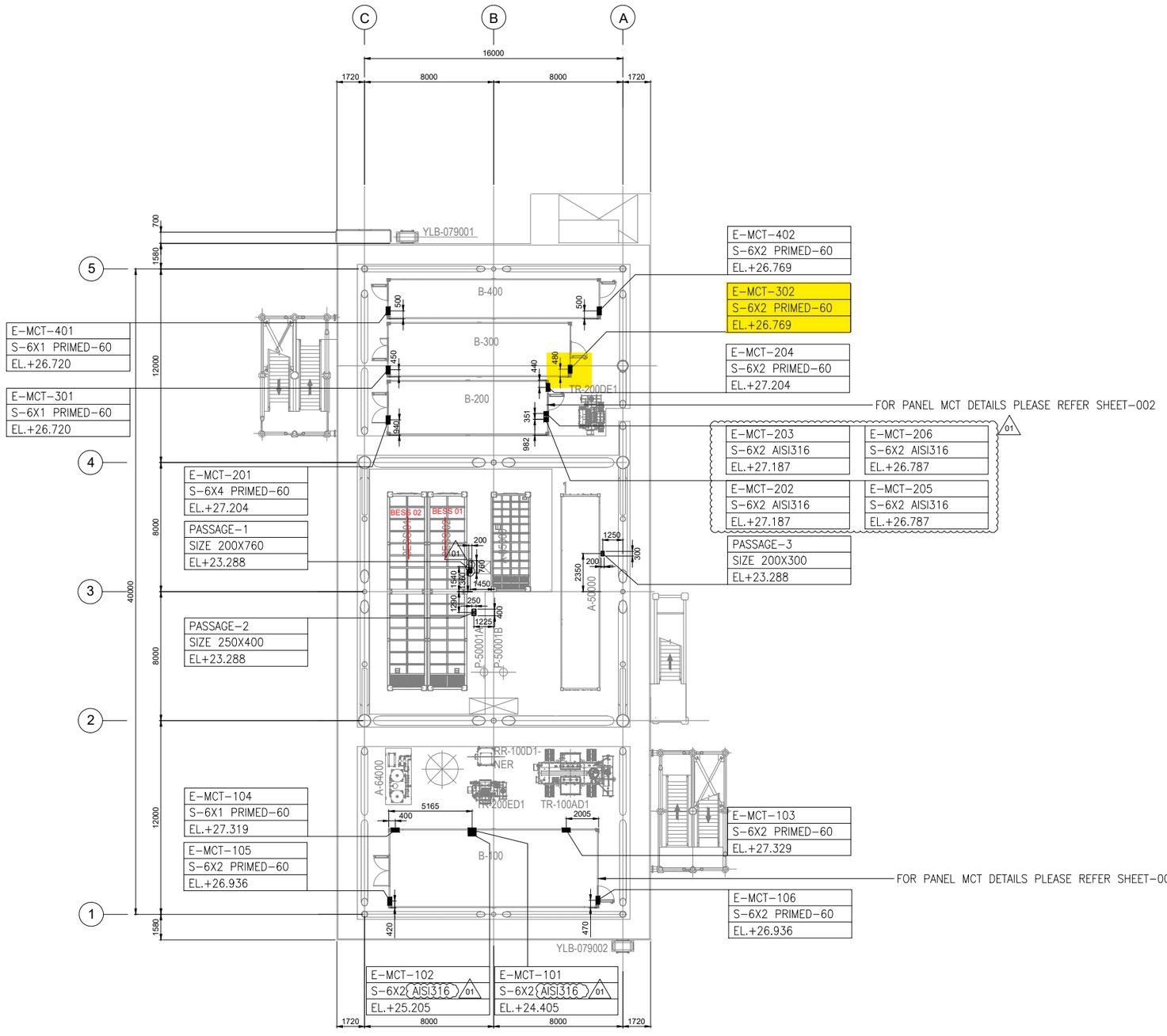
1	Check that MCT's conforms to revision and specification.	OK
2	Check MCT's is installed correctly in accordance with latest layout drawings without clashes with pipe runs or other equipment.	OK
3	Check MCT's is properly tagged, on both side of penetration	PL
4	Check the cable arrangement in MCT's is conform with the latest drawing.	PL
5	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 2: Refer to PL n* C30002351

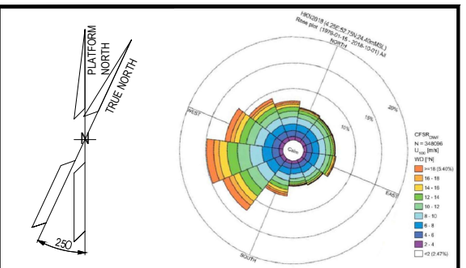
	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-23	2025-01-24	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-23T08:15:09.028Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-24T17:26:39.016Z	

DRAWING NO. 123A90-DDL-EL-DL-20115

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

GENERAL NOTES:

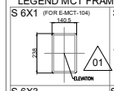
1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.

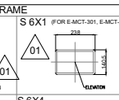
NOTES:

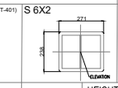
1. THIS DOCUMENT IS VALID FOR TAGGING, SIZE AND LOCATION OF THE MCT.

LEGEND

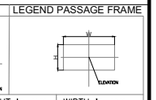
LEGEND MCT FRAME

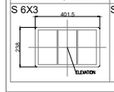


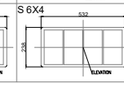




LEGEND PASSAGE FRAME





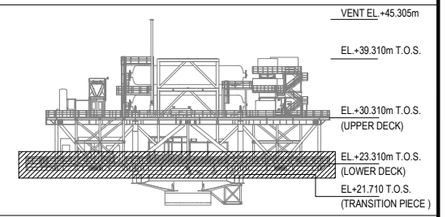


	HEIGHT in mm	WIDTH in mm
PASSAGE-1	100	300
PASSAGE-2	150	200
PASSAGE-3	100	200

MULTI CABLE TRANSIT
PASSAGE

TAG — TAGGING
SIZE-MATERIAL-DEPTH — TYPICAL
EL. — ELEVATION

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK
123A90-DDL-EL-DD-20095	MCT COMPOSITION
123A90-DDL-EL-DL-20114	ELECTRICAL MCT LAYOUT-TOP DECK
123A90-DDL-EL-DL-20116	ELECTRICAL MCT LAYOUT- BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/04/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL MCT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 18/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20115	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20115

RTD Version No: 4.37.4.0

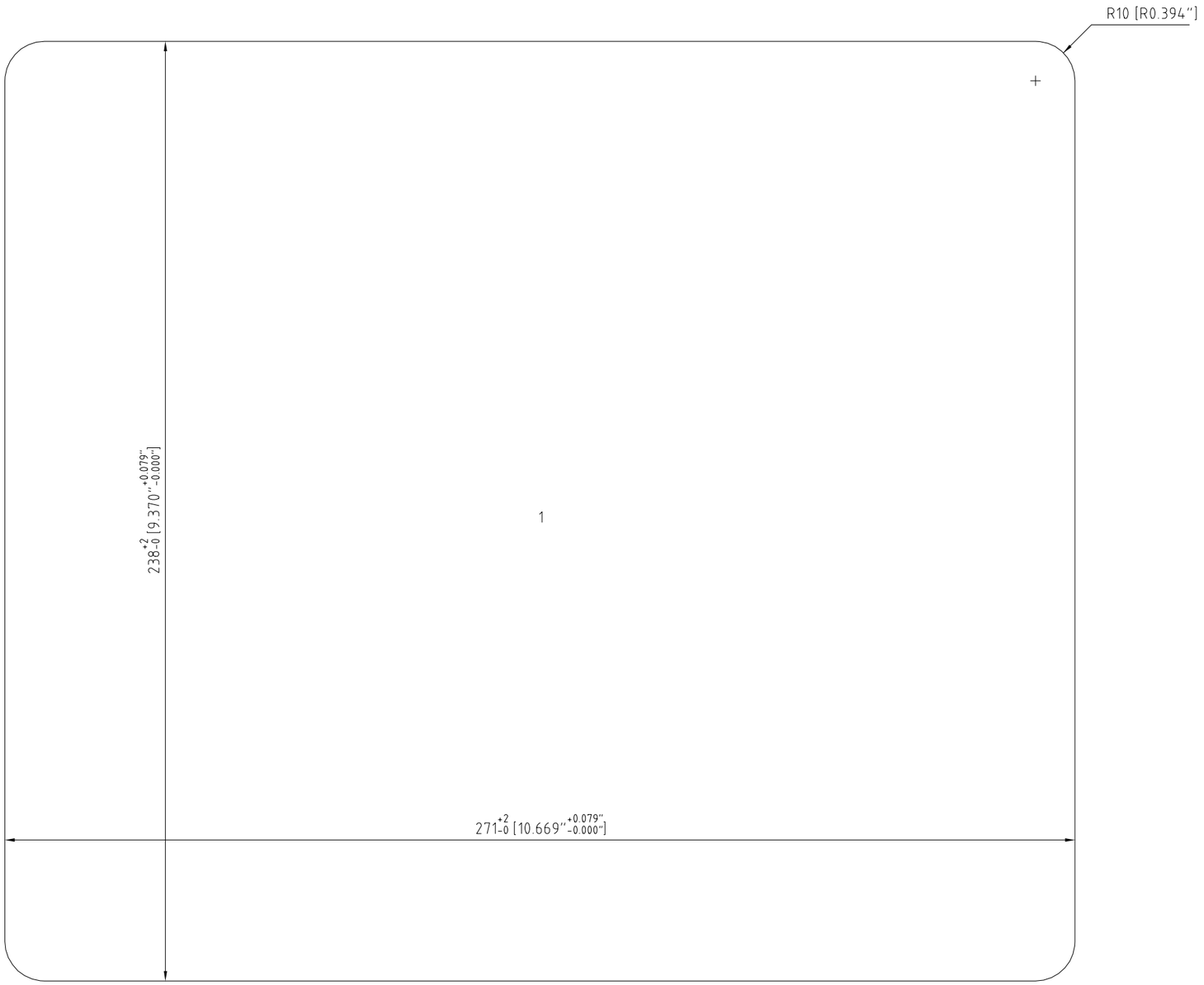
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

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Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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Cutout Detail

Frame: S 6x2 PRIMED Solution: 1

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]

Responsible: ARNESH	Created Date: 2024-07-10	Modify Date: 2024-07-17	Project: BLPH - ROS Location/ Sublocation	TotWeight: 12.3 [27.18]
Roxtec	Format: NTS		Transit name: E-MCT-302	Sheet No: 1/3
	Client	Drawing number		Rev

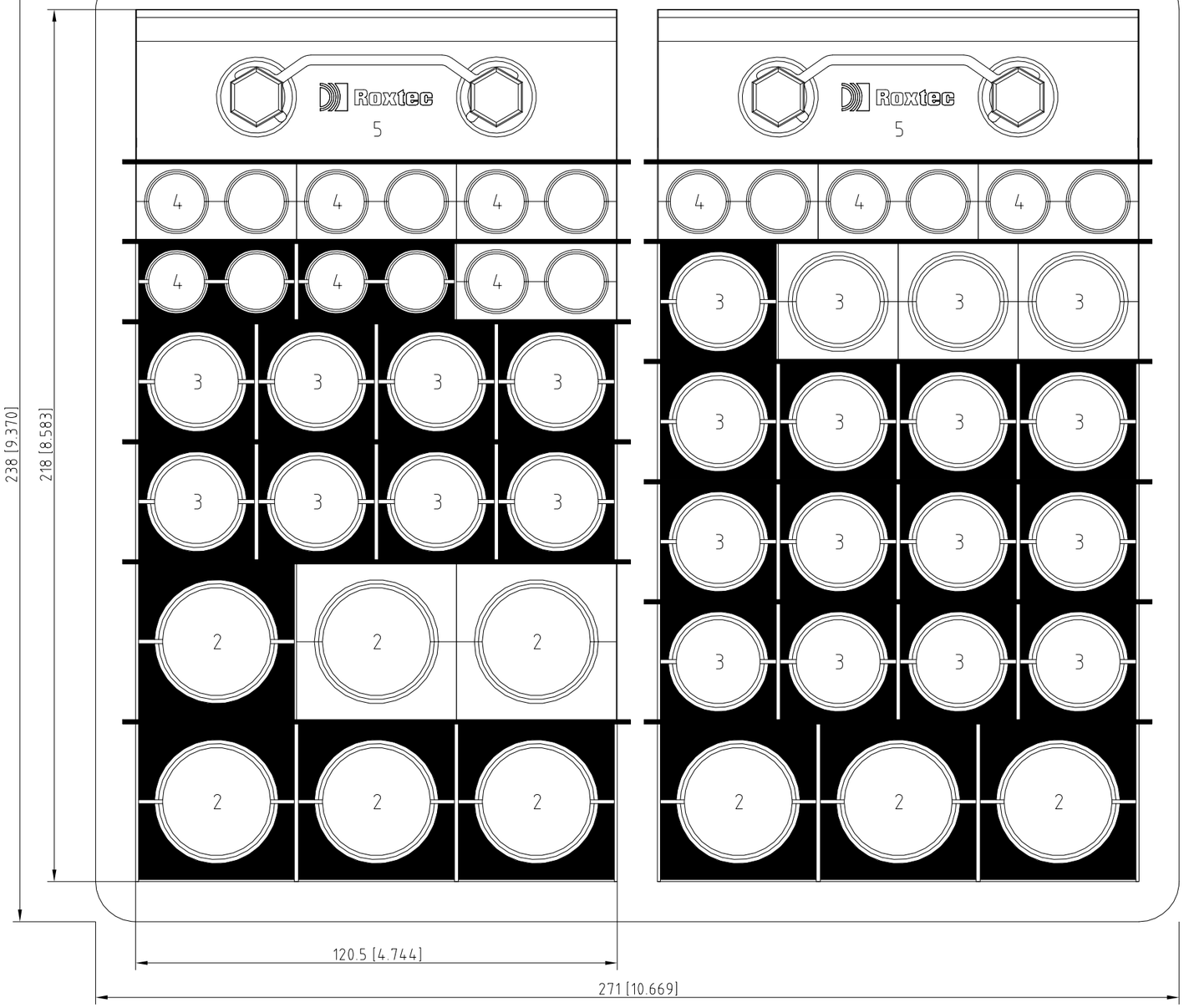
RTD Version No: 4.37.4.0

CUTOUT TO FIT SOLUTION WELDING, 271x238 [10.669"x9.370"]

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

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MODULE WITH PIPE | MODULE WITH CABLE | SPARE MODULE | SOLID MODULE

Detail Drawing

Solution: 1

Item	Qty	Roxtec Packing Material (mm [ ])	Roxtec Art No	Weight Kg [lb]
6	12	Stayplate 120 galv	ASP0001200018	0.1 [0.24]
5	2	Wedge 120 galv	ARW0001201018	0.8 [1.76]
4	9	RM 20W40 3.5-16.5 [0.138"-0.650"]	RM00120401000	0.1 [0.15]
3	24	RM 30 10-25 [0.394"-0.984"]	RM00100301000	0.1 [0.18]
2	9	RM 40 21.5-34.5 [0.846"-1.358"]	RM00100401000	0.1 [0.31]
1	1	S 6x2 PRIMED	S006000000212	5.6 [12.35]

Responsible	Created Date	Modify Date	Project	TotWeight
ARNESH	2024-07-10	2024-07-17	BLPH - ROS Location/ Sublocation	12.3 [27.18]
Roxtec	Format: NTS		Transit name: E-MCT-302	Sheet No: 2/3
	Client		Drawing number	Rev

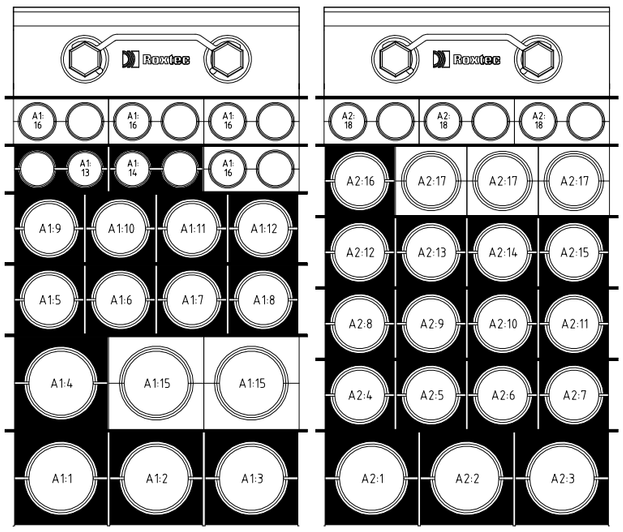
Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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A1 A2

A1 A2



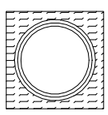
VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-EL-DD-20095**

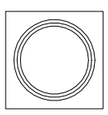
REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

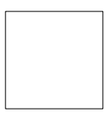
ROSETTI MARINO SpA

A2:18						RM 20W40 3.5-16.5 [0.138"-0.650"]
A2:17						RM 30 10-25 [0.394"-0.984"]
A2:16	84404-CEL	System Server / Network Cabinet - Line B	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:15	84318-CEL	LV Switchboard Auxiliary	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:14	84315-CEL	UCP - HVAC LV Room	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:13	84314-CEL	UCP - HVAC HV Room	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:12	84313-CEL	UCP - Water Package	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:11	84304-CEL	PCS -Controller and I/O Cabinet - Line B	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:10	84303-CEL	PCS -Controller and I/O Cabinet - Line A	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:9	84302-CEL	SIS -Controller and I/O Cabinet - Line B	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:8	84301-CEL	SIS -Controller and I/O Cabinet - Line A	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:7	72211-CEL	Intermediate obstruction lights junction box	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:6	72210-CEL	Wave Off Status Light	2C X 2.5	Power	14.8 [0.583"]	RM 30 10-25 [0.394"-0.984"]
A2:5	72203-CEL	Obstruction Red LED Lights (MEDIUM INTENSITY)	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A2:4	72202-CEL	NAV AIDS Main Yellow Lanterns	2C X 2.5	Power	14.8 [0.583"]	RM 30 10-25 [0.394"-0.984"]
A2:3	83032-CEL	AC UPS F&G - 8h - Line B	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A2:2	83031-CEL	AC UPS F&G - 8h - Line A	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A2:1	83030-CEL	AC UPS PAS - 30min - Bypass	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A1:16						RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:15						RM 40 21.5-34.5 [0.846"-1.358"]
A1:14	83123-CEL	AC UPS F&G AUXILIARY	3G2.5	Power	13 [0.512"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:13	83122-CEL	AC UPS PAS AUXILIARY	3G2.5	Power	13 [0.512"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:12	84403-CEL	System Server / Network Cabinet - Line A	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:11	84402-CEL	FGS Fire & Gas Panel - Line B	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:10	84401-CEL	FGS Fire & Gas Panel - Line A	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:9	84319-CEL	LV SWBD 800/460V Auxiliary	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:8	84308-CEL	Server Cabinet ITER - Line B	3G6	Power	18.3 [0.720"]	RM 30 10-25 [0.394"-0.984"]
A1:7	84307-CEL	Server Cabinet ITER - Line A	3G6	Power	18.3 [0.720"]	RM 30 10-25 [0.394"-0.984"]
A1:6	84306-CEL	EMCS -Controller and I/O Cabinet - Line B	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:5	84305-CEL	EMCS -Controller and I/O Cabinet - Line A	3G2.5	Power	15.5 [0.610"]	RM 30 10-25 [0.394"-0.984"]
A1:4	83033-CEL	AC UPS F&G - 8h - Bypass	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A1:3	83029-CEL	AC UPS PAS - 30min - Line B	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A1:2	83028-CEL	AC UPS PAS - 30min - Line A	4G35	Power	27.4 [1.079"]	RM 40 21.5-34.5 [0.846"-1.358"]
A1:1	83025-CEL	HVAC panels - UPS Room	5G16	Power	24 [0.945"]	RM 40 21.5-34.5 [0.846"-1.358"]
Pos	Cable ID	Name	Cable Type	Cable Category	OD (mm/ ["])	Module Type


MODULE WITH PIPE


MODULE WITH CABLE


SPARE MODULE


SOLID MODULE

Responsible: ARNESH	Created Date: 2024-07-10	Modify Date: 2024-07-17	Project: BLPH - ROS (Location/ Sublocation)	TotWeight: 12.3 [27.18]
Roxtec	Format: NTS		Transit name: E-MCT-302	Sheet No: 3/3
	Client		Drawing number	Rev

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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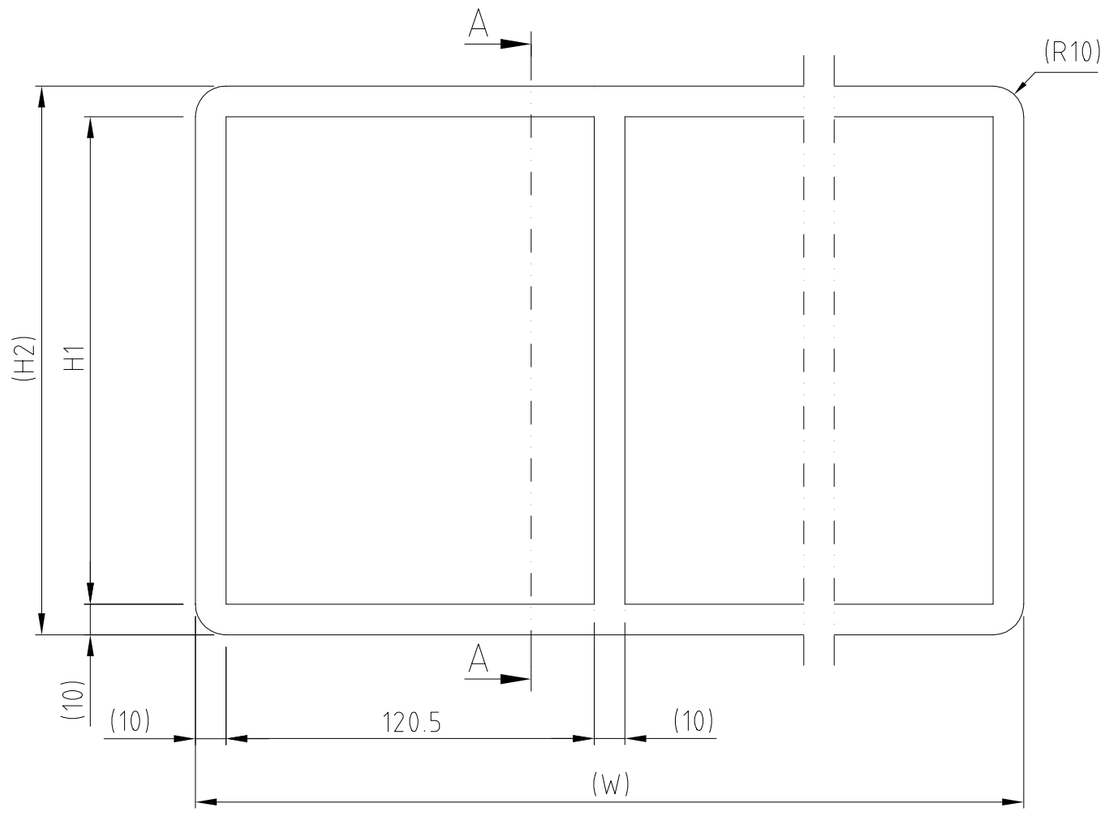
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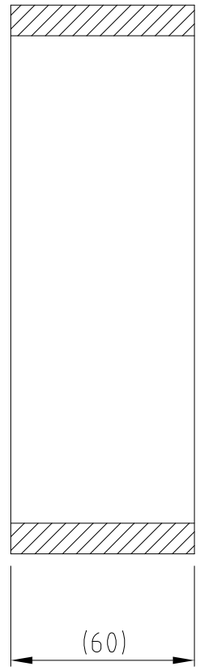
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20095**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

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A - A

TYPE	H1 (mm)	H2 (mm)
S 2xN	101	121
S 4xN	159.5	179.5
S 6xN	218	238
S 8xN	278	298

COMB.	W (mm)
x2	271
x3	401.5
x4	532
x5	662.5
x6	793
x7	923.5
x8	1054
x9	1184.5
x10	1315

Rev	Type of revision	Date	Sign
B	NEW LAYOUT/TITLE BLOCK/MORE COMB. ADDED	2006-12-21	AN KARLSSON

Item	Qty	Designation	Specification	NetWeight

ROXTEC INTERNATIONAL AB
BOX 540 S-371 23 Karlskrona
TEL: +46 455 366700 FAX: +46 455 82012

Designed by: J HELLKVIST	Date: 2003-11-03	General tolerance DIN ISO 2768-1/2-m/K DIN ISO 13920-BF	Welded details EN ISO 5817-B EN ISO 10042-B	General surface roughness, Ra 12,5	TotWeight: –
Checked by: S MILTON	Format: A3	Title: S FRAME COMBINATION FRAME			Projection method
Approved by: S MILTON	Scale: 1:2				
Restricted due to: INFORMATION DRAWING	Drawing number: S1005519				Rev: B

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT Feature	Required	Manufacturer Proposal	Comments	Rev.
1	General				00
2	Manufacturer	ROXTEC			01
3	Order Status	for purchase			00
4	Service	Electrical Multi-Cable Transit			00
5	Confirmity Assesment System (CAS) level				00
6	Environmental Conditions				00
7	Hazardous Area Classification	Zone 1 Ex e IIC or IIB+H2, T1			01
8	Ambient Temperature (min/nom/max)	-8.4 °C/ 10.5°C / 25.0°C			00
9	Relative Humidity (%)	Maximum 95 %			00
10	Atmospheric pressure (nominal) - hourly @ +10m	1013.7 bar			00
11	Annual average wind speed (at 100m)	33.1 m/s			00
12	Extreme wind speed for 50-year recurrence period (at 100 m)	41.0 m/s.			00
13	Atmosphere	Marine Offshore-fixed			00
14	Altitude > 1000m	not more than 1000m			00

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT				Rev.
	Feature	Required	Manufacturer Proposal	Comments	00
1	GENERAL DATA				00
2	Location	Outdoor			00
3	Depth	60 mm			00
4	Construction type	Primed Mild Steel - PRIMED			00
5	Type of Installation	by Welding			00
6	Fire Resistant Class	A0			00
7	Position	Shelter, Wall penetration, Floor penetration			00
8	Certification ATEX	Yes			00
9	MULTI CABLE TRANSIT SYSTEM - FRAMES				00
10	Description		Quantity	Notes	00
11	S 6x1 Ex PRIMED		14		00
12	Manufacturer: Roxtec				00
13	Art. No.: EXS006000000112				00
14	S 6x2 Ex PRIMED		1		00
15	Manufacturer: Roxtec				00
16	Art. No.: EXS006000000212				00
17	MULTI CABLE TRANSIT SYSTEM - MODULES				00
18	Module: RM 40 EX 21.5-34.5 [0.846"-1.358"]		57	48 Spares out of 57	01
19	Manufacturer: Roxtec				00
20	Art. No. EXRM00100401000				00
21	Module: RM 20W40 EX 3.5-16.5 [0.138"-0.650"]		21	19 Spares out of 21	01
22	Manufacturer: Roxtec				01
23	Art. No. EXRM00120401000				01
24	Module: RM 30 EX 10-25 [0.394"-0.984"]		176	153 Spares out of 176	01
25	Manufacturer: Roxtec				00
26	Art. No. EXRM00100301000				00
27	Module: RM 60 EX 28-54 [1.102"-2.126"]		22	17 Spares out of 22	01
28	Manufacturer: Roxtec				00
29	Art. No. EXRM00100601000				00
	NOTES				00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
33	MULTI CABLE TRANSIT - WEDGES			00
34	Description	Quantity	Notes	00
35	Wedge 120 Ex Galvanized	16		01
36	Manufacturer: Roxtec			00
37	Art. No. EXARW0001201018			00
38	MULTI CABLE TRANSIT - STAY PLATES			00
39	Stay Plate 120 Ex Galvanized	81		01
40	Manufacturer: Roxtec			00
41	Art. No. EXASP0001200018			00

Row	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT				Rev.
	Feature	Required	Manufacturer Proposal	Comments	00
1	GENERAL DATA				00
2	Location	Outdoor			00
3	Depth	60 mm			00
4	Construction type	Primed Mild Steel - PRIMED			00
5	Type of Installation	by Welding			00
6	Fire Resistant Class	A0			00
7	Position	Shelter, Wall penetration, Floor penetration			00
8	Certification ATEX	No			00
10	MULTI CABLE TRANSIT SYSTEM - FRAMES				00
11	Description		Quantity	Notes	00
12	S 6x1 PRIMED		5		00
13	Manufacturer: Roxtec				00
14	Art. No.: S006000000112				00
15	S 6x2 PRIMED		6		01
16	Manufacturer: Roxtec				00
17	Art. No.: S006000000212				00
18	S 6x2 AISI316		6		01
19	Manufacturer: Roxtec				01
20	Art. No.: S006000000221				01
21	S 6x3 PRIMED		1		01
22	Manufacturer: Roxtec				01
23	Art. No.: S006000000312				01
24	S 6x4 PRIMED		1		01
25	Manufacturer: Roxtec				00
26	Art. No.: S006000000412				01
27	MULTI CABLE TRANSIT SYSTEM - MODULES				00
28	Module: RM 20W40 3.5-16.5 [0.138''-0.650'']		417	323 Spares out of 417	01
29	Manufacturer: Roxtec				01
30	Art. No. RM00120401000				01
31	Module: RM 40 21.5-34.5 [0.846''-1.358'']		326	208 Spares out of 326	01
32	Manufacturer: Roxtec				00
33	Art. No. RM00100401000				00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
37	MULTI CABLE TRANSIT SYSTEM - MODULES			00
38	Description	Quantity	Notes	00
39	Module: RM 40/10-32 9.5-32.5 [0.374''-1.280'']	10	6 Spares out of 10	01
40	Manufacturer: Roxtec			01
41	Art. No. RM00140101000			01
42	Module: RM 60 28-54 [1.102''-2.126'']	60	30 Spares out of 60	01
43	Manufacturer: Roxtec			00
44	Art. No. RM00100601000			00
45	Module: RM 30 10-25 [0.394"-0.984"]	436	307 Spares out of 436	01
46	Manufacturer: Roxtec			00
47	Art. No. RM00100301000			00
48	Module: RM 80 48-71 [1.890"-2.795"]	9	No Spare	01
49	Manufacturer: Roxtec			01
50	Art. No. 5RM0000003350			01
51	Module: RM 10/0x12	9	Solid Module	01
52	Manufacturer: Roxtec			00
53	Art. No. RM00310121000			00

	DATA SHEET ELECTRICAL MULTI-CABLE TRANSIT			Rev.
54	MULTI CABLE TRANSIT - WEDGES			00
55	Description	Quantity	Notes	00
56	Wedge 120 Galvanized	59		01
57	Manufacturer: Roxtec			00
58	Art. No. ARW0001201018			00
				00
59	Wedge 120 AISI 316	12		01
60	Manufacturer: Roxtec			01
61	Art. No. ARW0001201021			01
62	MULTI CABLE TRANSIT - STAY PLATES			00
63	Stay Plate 120 Galvanized	346		01
64	Manufacturer: Roxtec			00
65	Art. No. ASP0001200018			00
				00
66	Stayplate 120 AISI 316	56		01
67	Manufacturer: Roxtec			01
68	Art. No. ASP0001200021			01

ITEM	Tag	CABLE_TRAY_B300_ELE_LV	: Cable Tray B300 - Electrical (Low Voltage)			Dwg	
	S/Sys	90-03	: UPS System Equipment Room B-300			Module	LD_B-300
TASK	code	C10002288		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX30A — Cable Tray/Ladder Before pulling

BEFORE PULLING

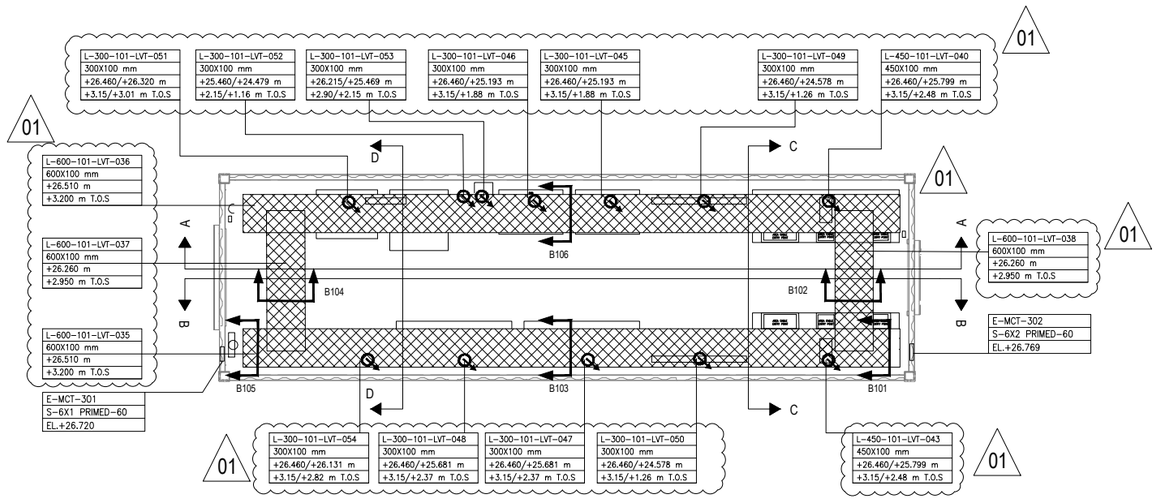
1	Check cable tray / ladder is undamaged and installed against drawings without clashes with pipe runs or other equipment.	PL
2	Check cable tray / ladder is adequately supported against drawings (no excessive deflection).	OK
3	Check cable tray / ladder segregation between racks	OK
4	Check Material for Bolt and splices	OK
5	Check insulation pads are adapted to stainless steel or aluminium cable tray /ladder.	OK
6	Check cable tray / ladder cleanness.	OK
7	Check cable tray / ladder earthed and bonded against drawings.	PL
8	Check Continuity and Resistance test on tray (spot check)	OK
9	Check proper mitigations against sharp edges that could damage the cables	OK
10	Check Transitions to ensure proper cables bending radius	OK
11	Check Proper protection of racks and trays until cable pulling	OK
12	Check Labelling with system and segment number	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

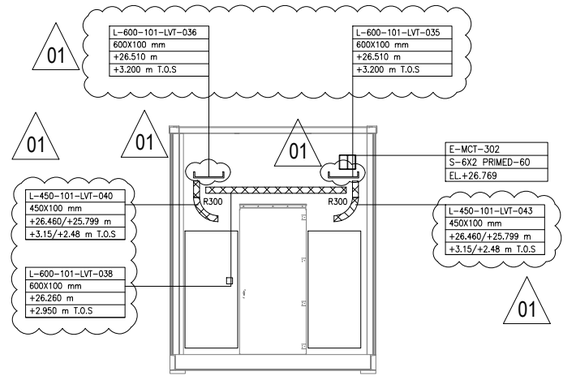
Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-02	2024-10-03	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-02T14:06:33.760Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-03T06:22:03.059Z	

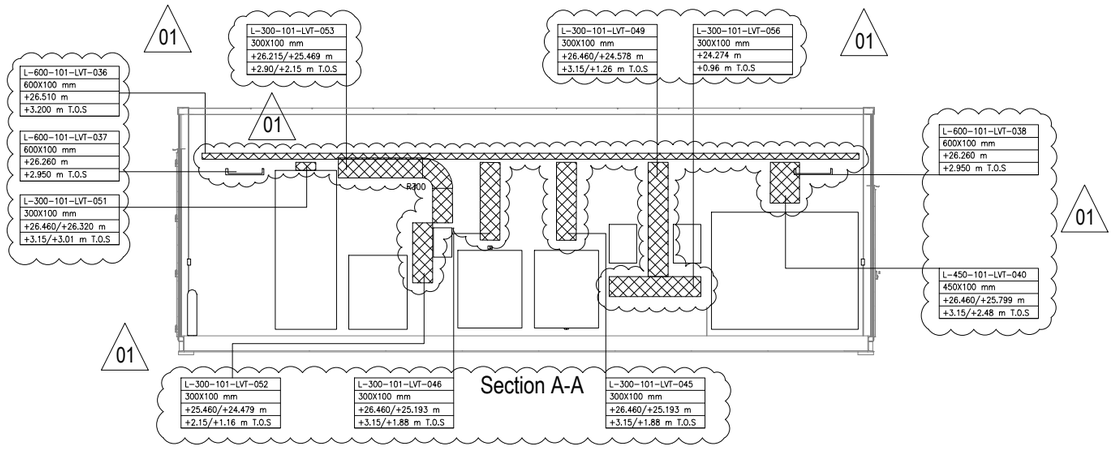
DRAWING NO. 123A90-DDL-EL-DL-20113

REV. 01

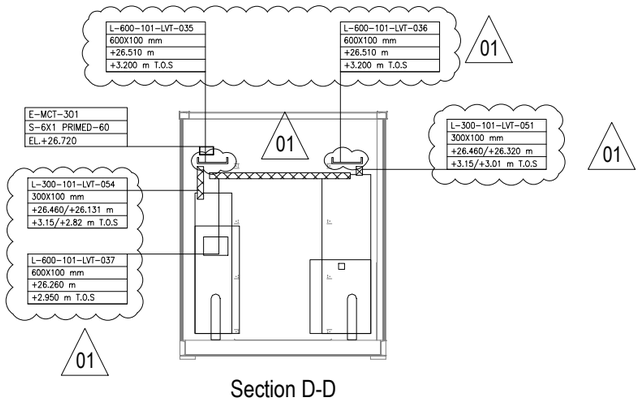




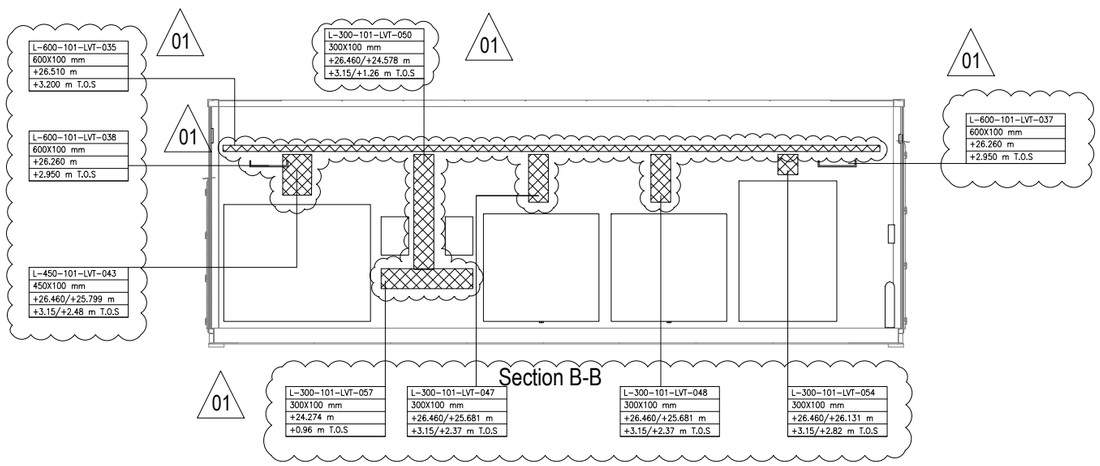
Section C-C



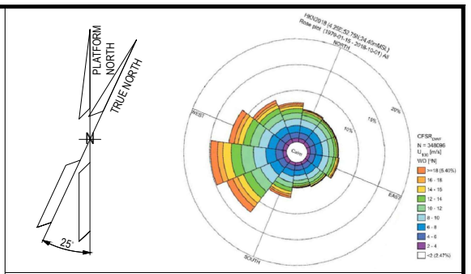
Section A-A



Section D-D



Section B-B



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S (EL+23.310 m).
3. CABLEROUTE ELEVATION ARE REFER TO BOTTOM ON HORIZONTAL CABLETRAYS AND TO THE MIDDLE ON SIDE INSTALLATION CABLETRAYS
4. THIS DRAWING IS VALID ONLY FOR ELECTRICAL CABLE ROUTING LAYOUT.
5. A MINIMUM OF 20% CAPACITY IN EACH CABLE LADDER SHALL BE PROVIDED FOR FUTURE EXTENSION.
6. DRAWING SPLIT INTO MULTIPLY SHEETS FOR CLARITY.
7. FOR INSTALLATION DETAIL OF CABLE LADDER REFER TO DOC. 123A90-DDL-EL-DD-20093.
8. FOR LIGHTING AND SOCKET EQUIPMENTS SEE DRAWING 123A90-DDL-EL-DL-20124 AND 1724000049-EL-LIS-00045.

LEGEND

ELECTRICAL LV CABLE LADDER

ELECTRICAL CABLE LADDER (VERTICAL)

ELECTRICAL CABLE LADDER (VERTICAL DROP)

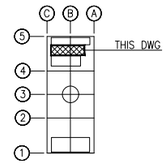
CABLETRAY TAGGING

TAG
SIZE
ELEVATION
ELEVATION(T.O.S)

MCT TAGGING

TAGGING
TYPICAL
ELEVATION

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-EL-DD-20093	ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
123A90-DDL-EL-LIS-20148	ELECTRICAL POWER & CONTROL CABLE SCHEDULE
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT -UPSs & BATTERIES SWITCHROOM
123A90-DDL-EL-DD-20095	MCT COMPOSITION
1724000049-EL-LIS-00045	B-300 ELECTRICAL COMPONENTS LIST AND DS - E&I SHELTERS

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	01/08/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	26/06/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20113**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

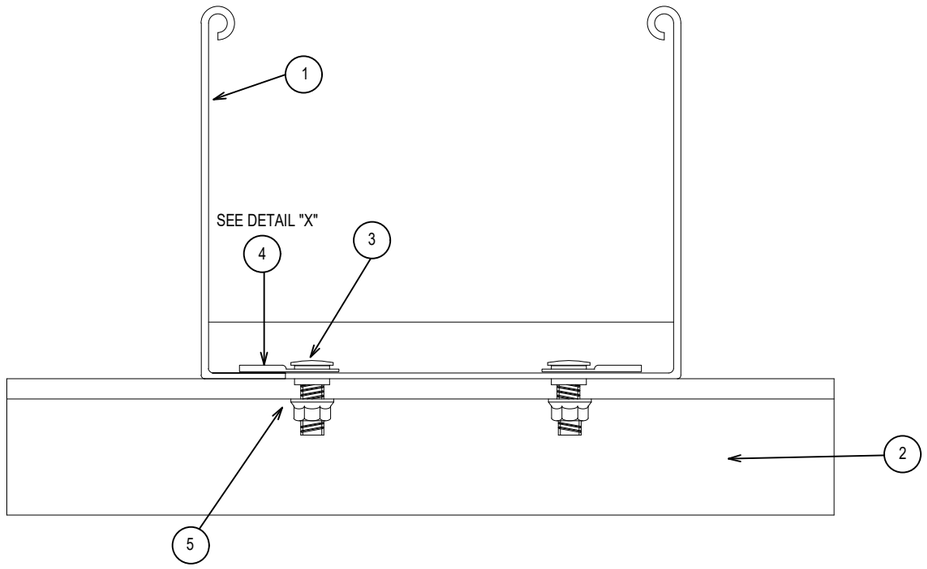
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL CABLE ROUTING LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 01/08/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20113	SHEET 1of8	REV. 01

File Name : 123A90-DDL-EL-DL-20113

CABLE LADDER FIXING ON FRP RACK

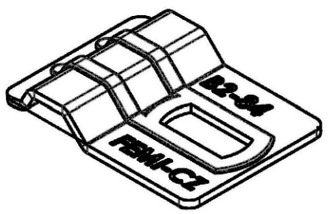
POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SQUARE NECK SCREW	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	FLANGED NUT	AISI 316L	M8	2	



TYPICAL

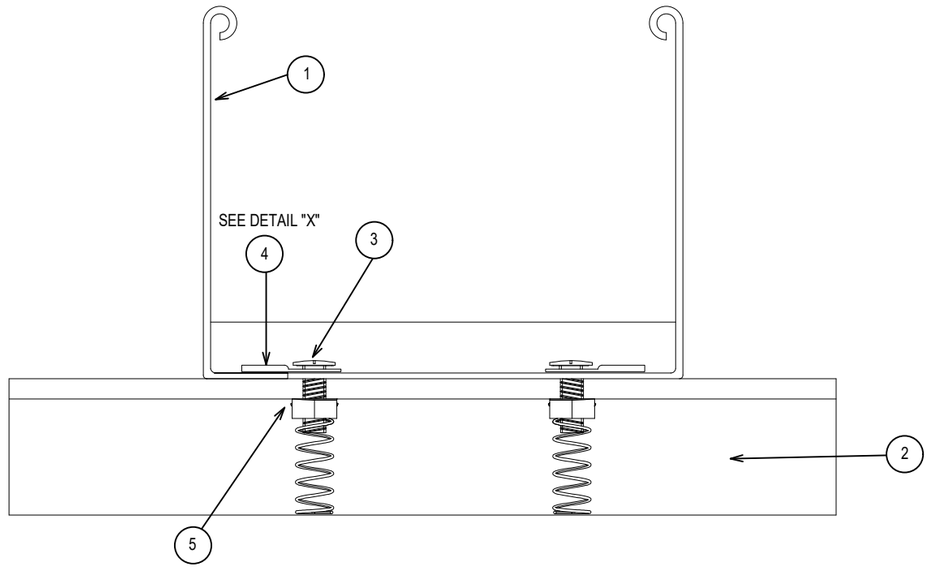
LF

DETAIL "X"



CABLE LADDER FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M8x40	2	



TYPICAL

LU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE LADDER FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

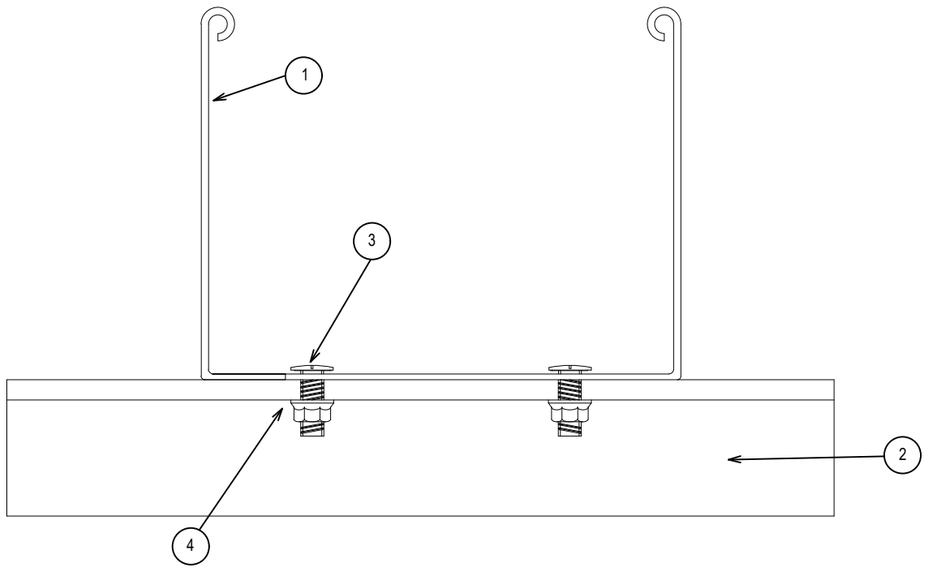
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 004 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

CABLE TRAY PERFORATED FIXING ON FRP RACK

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
4	FLANGED NUT	AISI 316L	M6	2	

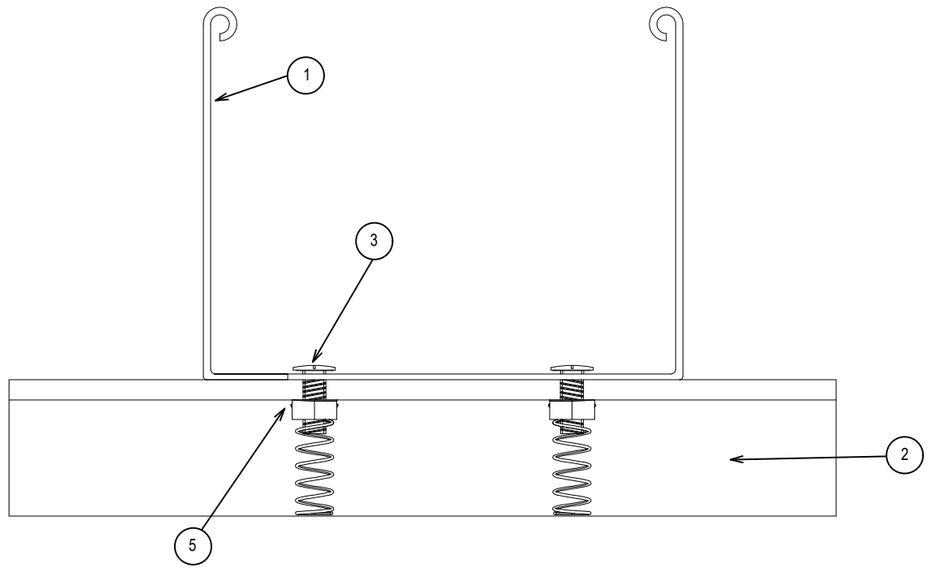


TYPICAL

TF

CABLE TRAY PERFORATED FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M6x40	2	



TYPICAL

TU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE TRAY PERFORATED FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

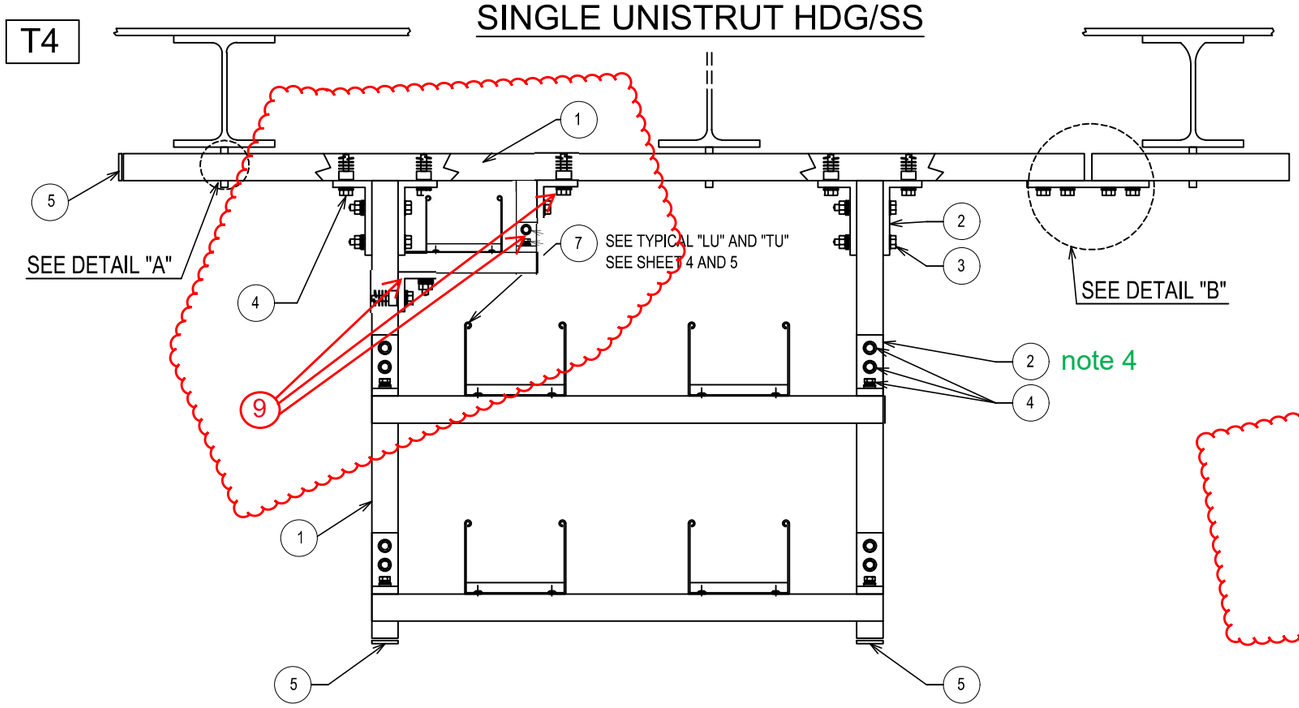
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 005 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

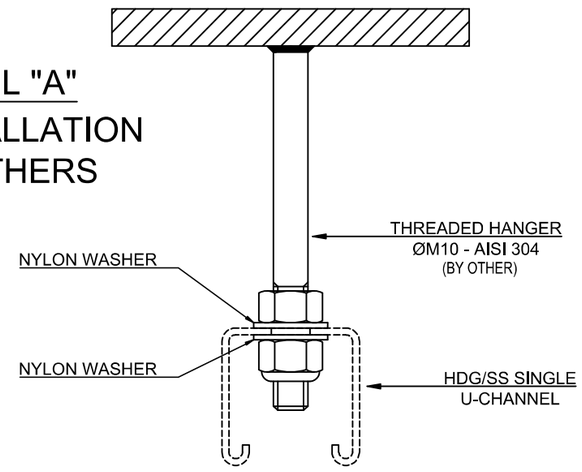
T4

SINGLE UNISTRUT HDG/SS

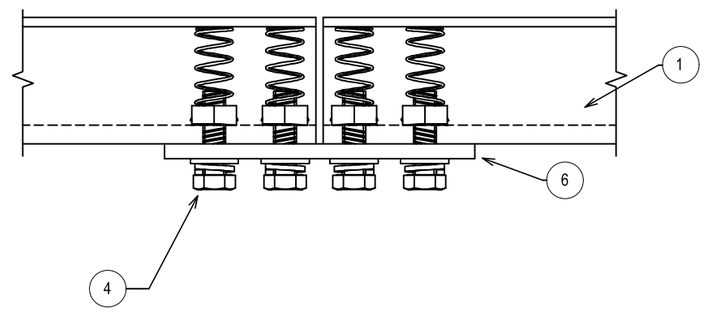


POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
2	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 3 HOLES	AISI 316L		8	
3	HEXAGONAL BOLT COMPLETE WITH PLANE WASHERS, GROWER AND NUT	AISI 316L	M10x70	4	
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	~~M10~~ M12	16	
5	PLUG FOR U-CHANNEL	LPDE		AS R	
6	CONNECTION PLATE (4 HOLES)	AISI 316L		AS R	
7	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
8	DOUBLE SLOT CROWNED HEAD SCREW C/W PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x20	AS R	
9	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 2 HOLES	AISI 316L		3	

DETAIL "A"
INSTALLATION
BY OTHERS



DETAIL "B"



4) ALTERNATIVELY, USE PLATE FOR CONNECTION WITH 2 HOLES

NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) FOR DISTANCE BETWEEN CABLE LADDERS/TRAYS, SEE SEGREGATION DISTANCES DETAIL ON SHEET 003.
3) THIS TYPICAL SHALL BE USED ONLY FOR INDOOR INSTALLATION.

TYPICAL VALID INSIDE TECHNICAL ROOMS

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY FIXING TO WELDED THREADED HANGER WITH U-CHANNEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

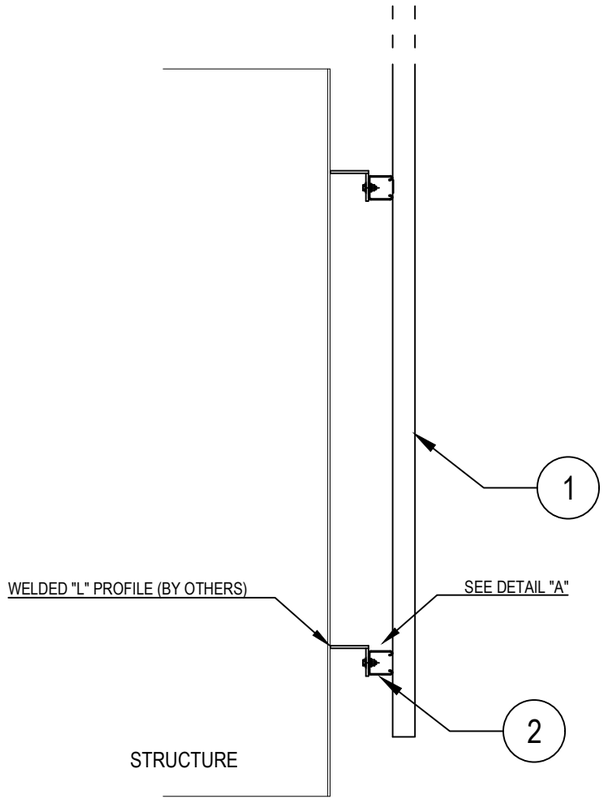
A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20093	009	02

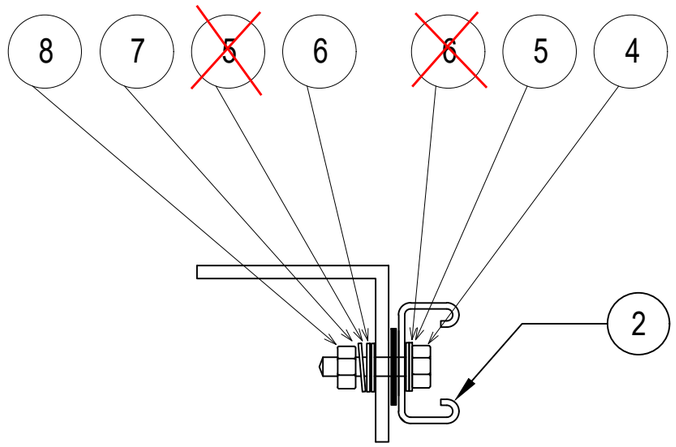
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

T6

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED LOW PROFILE	AISI 316L	41x22x2		NOTE 1
4	BOLT	AISI 316L	M10x30	2	
5	PLANE WASHER	AISI 316L	M10	2	
6	NYLON WASHER	AISI 316L	M10	2	
7	GROWER	AISI 316L	M10	2	
8	NUT	AISI 316L	M10	2	





DETAIL "A"

CONNECTION BETWEEN WELDED "L"
PROFILE AND SINGLE U-CHANNEL

NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY WITH WELDED SUPPORT (VERTICAL RUN)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 013 | REV. 02

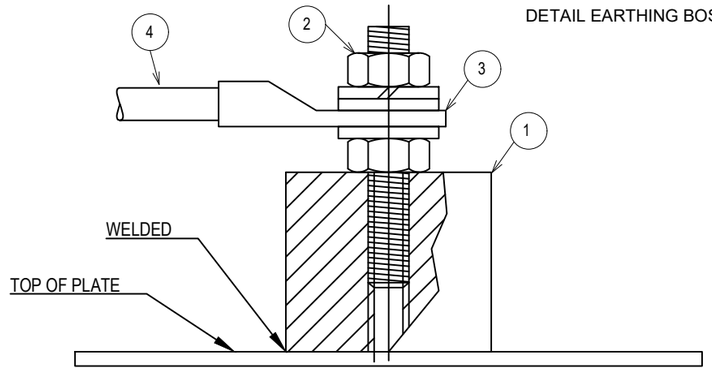
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50 50X150	1	NOTE 2
2	STUD BOLT WITH PLANE WASHER, GROWER AND NUT	AISI 316L	M10X50		
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER			~~NOTE 3~~
4	Y/G INSULATING COPPER CONDUCTOR				NOTE 1 NOTE 5
5	EARTHING PLATE	AISI 316L (NOT PAINTED)	50X50X5		NOTE 4
6	HEXAGONAL BOLT WITH PLANE WASHERS, GROWER AND NUT.	AISI 316L	M10X30		
7	THREADED STUD COMPLETE WITH GROWER AND NUTS	AISI 316L	M10X28		NOTE 6 NOTE 7

E11A

DETAIL EARTHING BOSS 50x50

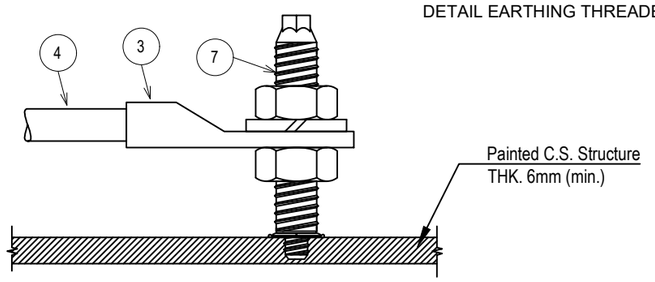


E11D

SEE NOTE 6

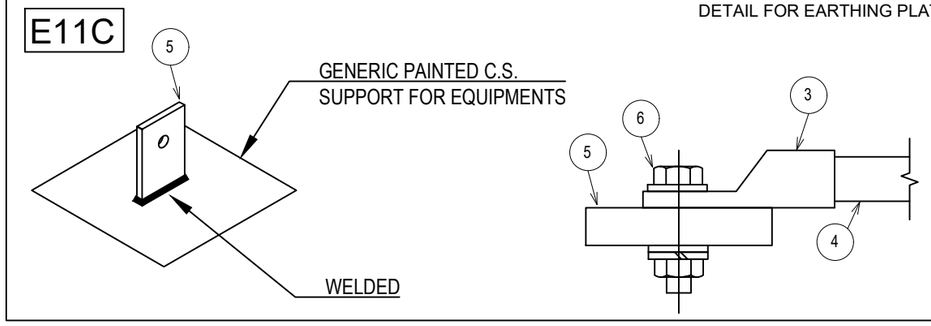
FOR CABLE
MAX 10mm²

DETAIL EARTHING THREADED STUD



E11C

DETAIL FOR EARTHING PLATE

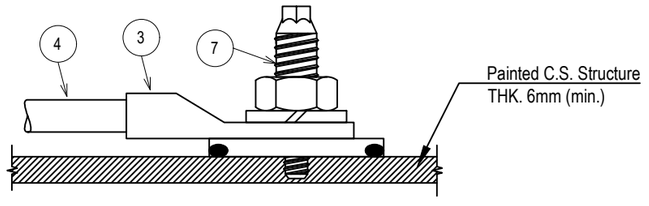


E11E

SEE NOTE 7

FOR CABLE
MAX 35mm²

DETAIL EARTHING THREADED STUD



NOTES:

1) ONLY ONE PROTECTIVE CONDUCTOR TERMINATION LUG SHALL BE CONNECTED TO A DEDICATED EARTHING BOSS, EARTH PLATE OR EARTH STUD.
2) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
4) EARTHING PLATE SHALL BE DEDICATED TO CABLE TRAY AND PIPE SUPPORTS, JUNCTION BOX, LOCAL CONTROL STATION AND SMALL EQUIPMENT SUPPORTS, LIGHTING POLES, RECEPTACLE SUPPORTS AND REMOVABLE HANDRAILS, ONLY.
5) FOR SIZE OF THE EARTHING CABLE SEE EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS
6) HILTI S-BT-ER M10/15 SN6 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 10mm².
7) HILTI S-BT-ER M10 HC 120 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 35mm².

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_C	09/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
SINGLE EARTHING CONNECTION

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 123A90–DDL–EL–DD–20090

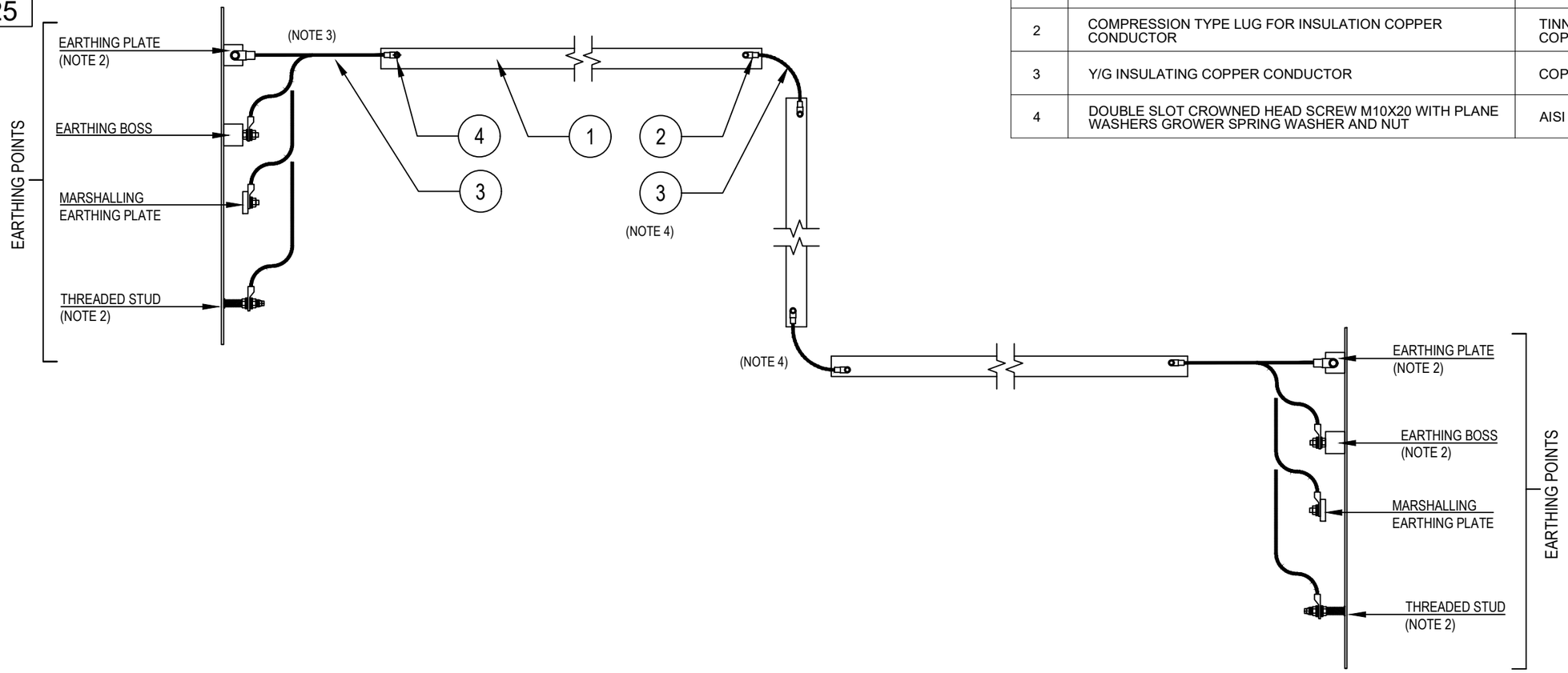
SHEET 003

REV. 02

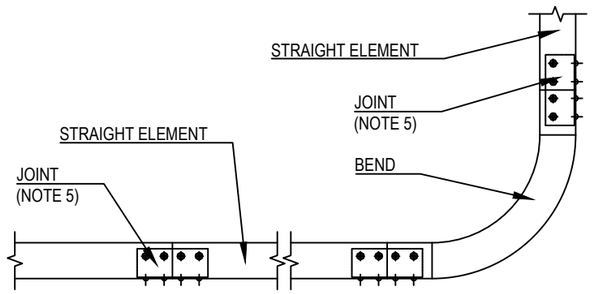
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File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

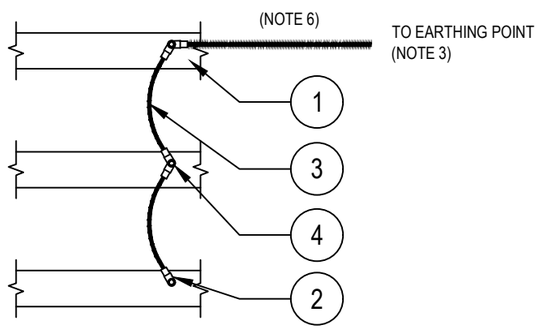
E25



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER/TRAY	FRP/GRP			
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	16mm^2		~~NOTE 1~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	16mm^2		
4	DOUBLE SLOT CROWNED HEAD SCREW M10X20 WITH PLANE WASHERS GROWER SPRING WASHER AND NUT	AISI 316L	~~M10X20~~ M6x20		



PARALLEL ROUTING



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) FOR DETAIL OF EARTHING PLATE, EARTHING BOSS AND THREADED STUD SEE TYP. E11A/C/D/E.
3) FOR EARTHING USE NEAREST EXISTING EARTHING POINT OR A NEW DEDICATED.
4) ON EVERY CHANGE OF DIRECTION MADE WITHOUT A PREFABBRICATED BEND, BONDING CONNECTION IS REQUIRED BY MEAN OF INSULATED Y/G EARTHING CONDUCTOR.
5) THE ELECTRIC CONTINUITY BETWEEN THE VARIOUS PREFABRICATED COMPONENTS IS GUARANTEED BY THE JOINTS INSTALLED ACCORDING TO THE ASSEMBLY INSTRUCTIONS OF THE CABLE TRAY/LADDER MANUFACTURER.
6) CABLE LADDER/TRAY SHALL BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM AT BOTH ENDS. FULL CONTINUITY SHALL BE ENSURED. IN CASE OF SHORT LENGHT ELEMENTS (LESS THAN 3 m) ONE END ONLY MAY BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM.
7) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_C	09/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM
EARTHING FOR CABLE LADDERS & TRAYS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20090	013	02

F.to UNI A3: 420mmx297mm

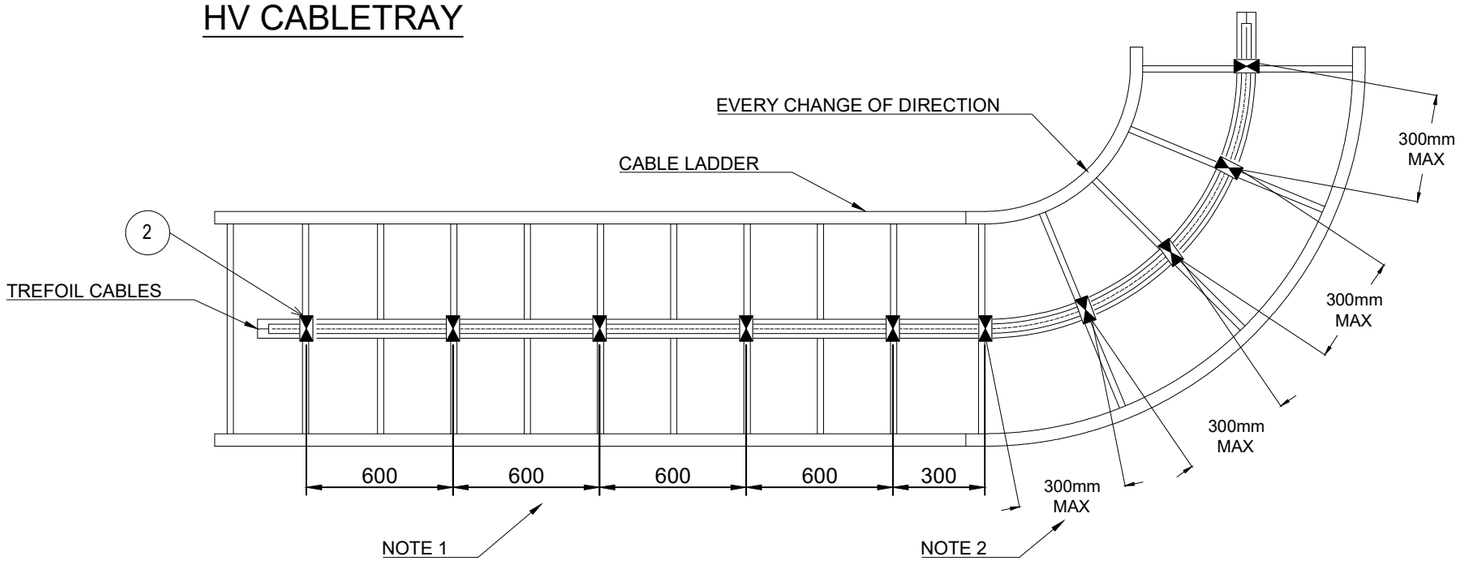
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

C06

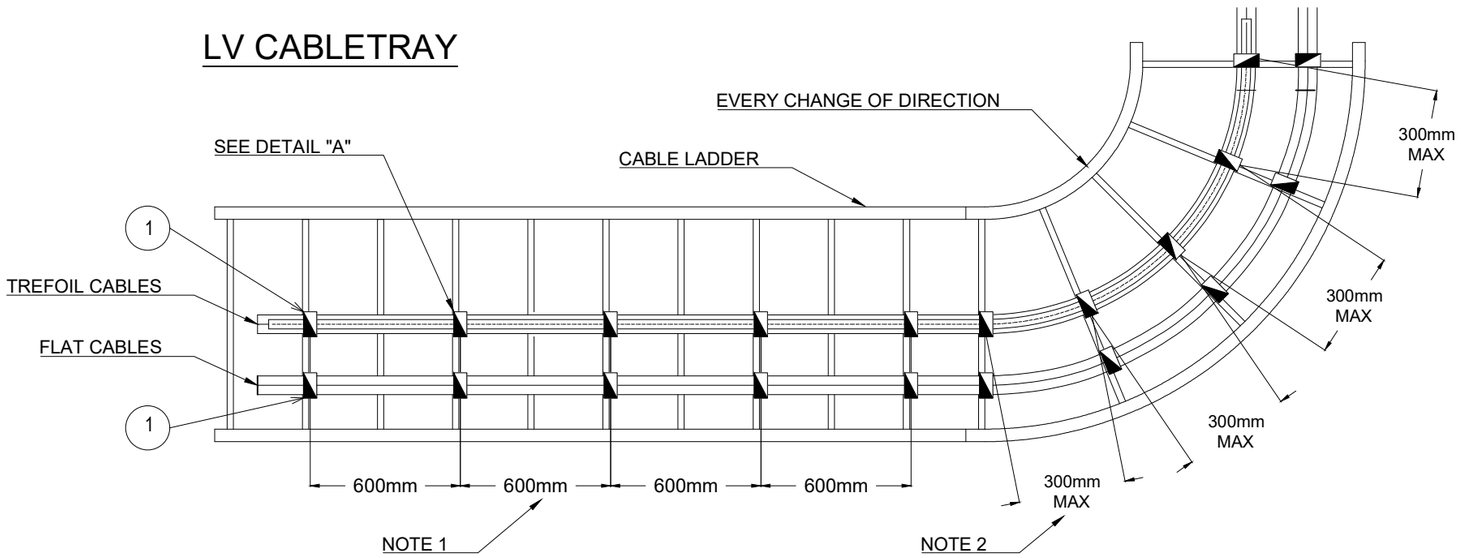
MAXIMUM CABLE TIES/CLEATS SPACING INSTALLATION DETAILS

MATERIALS		
POS.		DESCRIPTION
1		UV RESISTANT PVC CABLE TIES
2		STAINLESS STEEL DOUBLE WRAPPED CABLE CLEATS COMPLETE WITH TPE CUSHION SLEEVING

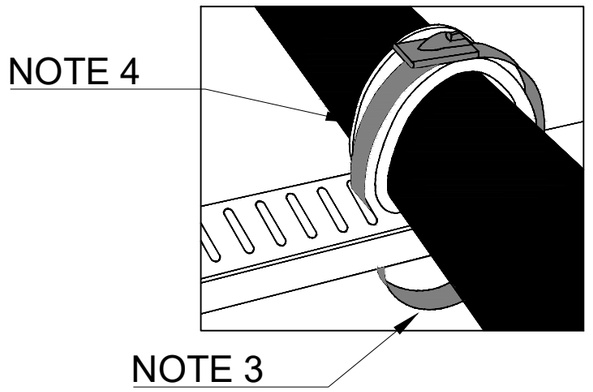
HV CABLETRAY



LV CABLETRAY



DETAIL "A" CABLE CLEATS



NOTES:

1) CABLES TIES SHALL BE HELD EVERY 600mm (CLEATS EVERY 600mm) ON HORIZONTAL RUNS.
2) CABLES SHALL BE HELD EVERY 300mm ON HORIZONTAL/VERTICAL ELBOW AND ON VERTICAL RUNS.
3) CABLE CLEATS WRAPPED TWO TIME AROUND THE CABLE RUNS.
4) TO PROTECT THE CABLE, INSTALL THE CUSHION SLEEVE BETWEEN THE CLAMP AND THE CABLE.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20092**

REV.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
MAXI. CABLE TIES SPACING TYPICAL INSTALLATION DETAILS CABLE FASTENING IN TRAYS/LADDER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

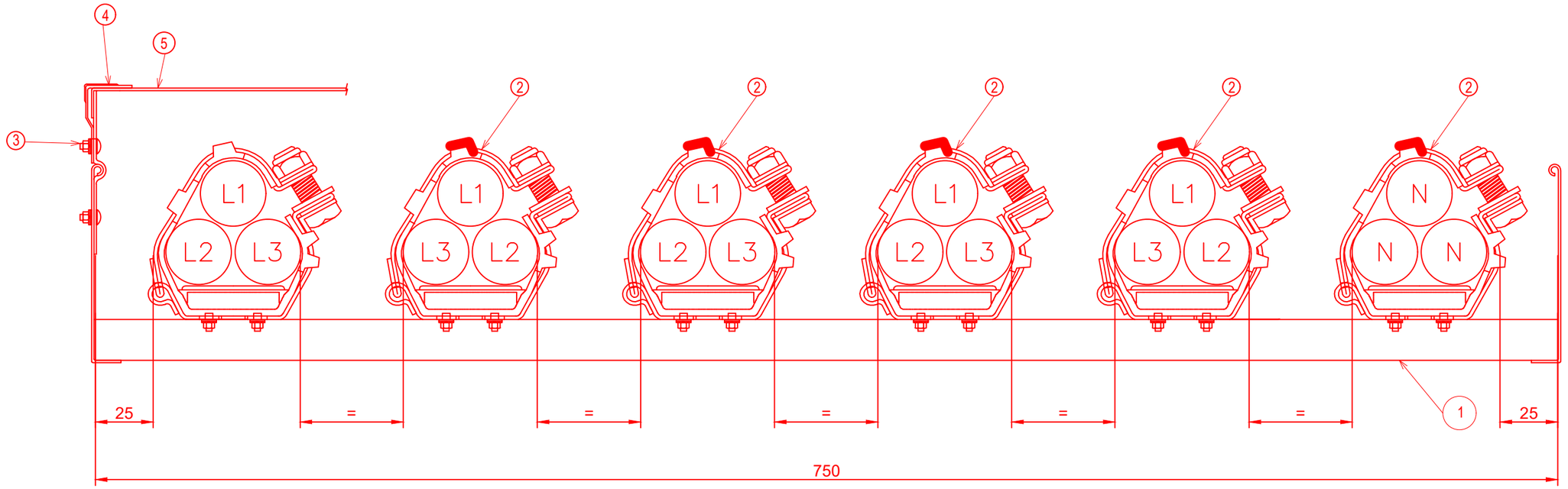
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F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

C05B

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	CABLE CLEATS	AISI 316L			
3	BOLT, WASHER AND LOCK NUT	AISI 316L	M8x20		
4	COVER SPACER	AISI 316L			
5	COVER	AISI 316L			



NOTES:

1) CABLE CLEATS TO BE USED EXCLUSIVELY FOR CONNECTION WITH 1X300 mm² CABLE BETWEEN TRANSFORMER AND PMCC PANEL

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20092**

REV.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES ARRANGEMENT IN CABLE LADDER FOR HIGH SCCR CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 011 | REV. 02

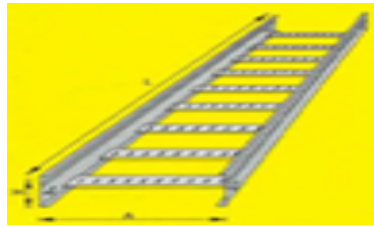
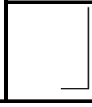
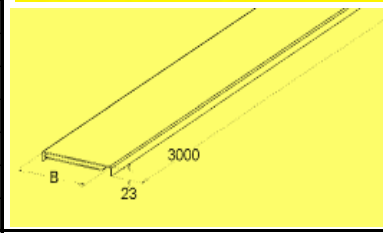
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.03 IN PROGRESS.DWG

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
		Sh: 5 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024
		Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☑			
2		PERFORATED ☐			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALVANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			
15					

STRAIGHT ELEMENT with COVER

18	LENGTH [mm]	3000 ☑	5000 ☐	
19		4000 ☐	6000 ☐	
20	HEIGTH [mm]	50 ☐	100 ☑	
21		75 ☐	150 ☑	
22	WIDTH [mm]	50 ☐	300 ☑	600 ☑
23		100 ☐	400 ☐	750 ☑
24		150 ☑	450 ☑	
25		200 ☐	500 ☐	

QUANTITY

28	HEIGHT x WIDTH [mm]	QUANTITY [m]	HEIGHT x WIDTH [mm]	QUANTITY [m]	HEIGHT x WIDTH [mm]	QUANTITY [m]
29	150x300	34	100x150	523		
30	STRAIGHT JOINT (1)	35	100x300	269		
31			100x450	58		
32			100x600	129		
33			100x750	43		
34			STRAIGHT JOINT (1)	850		
35						

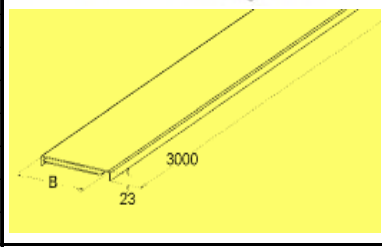
36	CODE	REMARKS
37		(1) Complete of the bolts, nuts and washer
38		
39		
40		
41		
42		
43		
44		
45		
46		

47 **NOTES:**

48
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TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☐			
2		PERFORATED ☑			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALVANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			
15					

STRAIGHT ELEMENT with COVER

18	LENGTH [mm]	3000 ☑	5000 ☐	
19		4000 ☐	6000 ☐	
20	HEIGTH [mm]	50 ☑	100 ☐	
21		80 ☑	150 ☐	
22	WIDTH [mm]	50 ☑	300 ☐	600 ☐
23		100 ☐	400 ☐	750 ☐
24		150 ☐	450 ☐	
25		200 ☑	500 ☐	

QUANTITY

28	HEIGHT x WIDTH [mm]	QUANTITY [m]	HEIGHT x WIDTH [mm]	QUANTITY [m]	HEIGHT x WIDTH [mm]	QUANTITY [m]
29	80x200	100	50x50	283		
30						
31						
32						
33						
34						
35						

36	CODE	REMARKS
37		(1) Complete of the bolts, nuts and washer
38		
39		
40		
41		
42		
43		
44		
45		
46		

47 **NOTES:**

48

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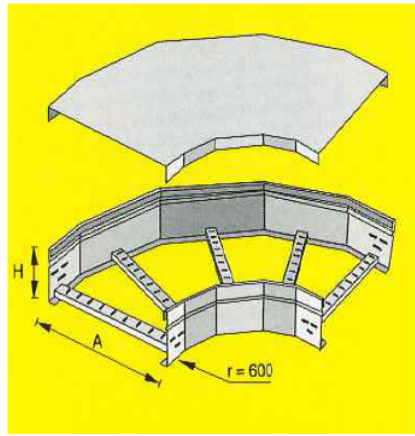
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55

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

TYPE	CABLE LADDER	☑			
	PERFORATED	☐			
	CLOSED	☐			
	FLANGE	SIMPLE ☐	BORDERED ☑		
MATERIAL	HOT DIP GALVANIZED STEEL	☐			
	ELECTROLYTICALLY GALVANIZED STEEL	☐			
	SENDZIMIR GALCANIZED STEEL	☐			
	STAINLESS STEEL AISI 304	☐			
	STAINLESS STEEL AISI 316	☑			
	ALLUMINIUM	☐			
	FRP / GRP for Hazardous Area	☐			



BEND INCLUDING COVER + FIXING CLIP

BEND DEGREE	30° ☐	60° ☐		
	45° ☐	90° ☑		
HEIGTH [mm]	50 ☐	100 ☑		
	75 ☐	150 ☑		
WIDTH [mm]	50 ☐	300 ☑	600 ☑	
	100 ☐	400 ☐	750 ☑	
	150 ☑	450 ☑		
	200 ☐	500 ☐		
INTERNAL RADIUS [mm]	150 ☐	400 ☐	600 ☑	
	300 ☑	500 ☐	900 ☑	

QUANTITY

HEIGHT x WIDTH , RADIUS , ANGLE [mm]			[°]	QUANTITY [pc]	HEIGHT x WIDTH , RADIUS , ANGLE [mm]			[°]	QUANTITY [pc]
H100 x W150	R300		90	29	H150 x W300	R300		90	6
H100 x W300	R300		90	11					
H100 x W450	R300		90	1					
H100 x W300	R600		90	6					
H100 x W600	R600		90	1					
H100 x W750	R600		90	1					
H100 x W600	R900		90	1					
					FIXING CLIP				224

CODE	REMARKS

NOTES:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
		Sh: 8 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024
		Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☐			
2		PERFORATED ☑			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALCANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			
15					

BEND INCLUDING COVER + FIXING CLIP

18	BEND DEGREE	30° ☐		60° ☐			
19		45° ☐		90° ☑			
20	HEIGTH [mm]	50 ☑		100 ☐			
21		75 ☐		150 ☐			
22	WIDTH [mm]	50 ☑		300 ☐		600 ☐	
23		100 ☐		400 ☐		750 ☐	
24		150 ☐		450 ☐			
25		200 ☐		500 ☐			
26	INTERNAL RADIUS [mm]	150 ☐		400 ☐		600 ☐	
27		300 ☑		500 ☐		900 ☐	

QUANTITY

30	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]	
31	H50 x W50 R300 90	11			
32					
33					
34					
35					
36					
37					
38					
39	FIXING CLIP	44			

40	CODE	REMARKS
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

51 **NOTES:**

52

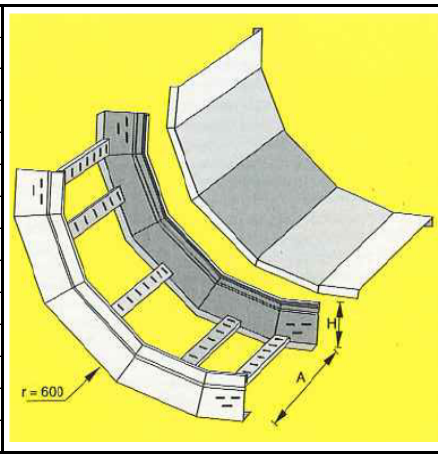
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54

55

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

TYPE	CABLE LADDER	☑			
	PERFORATED	☐			
	CLOSED	☐			
	FLANGE	SIMPLE ☐	BORDERED ☑		
MATERIAL	HOT DIP GALVANIZED STEEL	☐			
	ELECTROLYTICALLY GALVANIZED STEEL	☐			
	SENDZIMIR GALCANIZED STEEL	☐			
	STAINLESS STEEL AISI 304	☐			
	STAINLESS STEEL AISI 316	☑			
	ALLUMINIUM	☐			
	FRP / GRP for Hazardous Area	☐			

INSIDE RISER INCLUDING COVER + FIXING CLIP

RISER DEGREE	30° ☐	60° ☐		
	45° ☐	90° ☑		
HEIGTH [mm]	50 ☐	100 ☑		
	75 ☐	150 ☑		
WIDTH [mm]	50 ☐	300 ☑	600 ☑	
	100 ☐	400 ☐	750 ☑	
	150 ☑	450 ☑		
	200 ☐	500 ☐		
INTERNAL RADIUS [mm]	150 ☐	400 ☐	600 ☑	
	300 ☑	500 ☐	900 ☑	

QUANTITY

HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]
H100 x W150 R300 90	11	H150 x W300 R900 90	1
H100 x W300 R300 90	14		
H100 x W450 R300 90	6		
H100 x W150 R600 90	1		
H100 x W300 R600 90	6		
H100 x W450 R600 90	1		
H100 x W600 R600 90	1		
H100 x W750 R600 90	3		
		FIXING CLIP	176

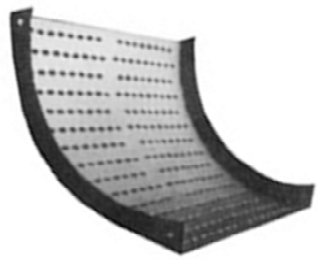
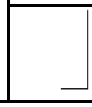
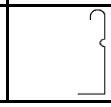
CODE	REMARKS

NOTES:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO Sh: 10 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024 Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☐			
2		PERFORATED ☑			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALCANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			
15					
16	**INSIDE RISER INCLUDING COVER + FIXING CLIP**				
17					
18	RISER DEGREE	30° ☐	60° ☐		
19		45° ☐	90° ☑		
20	HEIGTH [mm]	50 ☑	100 ☐		
21		75 ☐	150 ☐		
22	WIDTH [mm]	50 ☑	300 ☐	600 ☐	
23		100 ☐	400 ☐	750 ☐	
24		150 ☐	450 ☐		
25		200 ☐	500 ☐		
26	INTERNAL RADIUS [mm]	150 ☐	400 ☐	600 ☐	
27		300 ☑	500 ☐	900 ☐	
28	**QUANTITY**				
29					

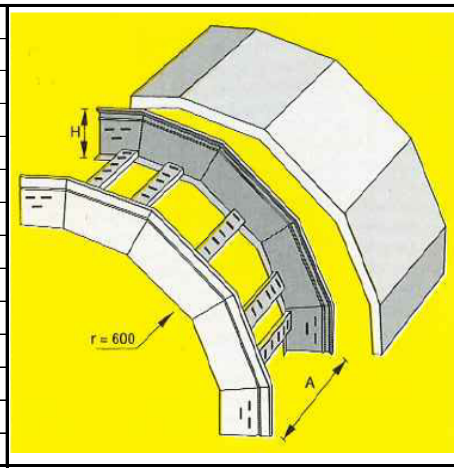
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31	H50 x W50 R300 90	19		
32				
33				
34				
35				
36				
37				
38				
39				
40	FIXING CLIP	76		
41				

42	CODE	REMARKS
43		
44		
45		
46		
47		
48		
49		
50	**NOTES:**	
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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
		Sh: 11 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024
		Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☑			
2		PERFORATED ☐			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALCANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			

OUTSIDE RISER INCLUDING COVER + FIXING CLIP

18	RISER DEGREE	30° ☐	60° ☐	
19		45° ☐	90° ☑	
20	HEIGTH [mm]	50 ☐	100 ☑	
21		75 ☐	150 ☑	
22	WIDTH [mm]	50 ☐	300 ☑	600 ☑
23		100 ☐	400 ☐	750 ☑
24		150 ☑	450 ☑	
25		200 ☐	500 ☐	
26	INTERNAL RADIUS [mm]	150 ☐	400 ☐	600 ☑
27		300 ☑	500 ☐	900 ☑

QUANTITY

	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]
31	H100 x W150 R300 90	38	H150 x W300 R900 90	3
32	H100 x W300 R300 90	14		
33	H100 x W450 R300 90	11		
34	H100 x W150 R600 90	1		
35	H100 x W300 R600 90	4		
36	H100 x W450 R600 90	1		
37	H100 x W600 R600 90	1		
38	H100 x W750 R600 90	4		
39				
40				
41				
42				
43			FIXING CLIP	308

	CODE	REMARKS
44		
45		
46		
47		
48		
49		
50		

51 **NOTES:**

52

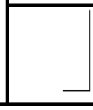
53

54

55

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER ☐			
2		PERFORATED ☑			
3		CLOSED ☐			
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL ☐			
9		ELECTROLYTICALLY GALVANIZED STEEL ☐			
10		SENDZIMIR GALCANIZED STEEL ☐			
11		STAINLESS STEEL AISI 304 ☐			
12		STAINLESS STEEL AISI 316 ☑			
13		ALLUMINIUM ☐			
14		FRP / GRP for Hazardous Area ☐			

OUTSIDE RISER INCLUDING COVER + FIXING CLIP

18	RISER DEGREE	30° ☐	60° ☐	
19		45° ☐	90° ☑	
20	HEIGTH [mm]	50 ☑	100 ☐	
21		75 ☐	150 ☐	
22	WIDTH [mm]	50 ☑	300 ☐	600 ☐
23		100 ☐	400 ☐	750 ☐
24		150 ☐	450 ☐	
25		200 ☐	500 ☐	
26	INTERNAL RADIUS [mm]	150 ☐	400 ☐	600 ☐
27		300 ☑	500 ☐	900 ☐

QUANTITY

	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]	HEIGHT x WIDTH , RADIUS , ANGLE [mm] [°]	QUANTITY [pc]
30				
31	H50 x W50 R300 90	5		
43	FIXING CLIP	20		

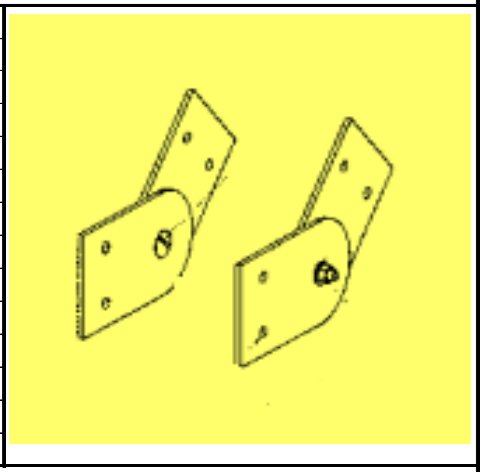
	CODE	REMARKS
44		
45		
46		
47		
48		
49		
50		

51 **NOTES:**

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
		Sh: 13 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024
		Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER	☑		
2		PERFORATED	☐		
3		CLOSED	☐		
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL	☐		
9		ELECTROLYTICALLY GALVANIZED STEEL	☐		
10		SENDZIMIR GALCANIZED STEEL	☐		
11		STAINLESS STEEL AISI 304	☐		
12		STAINLESS STEEL AISI 316	☑		
13		ALLUMINIUM	☐		
14		FRP / GRP for Hazardous Area	☐		
15					

VERTICAL HINGED JOINT (complete of bolts,nuts and washer)

18	HEIGTH [mm]	50	☐	100	☑
19		75	☐	150	☑

QUANTITY

HEIGHT [mm]	QUANTITY [pc]
100	125
150	25

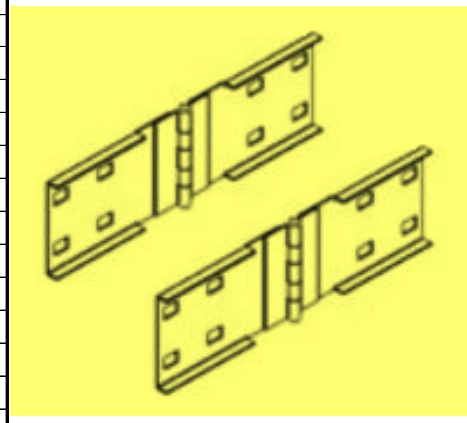
CODE	REMARKS

NOTES:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO Sh: 14 of 19
Document Title:	Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories	Date: 30/09/2024 Rev.: 01

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER	☑		
2		PERFORATED	☐		
3		CLOSED	☐		
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL	☐		
9		ELECTROLYTICALLY GALVANIZED STEEL	☐		
10		SENDZIMIR GALCANIZED STEEL	☐		
11		STAINLESS STEEL AISI 304	☐		
12		STAINLESS STEEL AISI 316	☑		
13		ALLUMINIUM	☐		
14		FRP / GRP for Hazardous Area	☐		
15					

HORIZONTAL ADJUSTABLE JOINT (complete of bolts,nuts and washer)

18	HEIGTH [mm]	50	☐	100	☑
19		75	☐	150	☑

QUANTITY

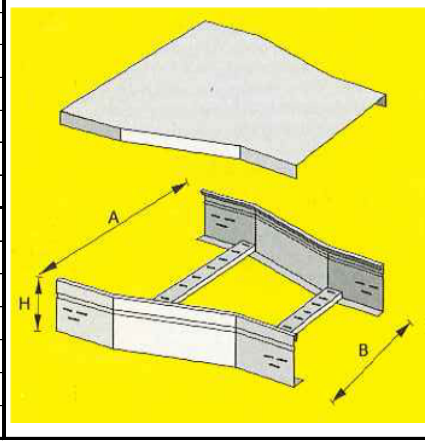
	HEIGHT [mm]	QUANTITY [pc]	
22			
23	100	50	
24	150	15	
25			
26			

	CODE	REMARKS
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		

45 **NOTES:**

TITLE

Technical Data Sheet (TDS) for Electrical Cable Trays & Accessories

1	TYPE	CABLE LADDER	☑		
2		PERFORATED	☐		
3		CLOSED	☐		
4		FLANGE	SIMPLE ☐	BORDERED ☑	
5					
6					
7					
8	MATERIAL	HOT DIP GALVANIZED STEEL	☐		
9		ELECTROLYTICALLY GALVANIZED STEEL	☐		
10		SENDZIMIR GALCANIZED STEEL	☐		
11		STAINLESS STEEL AISI 304	☐		
12		STAINLESS STEEL AISI 316	☑		
13		ALLUMINIUM	☐		
14		FRP / GRP for Hazardous Area	☐		
15					

REDUCTION ELEMENT INCLUDING COVER + FIXING CLIP

18	HEIGTH [mm]	50	☐	150	☐	
19		75	☐			
20		100	☑			
21	WIDTH [mm]	200-100	☐	600-300	☑	
22		300-200	☐	600-400	☐	
23		300-150	☑	600-500	☐	
24		450-300	☑			
25		500-300	☐			

QUANTITY

	HEIGHT / WIDTH [mm]	QUANTITY [pc]	HEIGHT / WIDTH [mm]	QUANTITY [pc]	
28					
29	H100 x W300-150	4			
30	H100 x W450-300	3			
31	H100 x W600-300	3			
32					
33					
34					
35	FIXING CLIP	40			

	CODE	REMARKS
36		
37		
38		
39		
40		
41		
42		
43		
44		

45 **NOTES:**

ITEM	Tag	CABLE_TRAY_B300_ELE_LV	: Cable Tray B300 - Electrical (Low Voltage)		Dwg	123A90-DDL-EL-DL-20113	
	S/Sys	90-03	: UPS System Equipment Room B-300		Module	LD_B-300	
TASK	code	C10002289	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX30B	Cable Tray/Ladder After pulling

AFTER PULLING

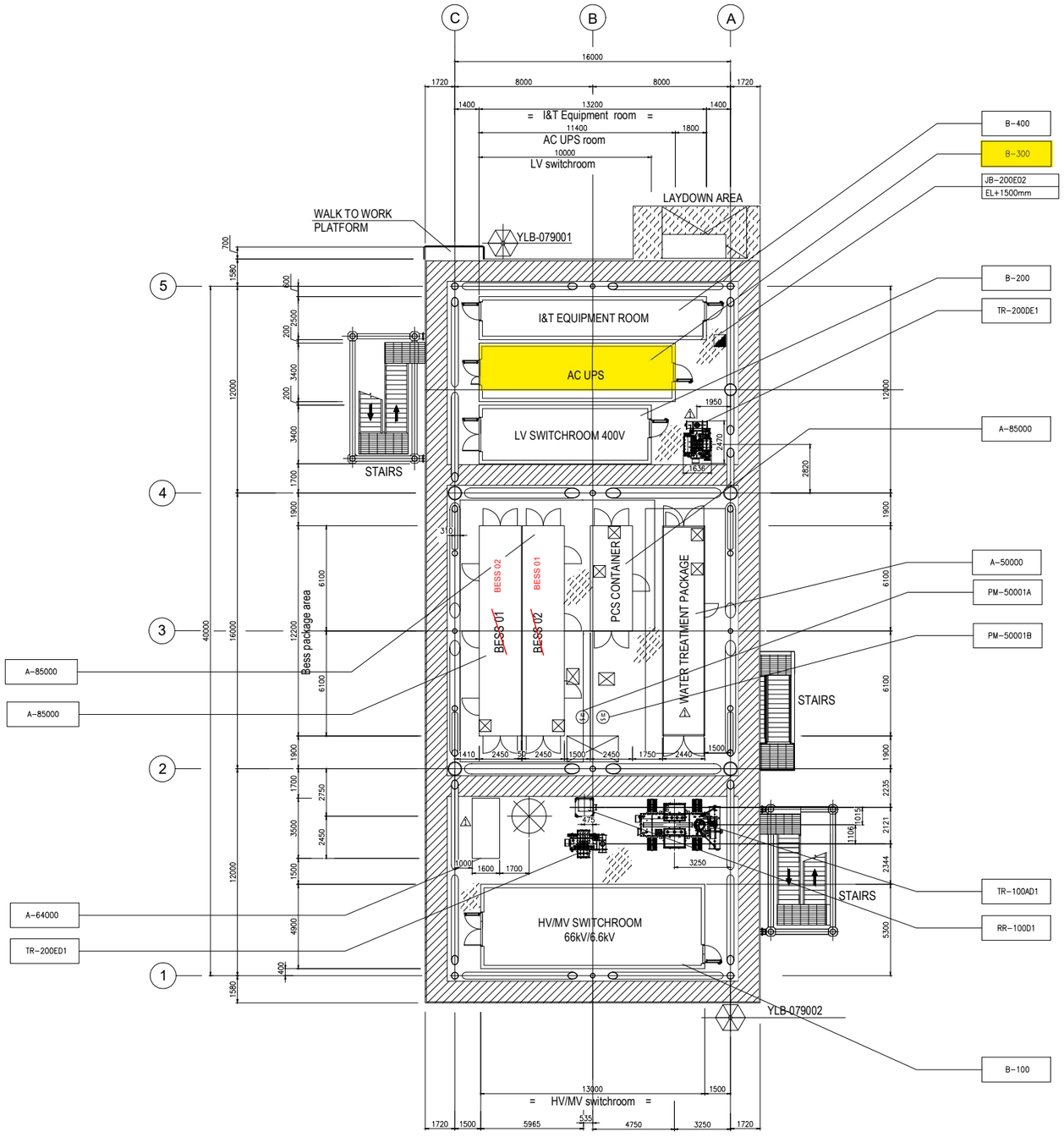
1	Check cable segregation on rack and tray	OK
2	Check Capacity of cable rack and tray (bunching, size of cables, spare capacity, etc.)	OK
3	Check cable tray / ladder for Damages and cleanness	OK
4	Check of proper cable bending radius	OK
5	Check proper fastening of cables (distance and material)	PL
6	Check lids intallation (if any) against drawings	NA
7	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

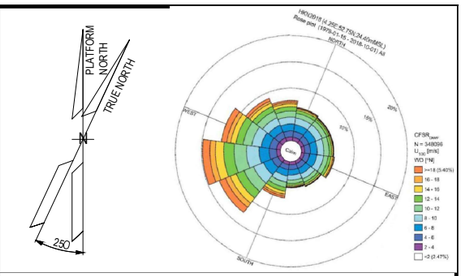
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Eleonora Carotenuto	
Date	2025-02-18	2025-02-21	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-02-18T16:02:00.387Z	PROVERLIS Digitaly signed by Eleonora Carotenuto 2025-02-21T12:28:03.723Z	

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

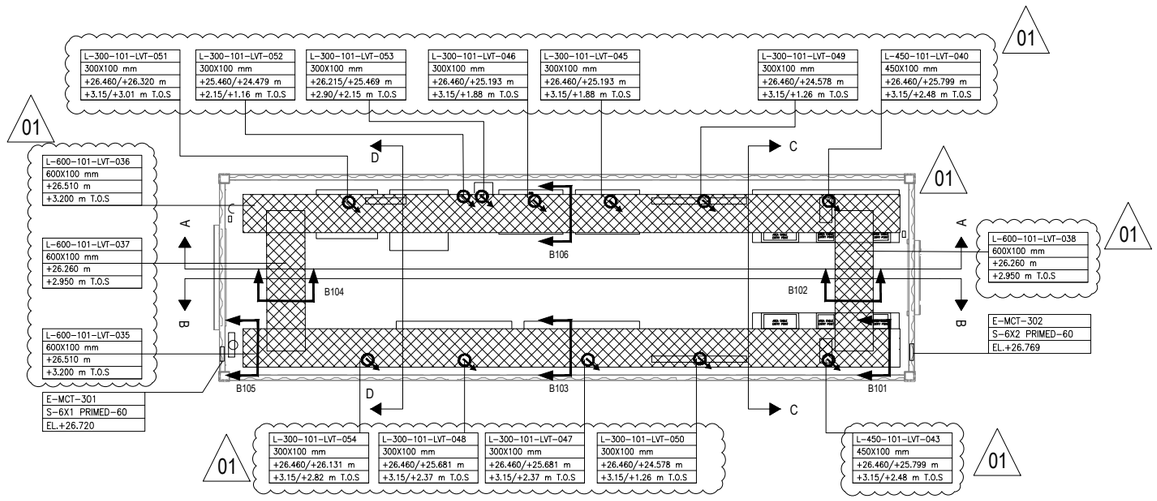
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24

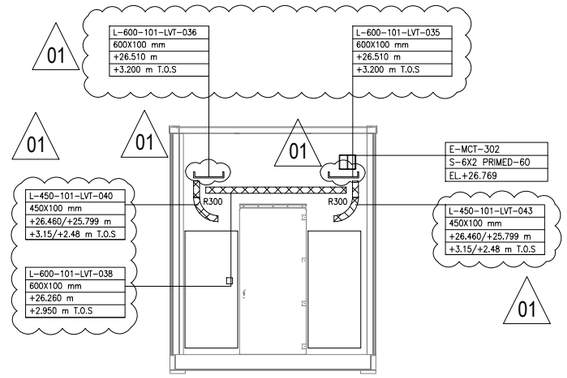
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

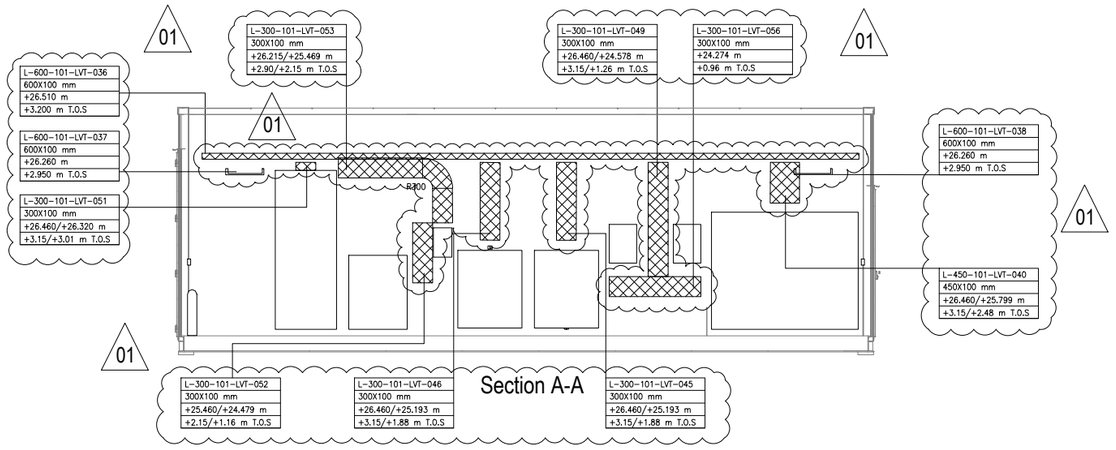
DRAWING NO. 123A90-DDL-EL-DL-20113

REV. 01

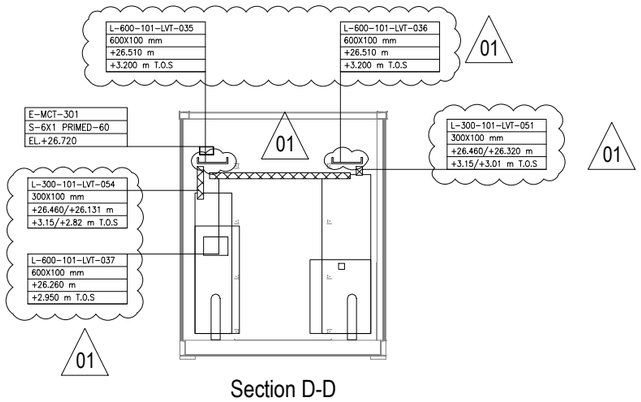




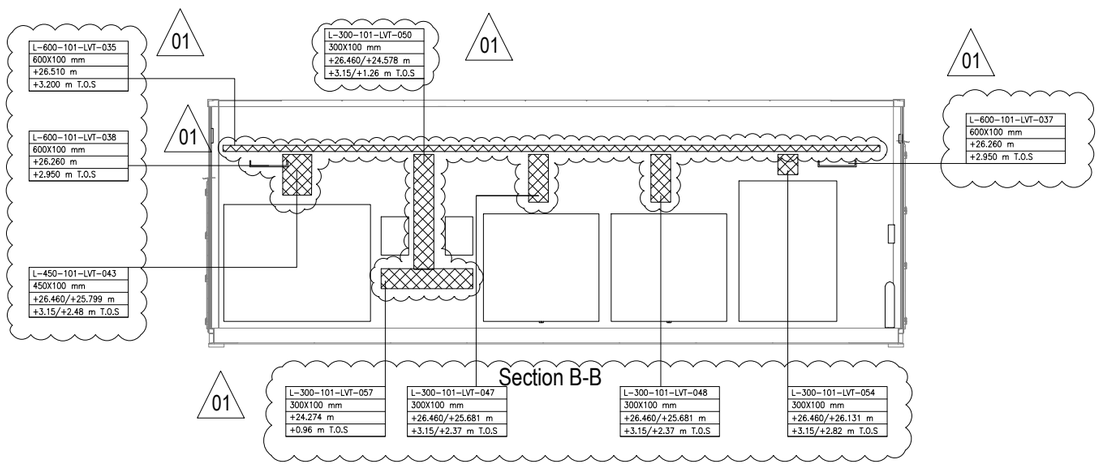
Section C-C



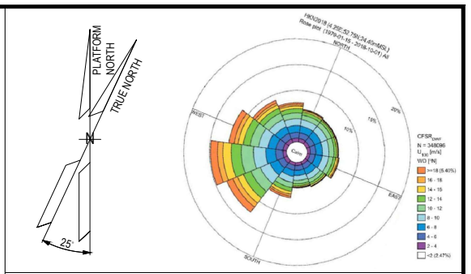
Section A-A



Section D-D



Section B-B



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S (EL+23.310 m).
3. CABLEROUTE ELEVATION ARE REFER TO BOTTOM ON HORIZONTAL CABLETRAYS AND TO THE MIDDLE ON SIDE INSTALLATION CABLETRAYS
4. THIS DRAWING IS VALID ONLY FOR ELECTRICAL CABLE ROUTING LAYOUT.
5. A MINIMUM OF 20% CAPACITY IN EACH CABLE LADDER SHALL BE PROVIDED FOR FUTURE EXTENSION.
6. DRAWING SPLIT INTO MULTIPLY SHEETS FOR CLARITY.
7. FOR INSTALLATION DETAIL OF CABLE LADDER REFER TO DOC. 123A90-DDL-EL-DD-20093.
8. FOR LIGHTING AND SOCKET EQUIPMENTS SEE DRAWING 123A90-DDL-EL-DL-20124 AND 1724000049-EL-LIS-00045.

LEGEND

ELECTRICAL LV CABLE LADDER

ELECTRICAL CABLE LADDER (VERTICAL)

ELECTRICAL CABLE LADDER (VERTICAL DROP)

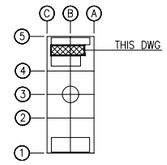
CABLETRAY TAGGING

TAG
SIZE
ELEVATION
ELEVATION(T.O.S)

MCT TAGGING

TAGGING
TYPICAL
ELEVATION

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-EL-DD-20093	ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
123A90-DDL-EL-LIS-20148	ELECTRICAL POWER & CONTROL CABLE SCHEDULE
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT -UPSs & BATTERIES SWITCHROOM
123A90-DDL-EL-DD-20095	MCT COMPOSITION
1724000049-EL-LIS-00045	B-300 ELECTRICAL COMPONENTS LIST AND DS - E&I SHELTERS

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	01/08/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	26/06/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20113**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL CABLE ROUTING LAYOUT
UPSs & BATTERIES SWITCHROOM

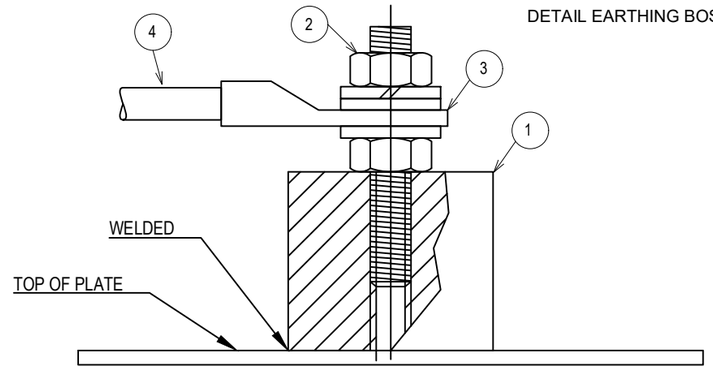
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 01/08/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20113	SHEET 1of8	REV. 01

File Name : 123A90-DDL-EL-DL-20113

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50 50X150	1	NOTE 2
2	STUD BOLT WITH PLANE WASHER, GROWER AND NUT	AISI 316L	M10X50		
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER			~~NOTE 3~~
4	Y/G INSULATING COPPER CONDUCTOR				NOTE 1 NOTE 5
5	EARTHING PLATE	AISI 316L (NOT PAINTED)	50X50X5		NOTE 4
6	HEXAGONAL BOLT WITH PLANE WASHERS, GROWER AND NUT.	AISI 316L	M10X30		
7	THREADED STUD COMPLETE WITH GROWER AND NUTS	AISI 316L	M10X28		NOTE 6 NOTE 7

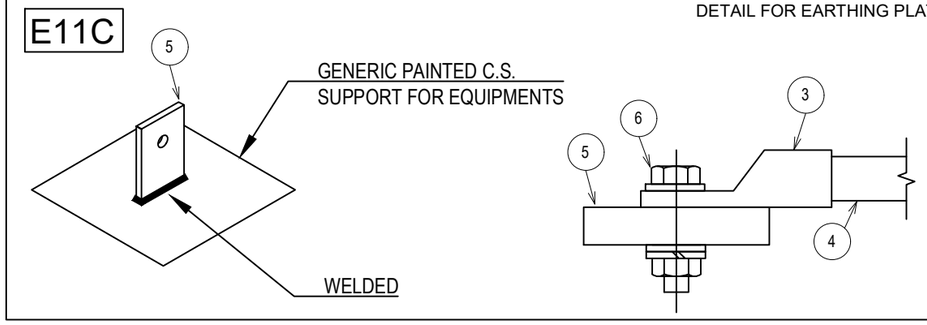
E11A

DETAIL EARTHING BOSS 50x50



E11C

DETAIL FOR EARTHING PLATE

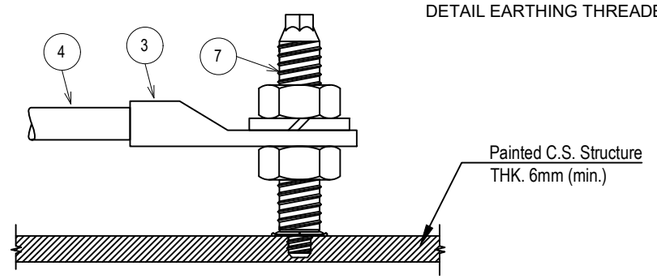


E11D

SEE NOTE 6

FOR CABLE
MAX 10mm²

DETAIL EARTHING THREADED STUD

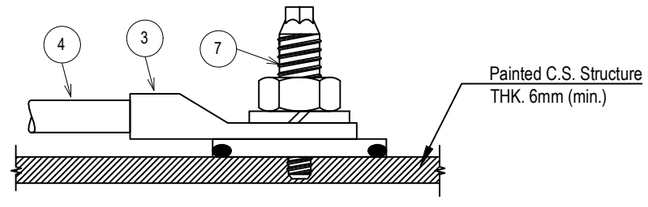


E11E

SEE NOTE 7

FOR CABLE
MAX 35mm²

DETAIL EARTHING THREADED STUD



NOTES:
1) ONLY ONE PROTECTIVE CONDUCTOR TERMINATION LUG SHALL BE CONNECTED TO A DEDICATED EARTHING BOSS, EARTH PLATE OR EARTH STUD.
2) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
4) EARTHING PLATE SHALL BE DEDICATED TO CABLE TRAY AND PIPE SUPPORTS, JUNCTION BOX, LOCAL CONTROL STATION AND SMALL EQUIPMENT SUPPORTS, LIGHTING POLES, RECEPTACLE SUPPORTS AND REMOVABLE HANDRAILS, ONLY.
5) FOR SIZE OF THE EARTHING CABLE SEE EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS
6) HILTI S-BT-ER M10/15 SN6 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 10mm².
7) HILTI S-BT-ER M10 HC 120 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 35mm².

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
SINGLE EARTHING CONNECTION

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 123A90–DDL–EL–DD–20090

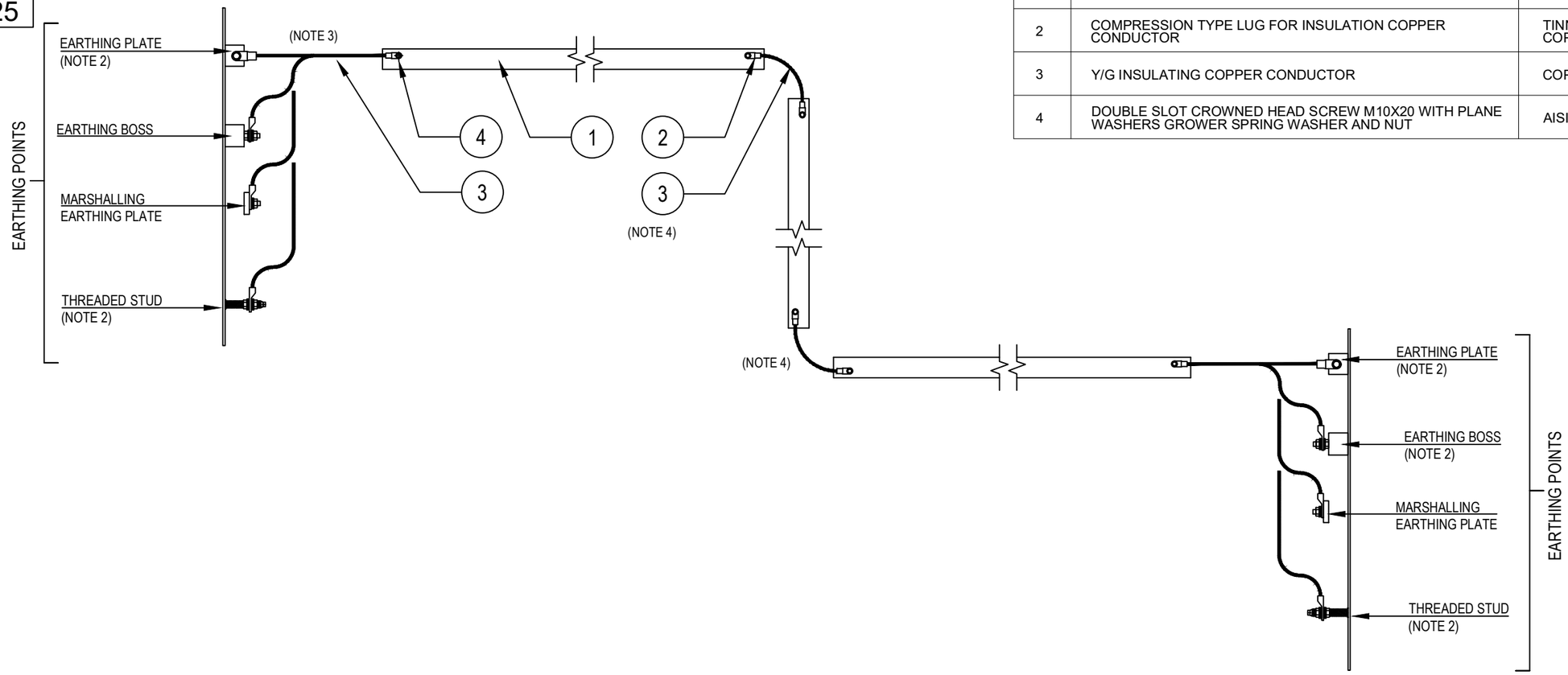
SHEET 003

REV. 02

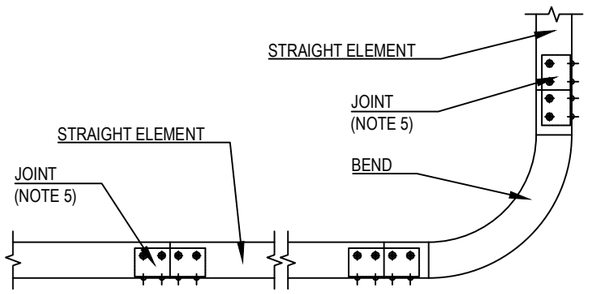
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

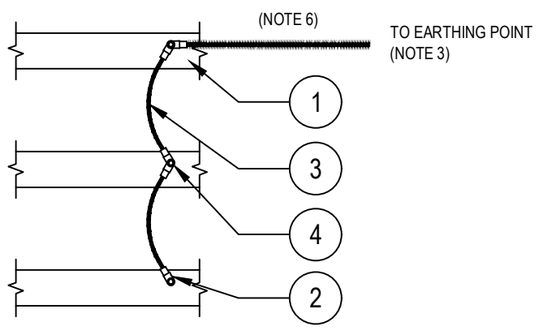
E25



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER/TRAY	FRP/GRP			
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	16mm^2		~~NOTE 1~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	16mm^2		
4	DOUBLE SLOT CROWNED HEAD SCREW M10X20 WITH PLANE WASHERS GROWER SPRING WASHER AND NUT	AISI 316L	~~M10X20~~ M6x20		



PARALLEL ROUTING



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) FOR DETAIL OF EARTHING PLATE, EARTHING BOSS AND THREADED STUD SEE TYP. E11A/C/D/E.
3) FOR EARTHING USE NEAREST EXISTING EARTHING POINT OR A NEW DEDICATED.
4) ON EVERY CHANGE OF DIRECTION MADE WITHOUT A PREFABBRICATED BEND, BONDING CONNECTION IS REQUIRED BY MEAN OF INSULATED Y/G EARTHING CONDUCTOR.
5) THE ELECTRIC CONTINUITY BETWEEN THE VARIOUS PREFABRICATED COMPONENTS IS GUARANTEED BY THE JOINTS INSTALLED ACCORDING TO THE ASSEMBLY INSTRUCTIONS OF THE CABLE TRAY/LADDER MANUFACTURER.
6) CABLE LADDER/TRAY SHALL BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM AT BOTH ENDS. FULL CONTINUITY SHALL BE ENSURED. IN CASE OF SHORT LENGHT ELEMENTS (LESS THAN 3 m) ONE END ONLY MAY BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM.
7) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR CABLE LADDERS & TRAYS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

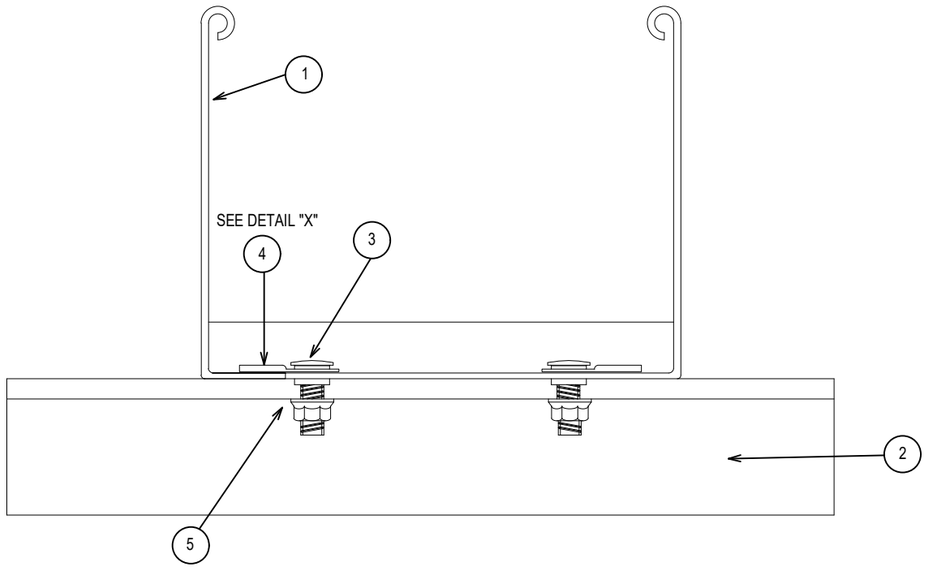
A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20090	013	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

CABLE LADDER FIXING ON FRP RACK

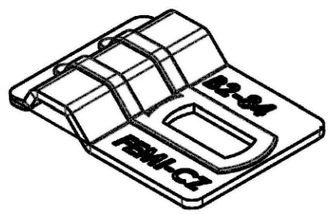
POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SQUARE NECK SCREW	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	FLANGED NUT	AISI 316L	M8	2	



TYPICAL

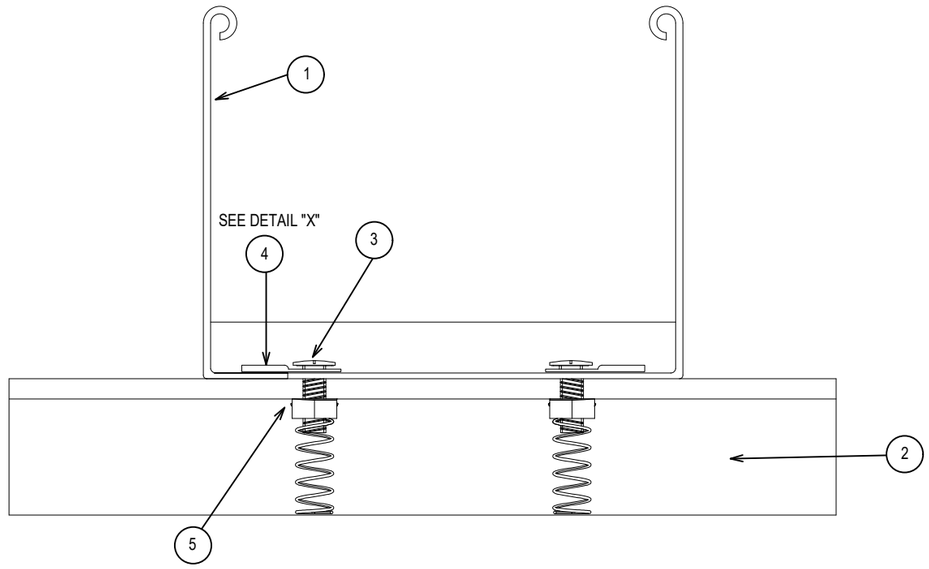
LF

DETAIL "X"



CABLE LADDER FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M8x40	2	



TYPICAL

LU

SEE SHEET 18 FOR FIXING OF CABLE LADDER ON UNISTRUT ON VERTICAL RUNS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE LADDER FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

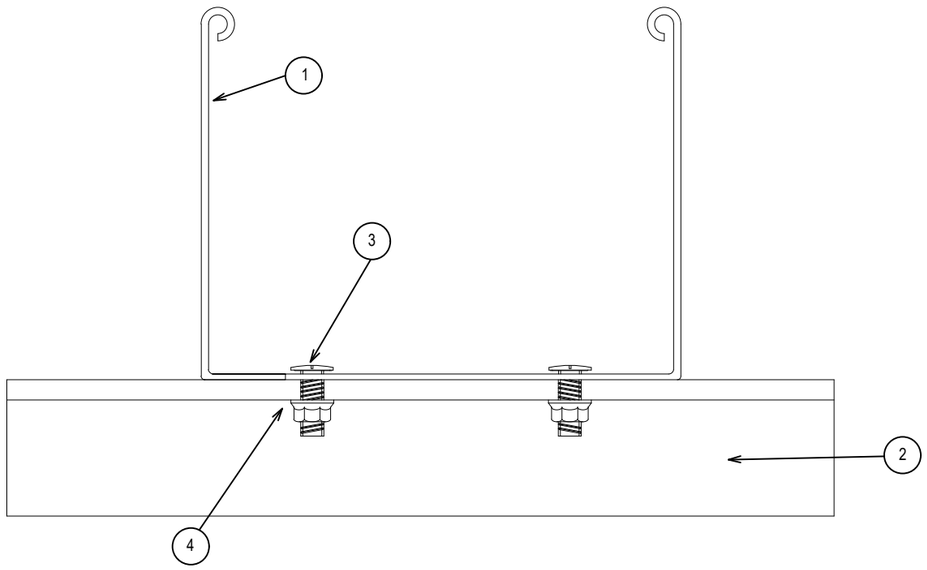
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 004 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

CABLE TRAY PERFORATED FIXING ON FRP RACK

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
4	FLANGED NUT	AISI 316L	M6	2	

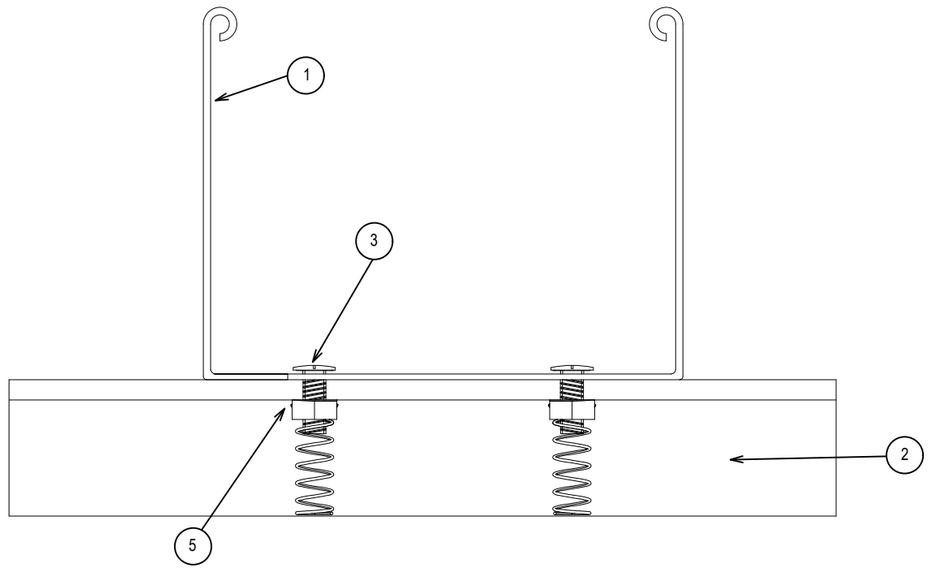


TYPICAL

TF

CABLE TRAY PERFORATED FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M6x40	2	



TYPICAL

TU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE TRAY PERFORATED FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

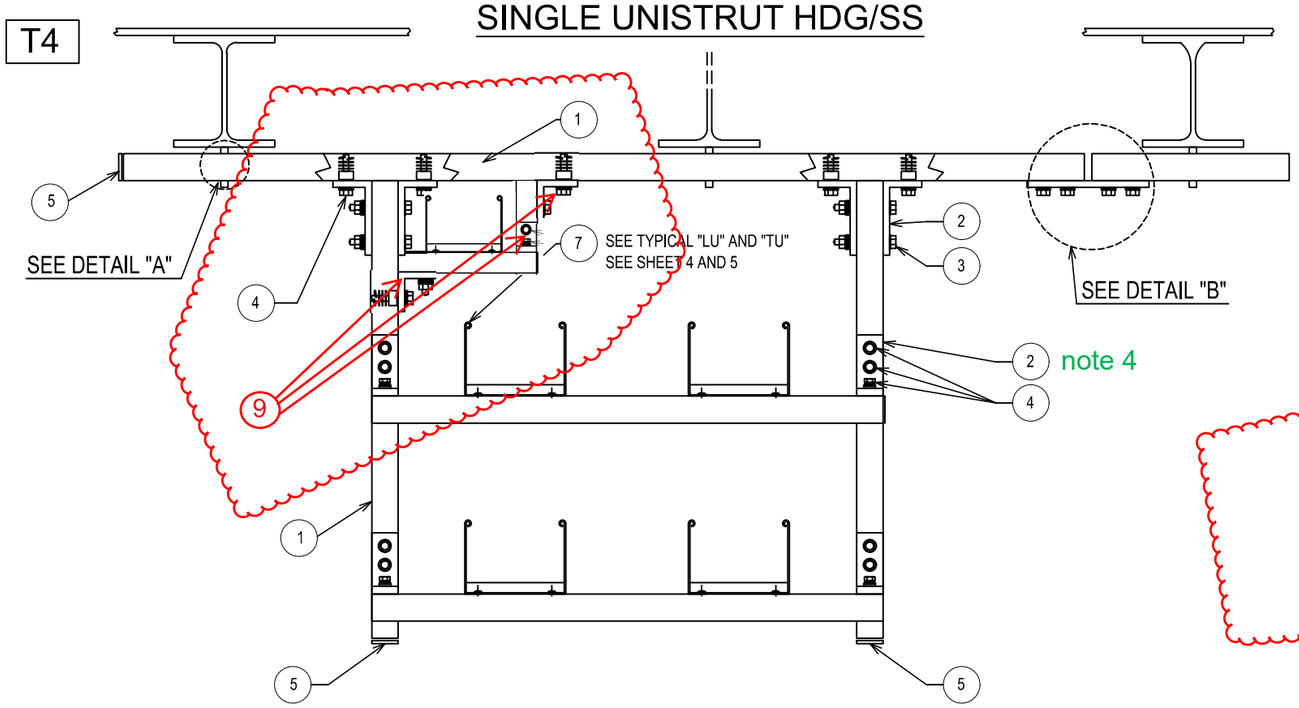
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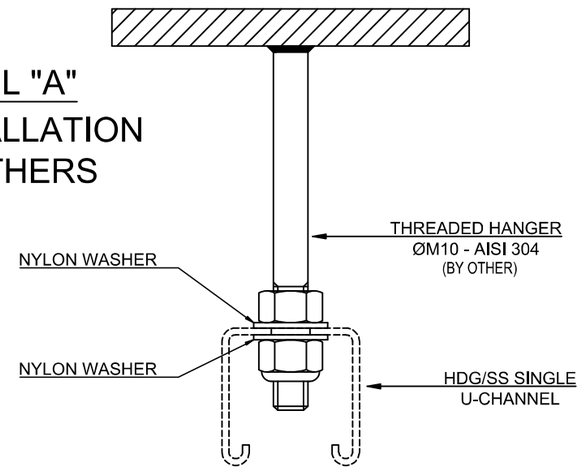
T4

SINGLE UNISTRUT HDG/SS

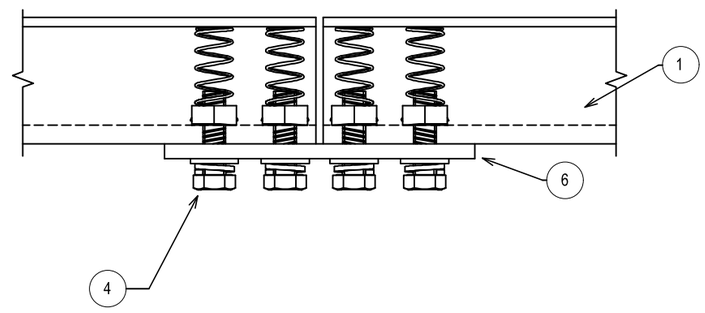


POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
2	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 3 HOLES	AISI 316L		8	
3	HEXAGONAL BOLT COMPLETE WITH PLANE WASHERS, GROWER AND NUT	AISI 316L	M10x70	4	
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	~~M10~~ M12	16	
5	PLUG FOR U-CHANNEL	LPDE		AS R	
6	CONNECTION PLATE (4 HOLES)	AISI 316L		AS R	
7	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
8	DOUBLE SLOT CROWNED HEAD SCREW C/W PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x20	AS R	
9	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 2 HOLES	AISI 316L		3	

DETAIL "A"
INSTALLATION
BY OTHERS



DETAIL "B"



4) ALTERNATIVELY, USE PLATE FOR CONNECTION WITH 2 HOLES

NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) FOR DISTANCE BETWEEN CABLE LADDERS/TRAYS, SEE SEGREGATION DISTANCES DETAIL ON SHEET 003.
3) THIS TYPICAL SHALL BE USED ONLY FOR INDOOR INSTALLATION.

TYPICAL VALID INSIDE TECHNICAL ROOMS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY FIXING TO WELDED THREADED HANGER WITH U-CHANNEL

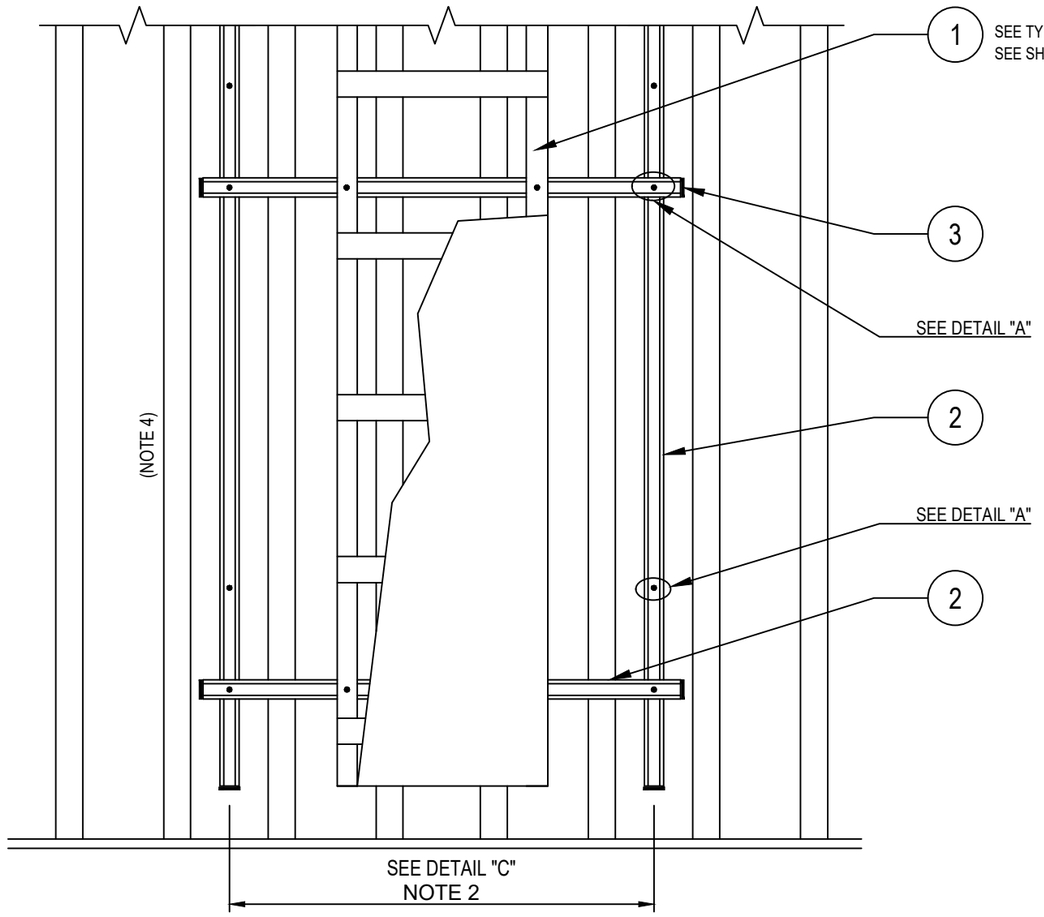
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20093	009	02

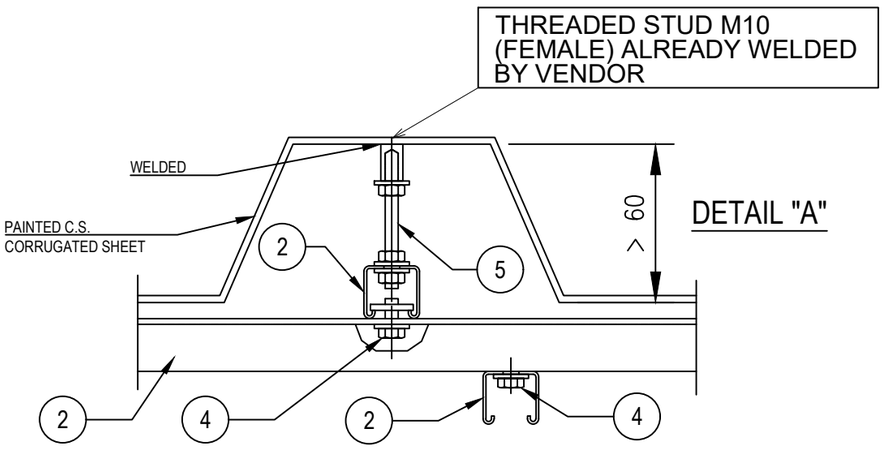
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File Name : 123A90-DDL-EL-DD-20093_02.DWG

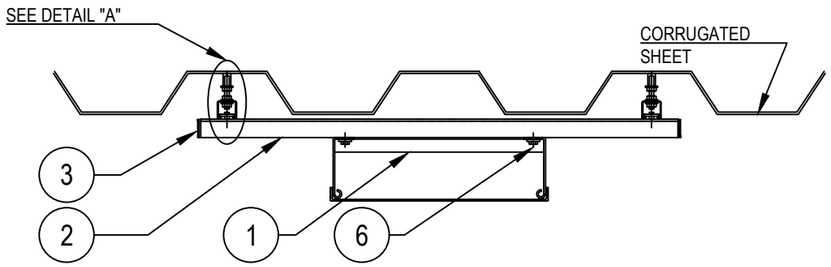
T7



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED	AISI 316L	41x41x2		NOTE 1
3	PLUG FOR U-CHANNEL	LPDE			
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M10x30		
5	THREADED ROD M10 (L=110mm) COMPLETE WITH PLANE WASHER, LARGE PLANE WASHERS, SPRING WASHER AND NUTS	AISI 316L	M10x110		



DETAIL "C"



NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) THE DISTANCE BETWEEN SUPPORTS SHALL BE DEFINED ACCORDING TO THE SIZE OF THE CABLE LADDER AND TYPE OF CORRUGATED SHEET

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

02

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY WITH NELSON STARTER ON SHELTER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 014 | REV. 02

F.to UNI A3: 420mmx297mm

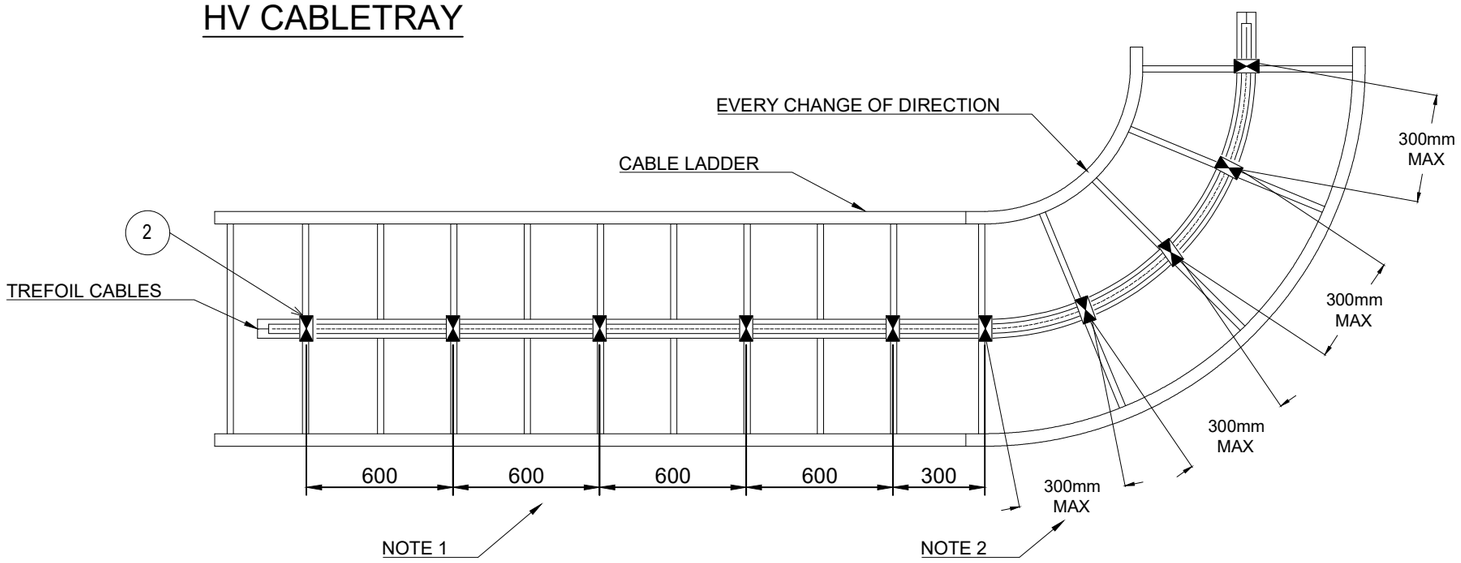
File Name : 123A90-DDL-EL-DD-20093_02.DWG

C06

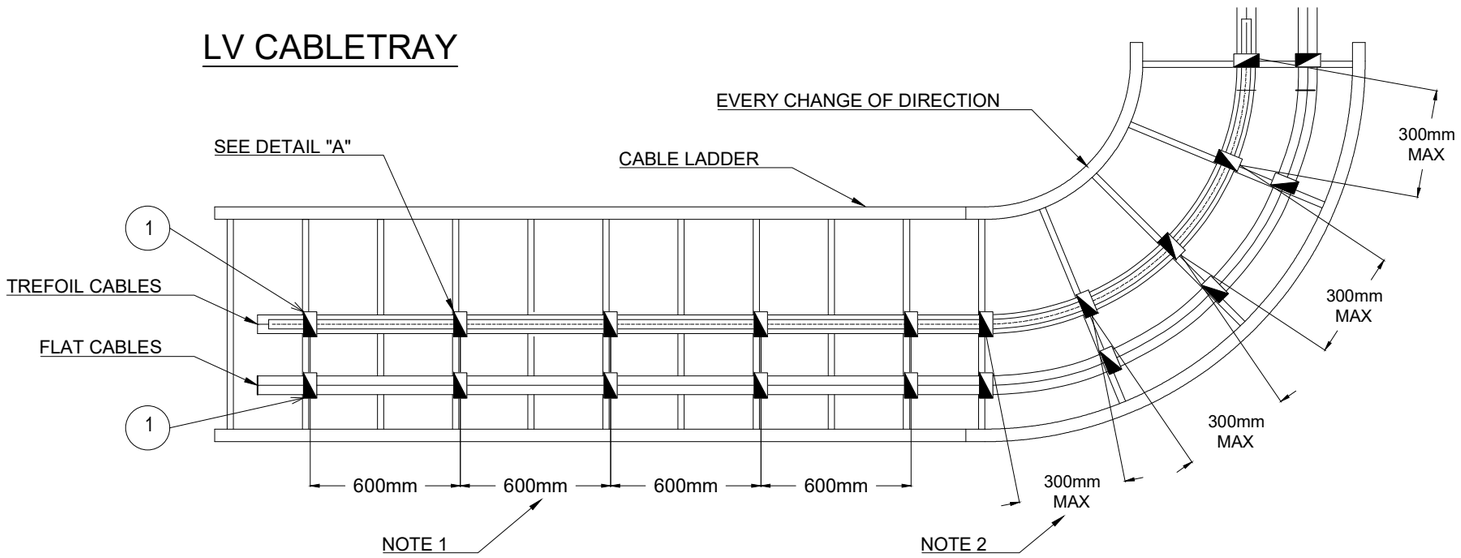
MAXIMUM CABLE TIES/CLEATS SPACING INSTALLATION DETAILS

MATERIALS		
POS.		DESCRIPTION
1		UV RESISTANT PVC CABLE TIES
2		STAINLESS STEEL DOUBLE WRAPPED CABLE CLEATS COMPLETE WITH TPE CUSHION SLEEVING

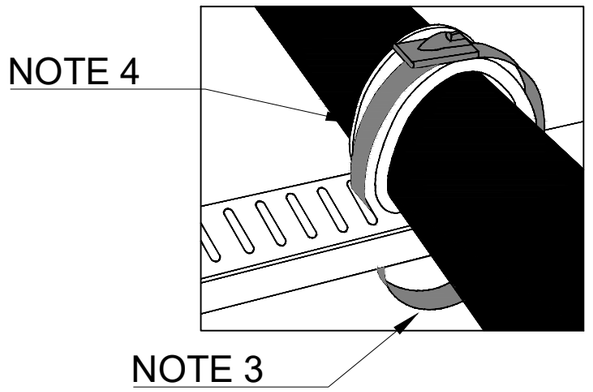
HV CABLETRAY



LV CABLETRAY



DETAIL "A" CABLE CLEATS



NOTES:

1) CABLES TIES SHALL BE HELD EVERY 600mm (CLEATS EVERY 600mm) ON HORIZONTAL RUNS.
2) CABLES SHALL BE HELD EVERY 300mm ON HORIZONTAL/VERTICAL ELBOW AND ON VERTICAL RUNS.
3) CABLE CLEATS WRAPPED TWO TIME AROUND THE CABLE RUNS.
4) TO PROTECT THE CABLE, INSTALL THE CUSHION SLEEVE BETWEEN THE CLAMP AND THE CABLE.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20092**

REV.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
MAXI. CABLE TIES SPACING TYPICAL INSTALLATION DETAILS CABLE FASTENING IN TRAYS/LADDER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 010 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 90-03 & process: MC & discipline : I

Instrumental	90-03 UPS System Equipment Room B-300						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
CABLE_TRAY_B300_INS	Cable Tray B300 - Instrumental	ONSHORE	C10002290	CJX30A	100	2024-10-03	RFC 1
		ONSHORE	C10002291	CJX30B	100	2025-02-21	RFC 1
I-MCT-301	Multi Cable Transit	ONSHORE	C10001900	CJX29	100	2025-01-11	RFC 1
I-MCT-302	Multi Cable Transit	ONSHORE	C10001901	CJX29	100	2025-01-22	RFC 1
I-MCT-303	Multi Cable Transit	ONSHORE	C10001902	CJX29	100	2025-02-08	RFC 1

ITEM	Tag	I-MCT-301	: Multi Cable Transit		Dwg	123A90-DDL-IN-DL-40086	
	S/Sys	90-03	: UPS System Equipment Room B-300		Module	LD_B-300_Ext	
TASK	code	C10001900	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX29	MCT Penetration Instrument

1	Check that MCT's conforms to latest project standards and specification.	OK
2	Check MCT's is installed correctly in accordance with latest layout drawings without clashes with pipe runs or other equipment.	PL
3	Check MCT's is properly tagged, on both side of penetration	PL
4	Check the cable arrangement in MCT's is conform with the latest drawing.	Note
5	Check that product marking is matching with hazardous area certification document data	OK
6	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 4: Refer to PL n* C30002352

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-04	2025-01-11	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:54:47.041Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-11T10:00:04.633Z	

DRAWING NO. 123A90-DDL-IN-DL-40086

REV. 01

SEE DETAIL "C"
I-MCT-402
S-4x2 PRIMED
EL. +U 26.370

SEE DETAIL "C"
I-MCT-301
S-4x2 PRIMED
EL. +U 27.320

SEE DETAIL "D"
I-MCT-302
S-4x1 PRIMED
EL. +U 26.870

SEE DETAIL "D"
I-MCT-202
S-4x1 PRIMED
EL. +U 27.320

SEE DETAIL "C"
I-MCT-201
S-4x2 PRIMED
EL. +U 27.320

SEE DETAIL "A"
I-PASSAGE-2
SIZE 200x200
EL. +U 23.288

SEE DETAIL "A"
I-PASSAGE-1
SIZE 200x200
EL. +U 23.288

SEE DETAIL "A"
I-PASSAGE-3
SIZE 200x300
EL. +U 23.288

SEE DETAIL "E"
I-MCT-401
S-6x6 PRIMED
EL. +U 26370

SEE DETAIL "B"
I-MCT-T01
SK-2x1 PRIMED
EL. +U 21.680

SEE DETAIL "E"
I-MCT-403
S-6x3 PRIMED
EL. +U 26.369

SEE DETAIL "D"
I-MCT-303
S-4x1 PRIMED
EL. +U 26.320

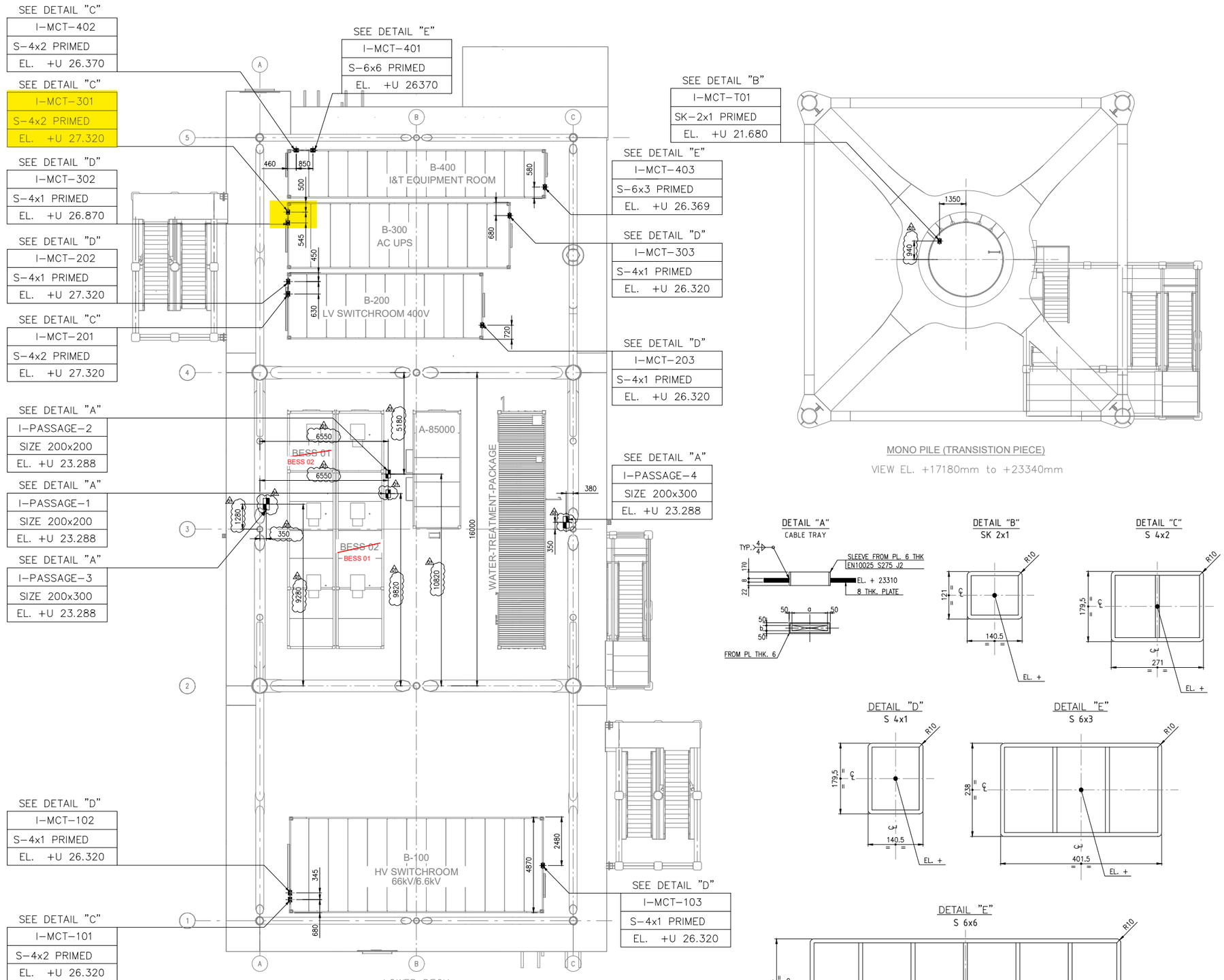
SEE DETAIL "D"
I-MCT-203
S-4x1 PRIMED
EL. +U 26.320

SEE DETAIL "A"
I-PASSAGE-4
SIZE 200x300
EL. +U 23.288

SEE DETAIL "D"
I-MCT-102
S-4x1 PRIMED
EL. +U 26.320

SEE DETAIL "C"
I-MCT-101
S-4x2 PRIMED
EL. +U 26.320

SEE DETAIL "D"
I-MCT-103
S-4x1 PRIMED
EL. +U 26.320



LOWER DECK

VIEW EL. +23310mm to +30310mm

MONO PILE (TRANSITION PIECE)

VIEW EL. +17180mm to +23340mm

DETAIL "A"
CABLE TRAY

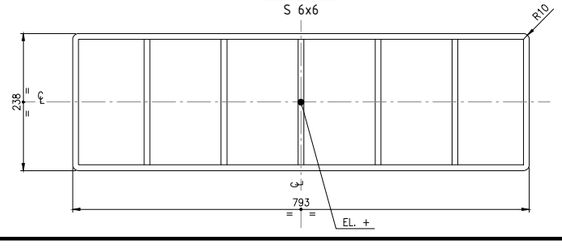
DETAIL "B"
SK 2x1

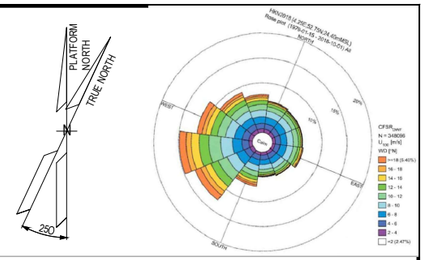
DETAIL "C"
S 4x2

DETAIL "D"
S 4x1

DETAIL "E"
S 6x3

DETAIL "E"
S 6x6





NOTES

GENERAL NOTES:

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.

NOTES:

1. THIS DOCUMENT IS VALID FOR TAGGING, SIZE AND LOCATION OF THE MCT.

LEGEND

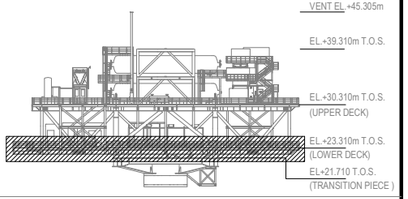
PASSAGE

MCT

TAG	TAGGING
SIZE-MATERIAL	TYPICAL
EL.	ELEVATION

HOLDS

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-IN-DL-40087	Instrument and Telecom MCT Layout - Upper Deck
123A90-DDL-PP-DL-70070	Plot Plan - Lower & Upper Deck
123A90-DDL-IN-DS-40072	TDS - Instrument and Telecom MCTs
123A90-DDL-IN-DD-40074	MCT Composition

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	28/06/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	24/04/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :

INSTRUMENT AND TELECOM MCT LAYOUT-LOWER DECK
TOS EL. +23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:100
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 24/04/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40086	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40086 REV01.dwg

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40086**

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

RTD Version No: 4.37.11.0

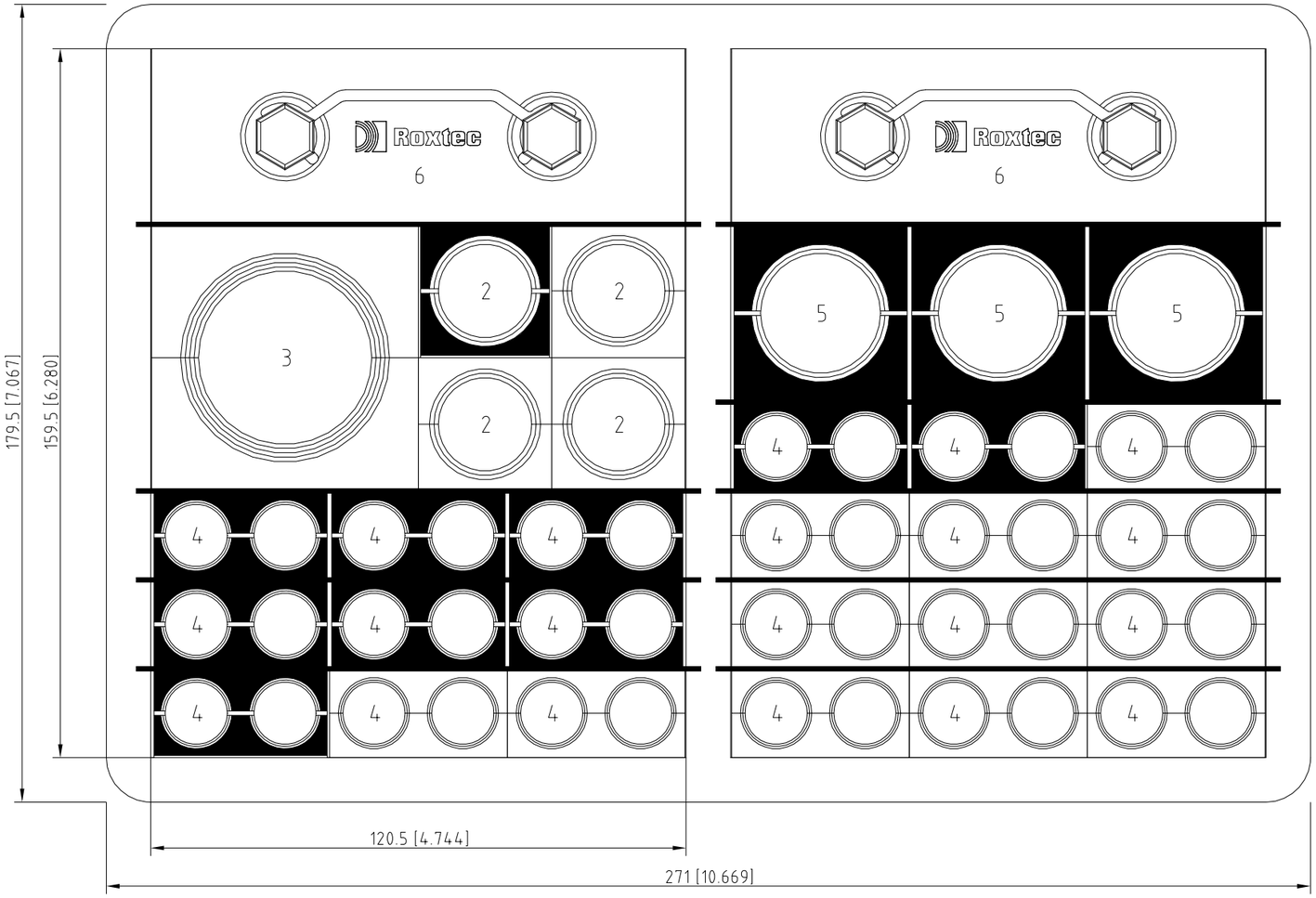
CUTOUT TO FIT SOLUTION WELDING, 271x179.5 [10.669"x7.067"]

MODULE WITH PIPE | MODULE WITH CABLE | SPARE MODULE | SOLID MODULE

Detail Drawing

Solution: 1

I-MCT-301 - B-300 AC UPS



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40074**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]
7	9	Stayplate 120 galv	ASP0001200018	0.1 [0.24]
6	2	Wedge 120 galv	ARW0001201018	0.8 [1.76]
5	3	RM 40 21.5-34.5 [0.846"-1.358"]	RM00100401000	0.1 [0.31]
4	21	RM 20W40 3.5-16.5 [0.138"-0.650"]	RM00120401000	0.1 [0.15]
3	1	RM 60 28-54 [1.102"-2.126"]	RM00100601000	0.3 [0.73]
2	4	RM 30 10-25 [0.394"-0.984"]	RM00100301000	0.1 [0.18]
1	1	S 4x2 PRIMED	S004000000212	4.8 [10.58]

Responsible	Created Date	Modify Date	Project	TotWeight
Rosetti Marino	2024-05-24	2024-09-30	Base Load Power Hub (BLPH) Location/ Sublocation	9.9 [21.89]
Roxtec	Format NTS		Transit name I-MCT-301	Sheet No 2/3
	Client		Drawing number 123A90-DDL-IN-DD-40074	Rev 01

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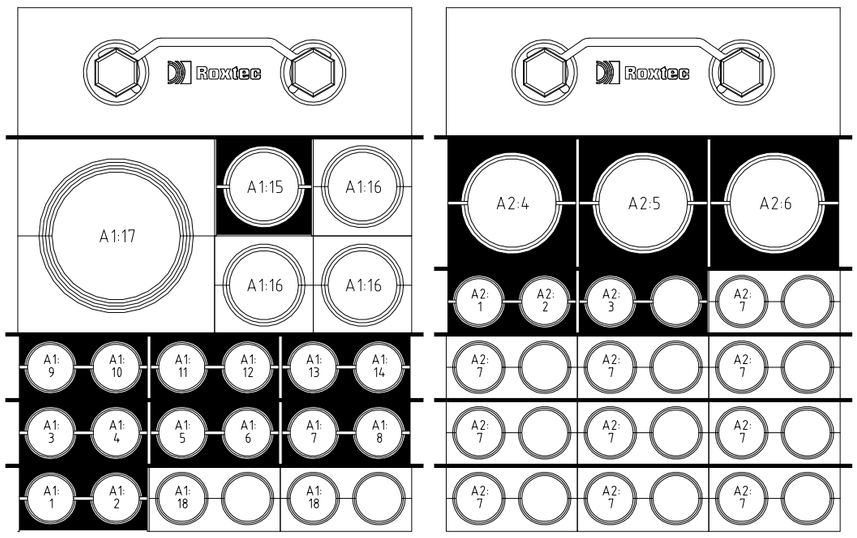
Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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RTD Version No: 4.37.11.0

A1 A2

A1 A2



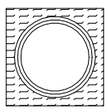
VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DD-40074**

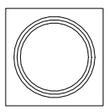
REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

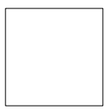
ROSETTI MARINO SpA

Pos	Cable ID	Name	Cable Type	Cable Category	OD (mm/ ["])	Module Type
A2:7						RM 20W40 3.5-16.5 [0.138"-0.650"]
A2:6	7	B200-HSB-001/B400-FGS-002	6x2x0.75 mm2	Ex-d	25.2 [0.992"]	RM 40 21.5-34.5 [0.846"-1.358"]
A2:5	6	950-JE-04205/B400-FGS-002	6x3x2.5 mm2	Ex-d	32.9 [1.295"]	RM 40 21.5-34.5 [0.846"-1.358"]
A2:4	8	950-JE-04207/B400-FGS-002	24x2.5 mm2	Ex-d	32.8 [1.291"]	RM 40 21.5-34.5 [0.846"-1.358"]
A2:3	21	C-950-GDZ-04209/950-JE-042 05	3x2,5 mm2	Ex-d	14.7 [0.579"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A2:2	20	C-950-GDZ-04208/950-JE-042 05	3x2,5 mm2	Ex-d	14.7 [0.579"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A2:1	19	C-950-GDZ-04207/950-JE-042 05	3x2,5 mm2	Ex-d	14.7 [0.579"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:18						RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:17						RM 60 28-54 [1.102"-2.126"]
A1:16						RM 30 10-25 [0.394"-0.984"]
A1:15	10	UP-200F3/B400-SIS-001	12x2.5 mm2	Ex-d	24.2 [0.953"]	RM 30 10-25 [0.394"-0.984"]
A1:14	2	C-77-XA-003/B400-SIS-001	1x2x0.75 mm2	Ex-d	11.7 [0.461"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:13	1	C-77-XS-003/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:12	9	C-950-MFA-04202/B400-FGS-0 02	1x2x0.75 mm2	Ex-d	11.7 [0.461"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:11	5	C-B300-TIR-001/B400-PCS-00 2	2x2x0.75 mm2	Ex-d	15.2 [0.598"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:10	4	C-B300-TDC-002/B400-PCS-00 2	1x2x0.75 mm2	Ex-d	9.5 [0.374"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:9	3	C-B300-TDC-001/B400-PCS-00 2	1x2x0.75 mm2	Ex-d	9.5 [0.374"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:8	14	C-CB-200F4B/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:7	13	C-CB-200F4A/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:6	12	C-CB-200F3B/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:5	11	C-CB-200F3A/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:4	18	C-NC-200F2/B400-FGS-002.02	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:3	17	C-NC-200F2/B400-FGS-002.01	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:2	15	C-UP-200F4/B400-SIS-001	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:1	16	C-NC-200F2/B400-SIS-001	1x2x0.75 mm2	Ex-d	12.5 [0.492"]	RM 20W40 3.5-16.5 [0.138"-0.650"]


MODULE WITH PIPE


MODULE WITH CABLE


SPARE MODULE


SOLID MODULE

Responsible	Created Date	Modify Date	Project	TotWeight
Rosetti Marino	2024-05-24	2024-09-30	Base Load Power Hub (BLPH) Location/ Sublocation	9.9 [21.89]
Roxtec	Format NTS		Transit name I-MCT-301	Sheet No 3/3
	Client		Drawing number 123A90-DDL-IN-DD-40074	Rev 01

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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POS.	REV.	FEATURE	REQUIRED	MANUFACTURER PROPOSAL	COMMENTS
GENERAL DATA					
1	00	LOCATION	OUTDOOR		
2	00	DEPTH	163 mm		
3	00	CONSTRUCTION TYPE	PRIMED MILD STEEL = PRIMED STAINLESS STEEL = AISI 316		
4	00	TYPE OF INSTALLATION	BY WELDING		
5	00	CLASS	A0		
6	00	BLAST	N.A.		
7	00	POSITION	CONTAINER WALL, FLOOR PENETRATION		
8	00	CERTIFICATION Ex	REQUIRED WHERE INDICATED (Note 1)		

MULTICABLES TRANSIT SYSYTEM - FRAMES				
POS.	REV.	DESCRIPTION	Q.TY	NOTES
		S 4x1 PRIMED	6	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x1 PRIMED		
		S 4x2 PRIMED	4	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x2 PRIMED		
		S 6x3 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x3 PRIMED		
		S 6x6 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x6 PRIMED		
		SK 2x1 Ex PRIMED Depht 100mm	4	Provided by others
		Manufacturer: Roxtec		
		Model: SK 2x1 Ex PRIMED Depht 100mm		
		SK 4x3 Ex PRIMED Depht 100mm	3	Provided by others
		Manufacturer: Roxtec		
		Model: SK 4x3 Ex PRIMED Depht 100mm		

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MULTICABLES TRANSIT SYSYTEM - BLOCKS & ACCESSORIES

POS.	REV.	DESCRIPTION	Q.TY	NOTES
		RM 40	72	
		Manufacturer: Roxtec		
		Model: RM 40		
		RM 20W40	219	
		Manufacturer: Roxtec		
		Model: RM 20W40		
		RM 30	92	
		Manufacturer: Roxtec		
		Model: RM 30		
		RM 60 WOC	5	
		Manufacturer: Roxtec		
		Model: RM 60 WOC		
		RM 10/0x12	4	
		Manufacturer: Roxtec		
		Model: RM 10/0x12		
		Wedge 120 Galv	23	
		Manufacturer: Roxtec		
		Model: Wedge 120 Galv		
		Stayplate 120 Galv	123	
		Manufacturer: Roxtec		
		Model: Stayplate 120 Galv		
		RM 20W40 EX	54	Note 1
		Manufacturer: Roxtec		
		Model: RM 20W40 EX		
		RM 30 EX	48	Note 1
		Manufacturer: Roxtec		
		Model: RM 30 EX		
		RM 40 EX	33	Note 1
		Manufacturer: Roxtec		
		Model: RM 40 EX		
		RM 60 WOC EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 60 WOC EX		
		~~RM 60/24-54 EX~~	~~2~~	~~Note 1~~
		~~Manufacturer: Roxtec~~		
		~~Model: (*)~~		
		RM 10/0x12 EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 10/0x12 EX		
		Wedge 120 Ex Galv	13	Note 1
		Manufacturer: Roxtec		
		Model: Wedge 120 Ex Galv		
		Stayplate 120 Ex Galv	47	Note 1
		Manufacturer: Roxtec		
		Model: Stayplate 120 Ex Galv		
		RS 43 W Ex AISI 316/AISI 316	3	Note 1
		Manufacturer: Roxtec		
		Model: RS 43 W Ex AISI 316/AISI 316		
		Lubrificant 25 ml	(*)	
		Manufacturer: STD Vendor		
		Model: STD Vendor		

NOTES:

1) Frame, modules and other accessories shall have ATEX Certification

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ITEM	Tag	I-MCT-302	: Multi Cable Transit		Dwg	123A90-DDL-IN-DL-40086	
	S/Sys	90-03	: UPS System Equipment Room B-300		Module	LD_B-300_Ext	
TASK	code	C10001901	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX29	MCT Penetration Instrument

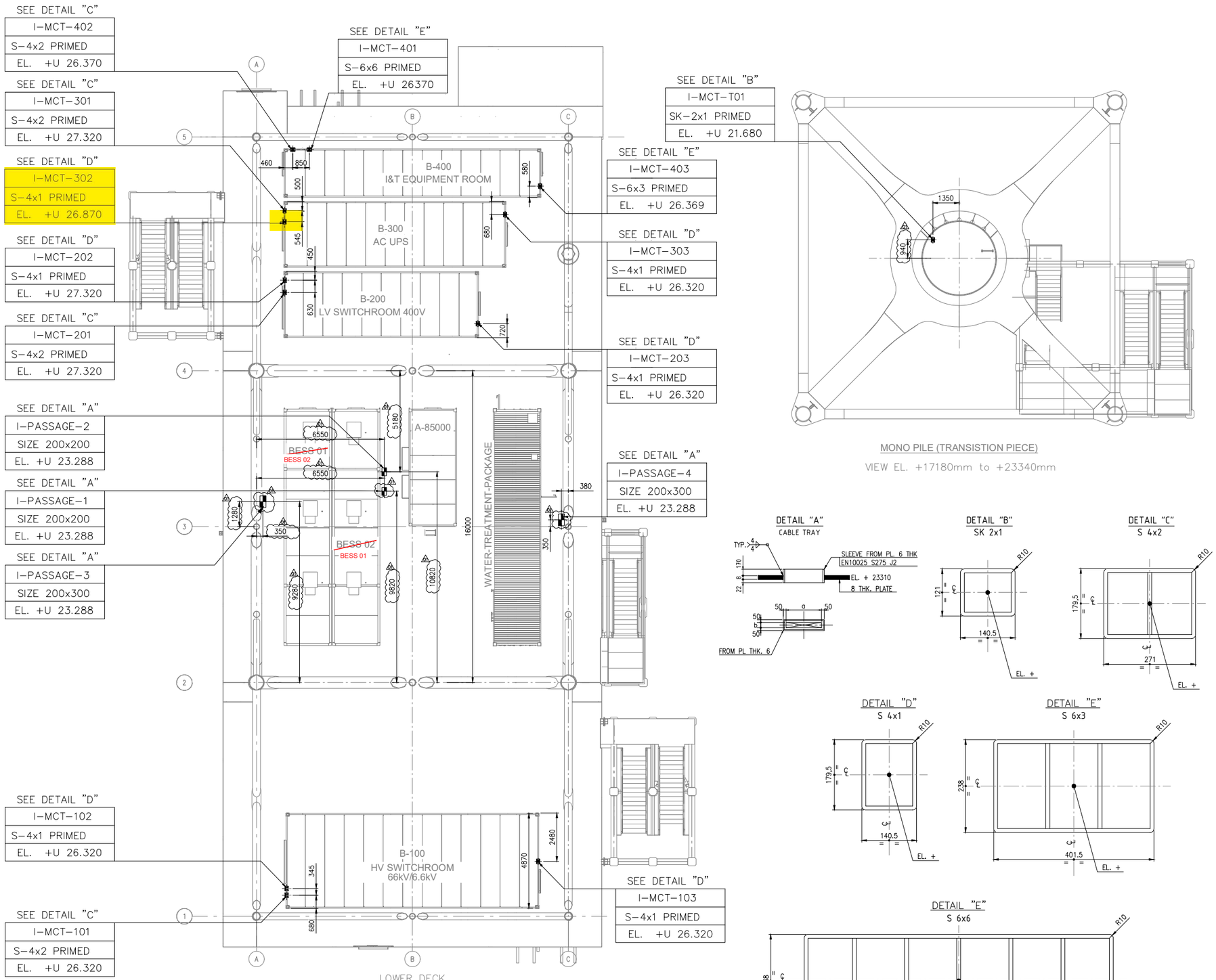
1	Check that MCT's conforms to latest project standards and specification.	OK
2	Check MCT's is installed correctly in accordance with latest layout drawings without clashes with pipe runs or other equipment.	Note
3	Check MCT's is properly tagged, on both side of penetration	PL
4	Check the cable arrangement in MCT's is conform with the latest drawing.	OK
5	Check that product marking is matching with hazardous area certification document data	OK
6	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 2: Refer to PL n* C30002352

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-21	2025-01-22	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-21T16:16:58.366Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-22T17:39:15.156Z	

DRAWING NO. 123A90-DDL-IN-DL-40086

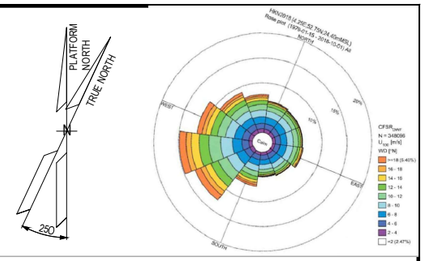
REV. 01



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40086**

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA



NOTES

GENERAL NOTES:

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.

NOTES:

1. THIS DOCUMENT IS VALID FOR TAGGING, SIZE AND LOCATION OF THE MCT.

LEGEND

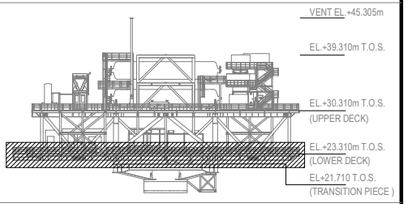
PASSAGE

MCT

TAG	TAGGING
SIZE-MATERIAL	TYPICAL
EL.	ELEVATION

HOLDS

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-IN-DL-40087	Instrument and Telecom MCT Layout - Upper Deck
123A90-DDL-PP-DL-70070	Plot Plan - Lower & Upper Deck
123A90-DDL-IN-DS-40072	TDS - Instrument and Telecom MCTs
123A90-DDL-IN-DD-40074	MCT Composition

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	28/06/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	24/04/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :

INSTRUMENT AND TELECOM MCT LAYOUT-LOWER DECK
TOS EL. +23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:100
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 24/04/24

A1	DRAWING NO. 123A90-DDL-IN-DL-40086	SHEET 001	REV. 01

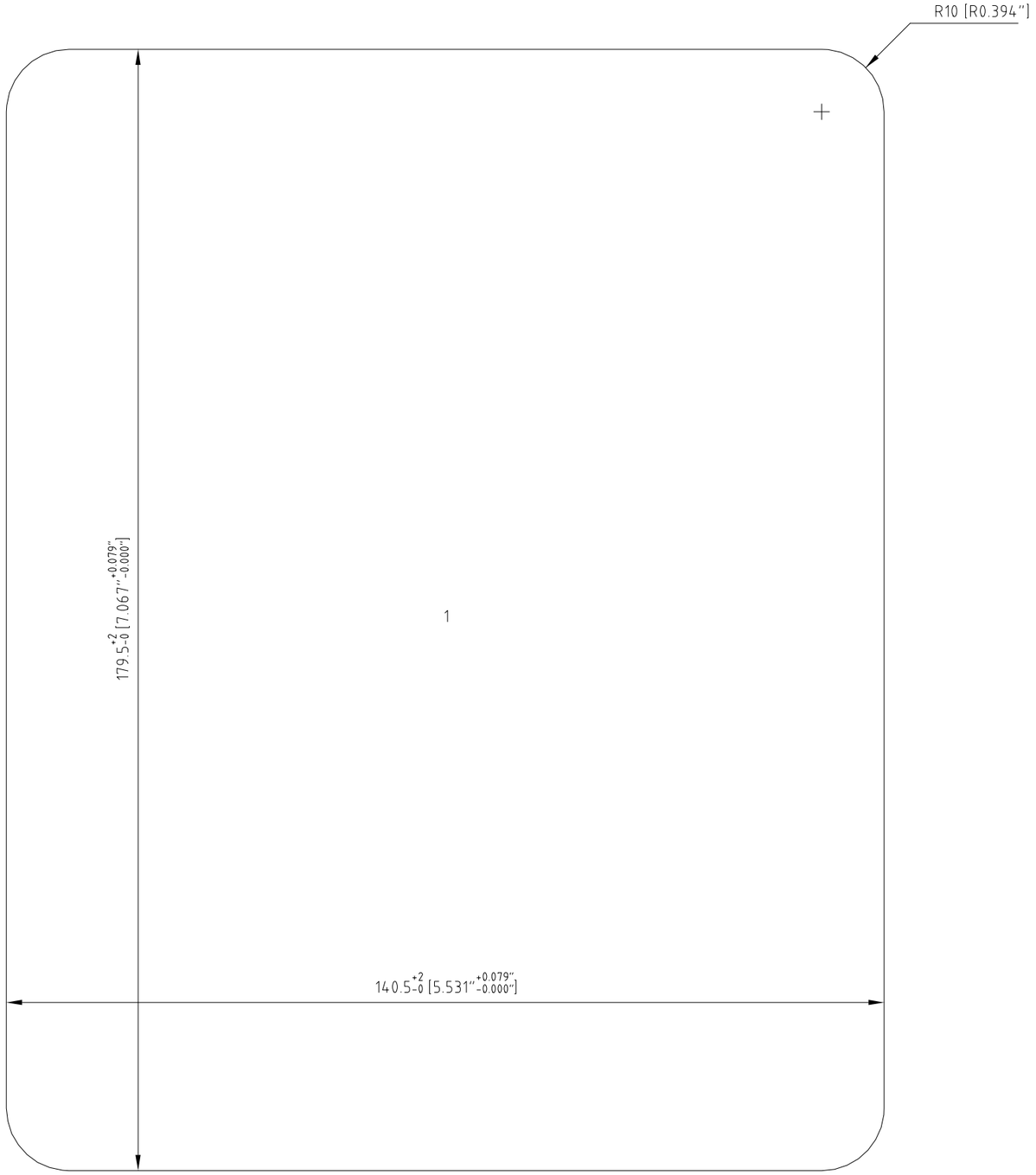
File Name : 123A90-DDL-IN-DL-40086 REV01.dwg

RTD Version No: 4.37.11.0

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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Cutout Detail

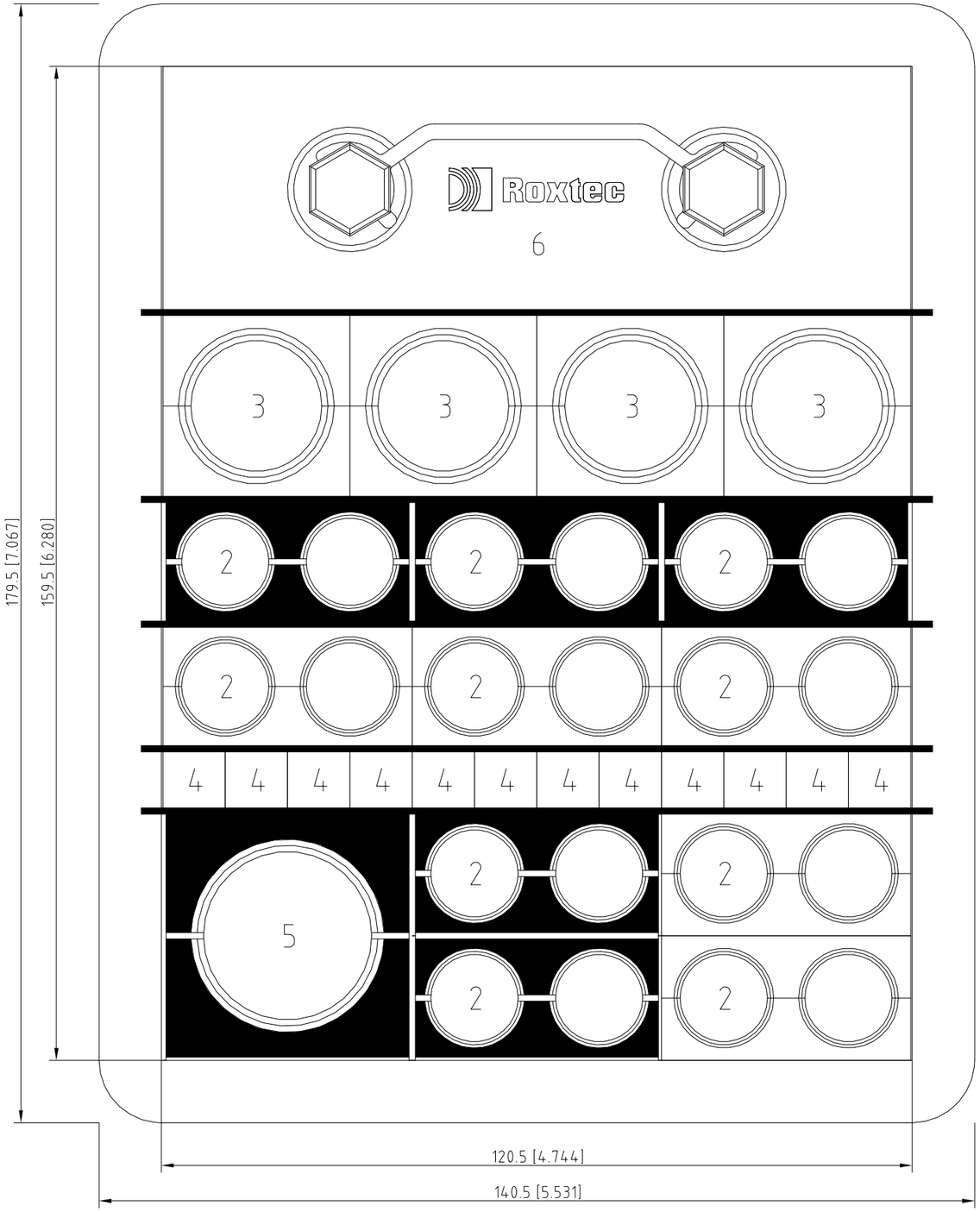
Frame: S 4x1 PRIMED Solution: 1

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]

Responsible: Rosetti Marino	Created Date: 2024-05-24	Modify Date: 2024-09-30	Project: Base Load Power Hub (BLPH) Location/ Sublocation	TotWeight: 6.6 [14.63]
Roxtec	Format: NTS		Transit name: I-MCT-302	Sheet No: 1/3
	Client		Drawing number: 123A90-DDL-IN-DD-40074	Rev: 01

RTD Version No: 4.37.11.0

CUTOUT TO FIT SOLUTION WELDING, 140.5x179.5 [5.531"x7.067"]



MODULE WITH PIPE | MODULE WITH CABLE | SPARE MODULE | SOLID MODULE

Detail Drawing

Solution: 1

I-MCT-302 - B-300 AC UPS

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]
7	5	Stayplate 120 galv	ASP0001200018	0.1 [0.24]
6	1	Wedge 120 galv	ARW0001201018	0.8 [1.76]
5	1	RM 40 21.5-34.5 [0.846"-1.358"]	RM00100401000	0.1 [0.31]
4	1	RM 10/0x12	RM00310121000	0.1 [0.22]
3	4	RM 30 10-25 [0.394"-0.984"]	RM00100301000	0.1 [0.18]
2	10	RM 20W40 3.5-16.5 [0.138"-0.650"]	RM00120401000	0.1 [0.15]
1	1	S 4x1 PRIMED	S004000000112	2.9 [6.39]

Responsible: Rosetti Marino	Created Date: 2024-05-24	Modify Date: 2024-09-30	Project: Base Load Power Hub (BLPH) Location/ Sublocation	TotWeight: 6.6 [14.63]
Roxtec	Format: NTS		Transit name: I-MCT-302	Sheet No: 2/3
	Client		Drawing number: 123A90-DDL-IN-DD-40074	Rev: 01

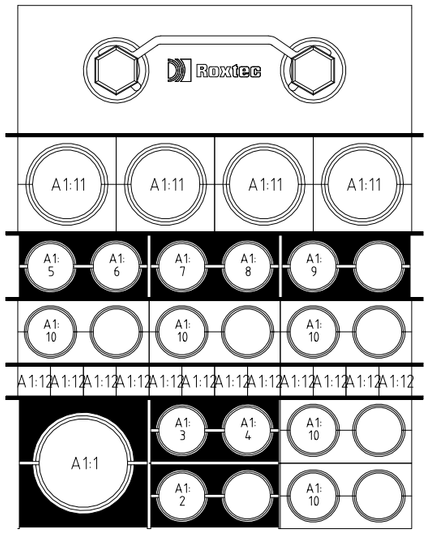
Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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RTD Version No: 4.37.11.0

A1

A1

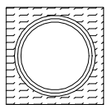


Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

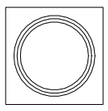
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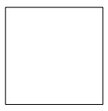
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Pos	Cable ID	Name	Cable Type	Cable Category	OD (mm/ ["])	Module Type
A1:12						RM 10/0x12
A1:11						RM 30 10-25 [0.394"-0.984"]
A1:10						RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:9	1	B300-HSB-001/B400-NET-001	CAT.6A 4x2xAWG23	COMM	10.7 [0.421"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:8	5	UP-200F4/B400-NET-001.02	CAT.6A 4x2xAWG23	COMM	10.7 [0.421"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:7	4	UP-200F4/B400-NET-001.01	CAT.6A 4x2xAWG23	COMM	10.7 [0.421"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:6	3	UP-200F3/B400-NET-001.02	CAT.6A 4x2xAWG23	COMM	10.7 [0.421"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:5	2	UP-200F3/B400-NET-001.01	CAT.6A 4x2xAWG23	COMM	10.7 [0.421"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:4	8	C-950-SDZ-04208/950-JE-04208	1x2x0.75 mm2	Ex-i	11.7 [0.461"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:3	7	C-950-SDZ-04207/950-JE-04208	1x2x0.75 mm2	Ex-i	11.7 [0.461"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:2	9	C-950-SDZ-04209/950-JE-04208	1x2x0.75 mm2	Ex-i	11.7 [0.461"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:1	6	950-JE-04208/B400-FGS-002	6x2x0.75 mm2	Ex-i	25.2 [0.992"]	RM 40 21.5-34.5 [0.846"-1.358"]


MODULE WITH PIPE


MODULE WITH CABLE


SPARE MODULE


SOLID MODULE

Responsible: Rosetti Marino	Created Date: 2024-05-24	Modify Date: 2024-09-30	Project: Base Load Power Hub (BLPH)		TotWeight: 6.6 [14.63]
Roxtec	Format: NTS		Location/ Sublocation	Transit name: I-MCT-302	Sheet No: 3/3
	Client		Drawing number: 123A90-DDL-IN-DD-40074		Rev: 01

POS.	REV.	FEATURE	REQUIRED	MANUFACTURER PROPOSAL	COMMENTS
GENERAL DATA					
1	00	LOCATION	OUTDOOR		
2	00	DEPTH	163 mm		
3	00	CONSTRUCTION TYPE	PRIMED MILD STEEL = PRIMED STAINLESS STEEL = AISI 316		
4	00	TYPE OF INSTALLATION	BY WELDING		
5	00	CLASS	A0		
6	00	BLAST	N.A.		
7	00	POSITION	CONTAINER WALL, FLOOR PENETRATION		
8	00	CERTIFICATION Ex	REQUIRED WHERE INDICATED (Note 1)		

MULTICABLES TRANSIT SYSYTEM - FRAMES				
POS.	REV.	DESCRIPTION	Q.TY	NOTES
		S 4x1 PRIMED	6	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x1 PRIMED		
		S 4x2 PRIMED	4	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x2 PRIMED		
		S 6x3 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x3 PRIMED		
		S 6x6 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x6 PRIMED		
		SK 2x1 Ex PRIMED Depht 100mm	4	Provided by others
		Manufacturer: Roxtec		
		Model: SK 2x1 Ex PRIMED Depht 100mm		
		SK 4x3 Ex PRIMED Depht 100mm	3	Provided by others
		Manufacturer: Roxtec		
		Model: SK 4x3 Ex PRIMED Depht 100mm		

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MULTICABLES TRANSIT SYSYTEM - BLOCKS & ACCESSORIES

POS.	REV.	DESCRIPTION	Q.TY	NOTES
		RM 40	72	
		Manufacturer: Roxtec		
		Model: RM 40		
		RM 20W40	219	
		Manufacturer: Roxtec		
		Model: RM 20W40		
		RM 30	92	
		Manufacturer: Roxtec		
		Model: RM 30		
		RM 60 WOC	5	
		Manufacturer: Roxtec		
		Model: RM 60 WOC		
		RM 10/0x12	4	
		Manufacturer: Roxtec		
		Model: RM 10/0x12		
		Wedge 120 Galv	23	
		Manufacturer: Roxtec		
		Model: Wedge 120 Galv		
		Stayplate 120 Galv	123	
		Manufacturer: Roxtec		
		Model: Stayplate 120 Galv		
		RM 20W40 EX	54	Note 1
		Manufacturer: Roxtec		
		Model: RM 20W40 EX		
		RM 30 EX	48	Note 1
		Manufacturer: Roxtec		
		Model: RM 30 EX		
		RM 40 EX	33	Note 1
		Manufacturer: Roxtec		
		Model: RM 40 EX		
		RM 60 WOC EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 60 WOC EX		
		~~RM 60/24-54 EX~~	~~2~~	~~Note 1~~
		~~Manufacturer: Roxtec~~		
		~~Model: (*)~~		
		RM 10/0x12 EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 10/0x12 EX		
		Wedge 120 Ex Galv	13	Note 1
		Manufacturer: Roxtec		
		Model: Wedge 120 Ex Galv		
		Stayplate 120 Ex Galv	47	Note 1
		Manufacturer: Roxtec		
		Model: Stayplate 120 Ex Galv		
		RS 43 W Ex AISI 316/AISI 316	3	Note 1
		Manufacturer: Roxtec		
		Model: RS 43 W Ex AISI 316/AISI 316		
		Lubrificant 25 ml	(*)	
		Manufacturer: STD Vendor		
		Model: STD Vendor		

NOTES:

1) Frame, modules and other accessories shall have ATEX Certification

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ITEM	Tag	I-MCT-303	: Multi Cable Transit			Dwg	123A90-DDL-IN-DL-40086
	S/Sys	90-03	: UPS System Equipment Room B-300			Module	LD_B-300_Ext
TASK	code	C10001902		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX29 MCT Penetration Instrument

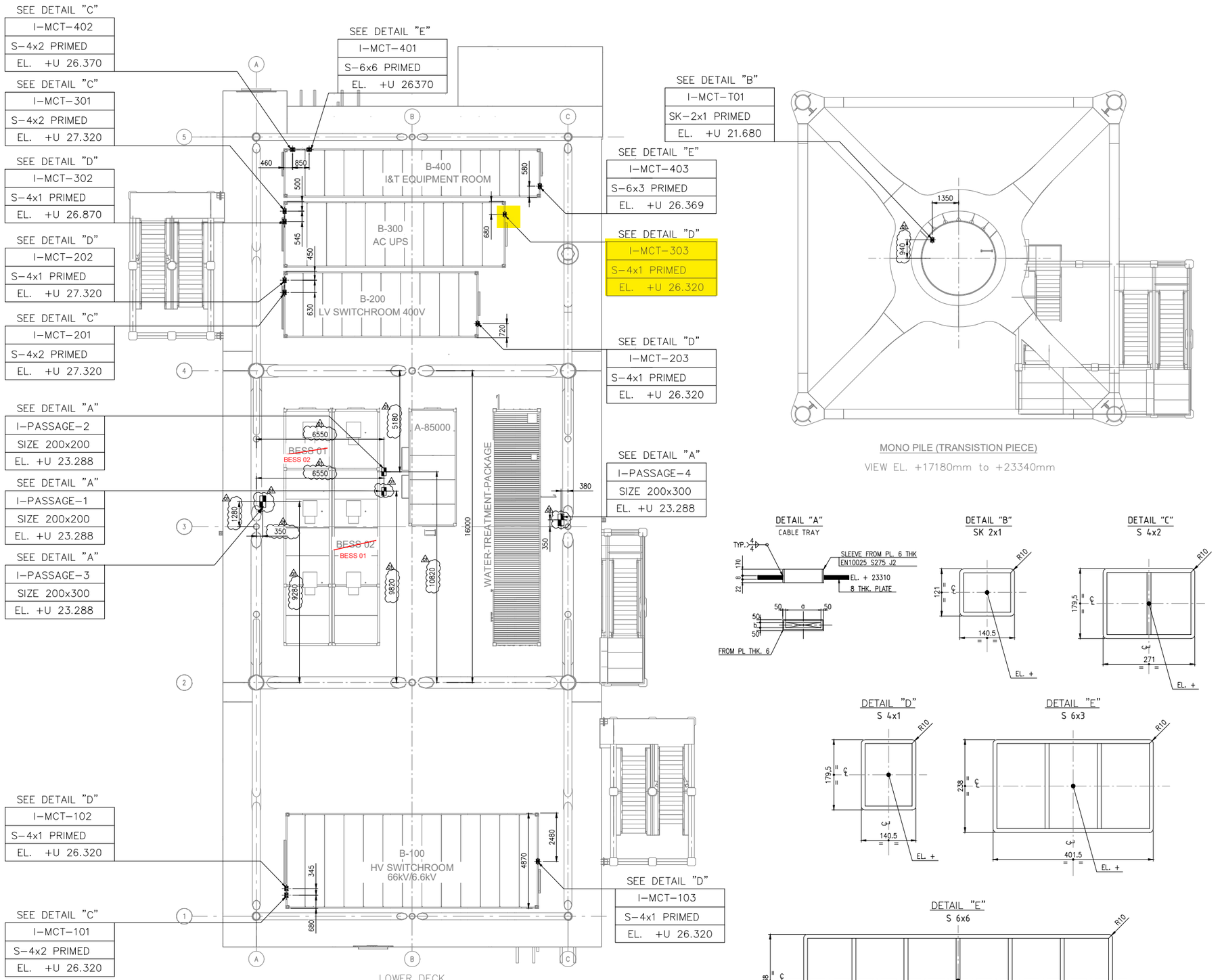
1	Check that MCT's conforms to latest project standards and specification.	OK
2	Check MCT's is installed correctly in accordance with latest layout drawings without clashes with pipe runs or other equipment.	OK
3	Check MCT's is properly tagged, on both side of penetration	OK
4	Check the cable arrangement in MCT's is conform with the latest drawing.	Note
5	Check that product marking is matching with hazardous area certification document data	OK
6	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 4: Refer to PL n* C30002352

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-02-07	2025-02-08	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-02-07T14:02:20.207Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-02-08T12:24:03.015Z	

DRAWING NO. 123A90-DDL-IN-DL-40086

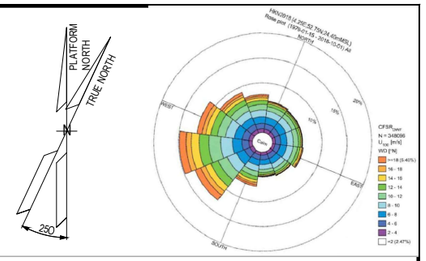
REV. 01



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40086**

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA



NOTES

GENERAL NOTES:

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.

NOTES:

1. THIS DOCUMENT IS VALID FOR TAGGING, SIZE AND LOCATION OF THE MCT.

LEGEND

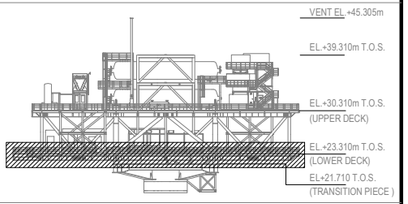
PASSAGE

MCT

TAG	TAGGING
SIZE-MATERIAL	TYPICAL
EL.	ELEVATION

HOLDS

KEY PLAN



REFERENCE DOCUMENTS

123A90-DDL-IN-DL-40087	Instrument and Telecom MCT Layout - Upper Deck
123A90-DDL-PP-DL-70070	Plot Plan - Lower & Upper Deck
123A90-DDL-IN-DS-40072	TDS - Instrument and Telecom MCTs
123A90-DDL-IN-DD-40074	MCT Composition

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	28/06/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	24/04/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :

INSTRUMENT AND TELECOM MCT LAYOUT-LOWER DECK
TOS EL. +23.310M

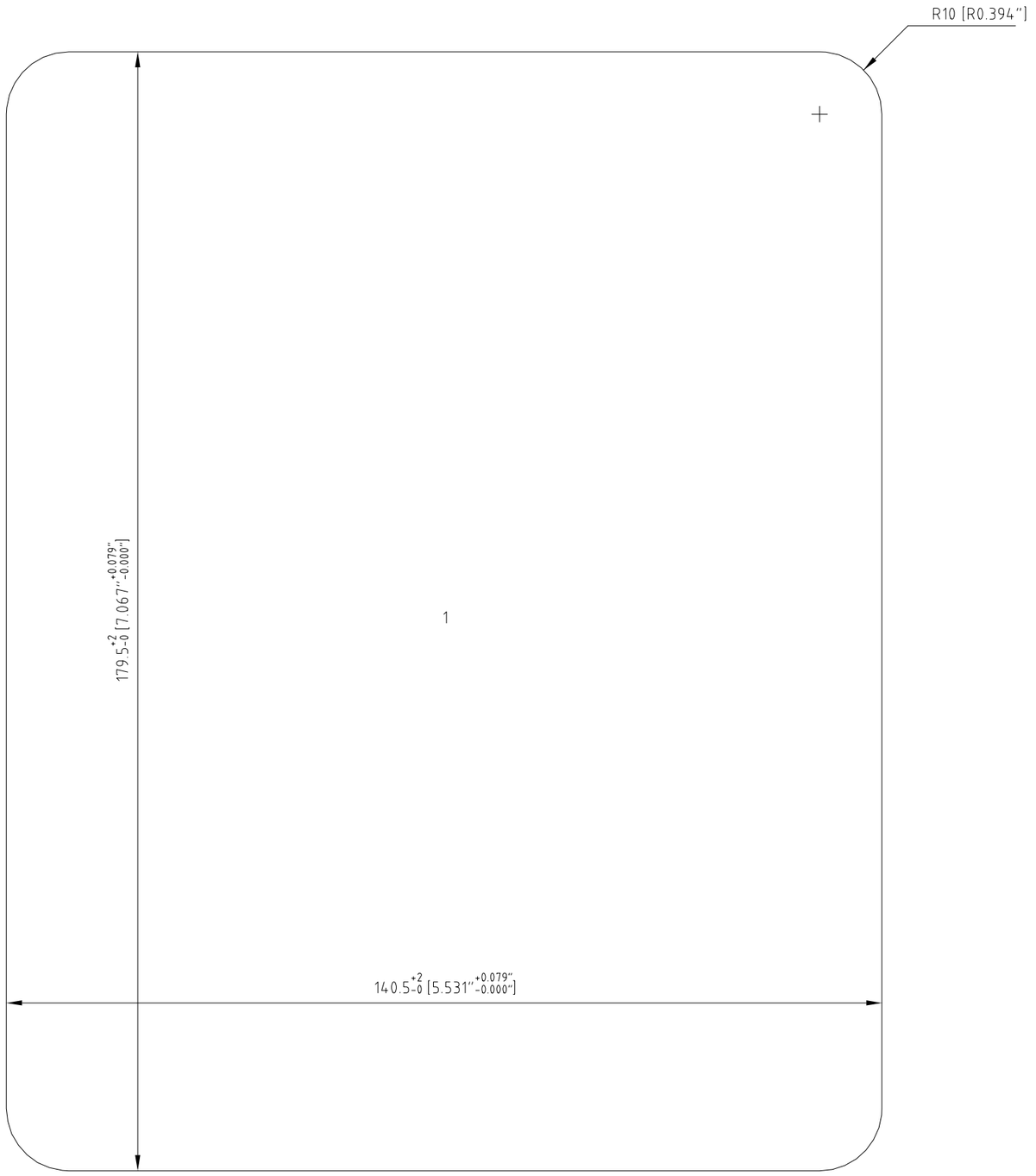
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:100
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 24/04/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40086	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40086 REV01.dwg

RTD Version No: 4.37.11.0

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40074**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

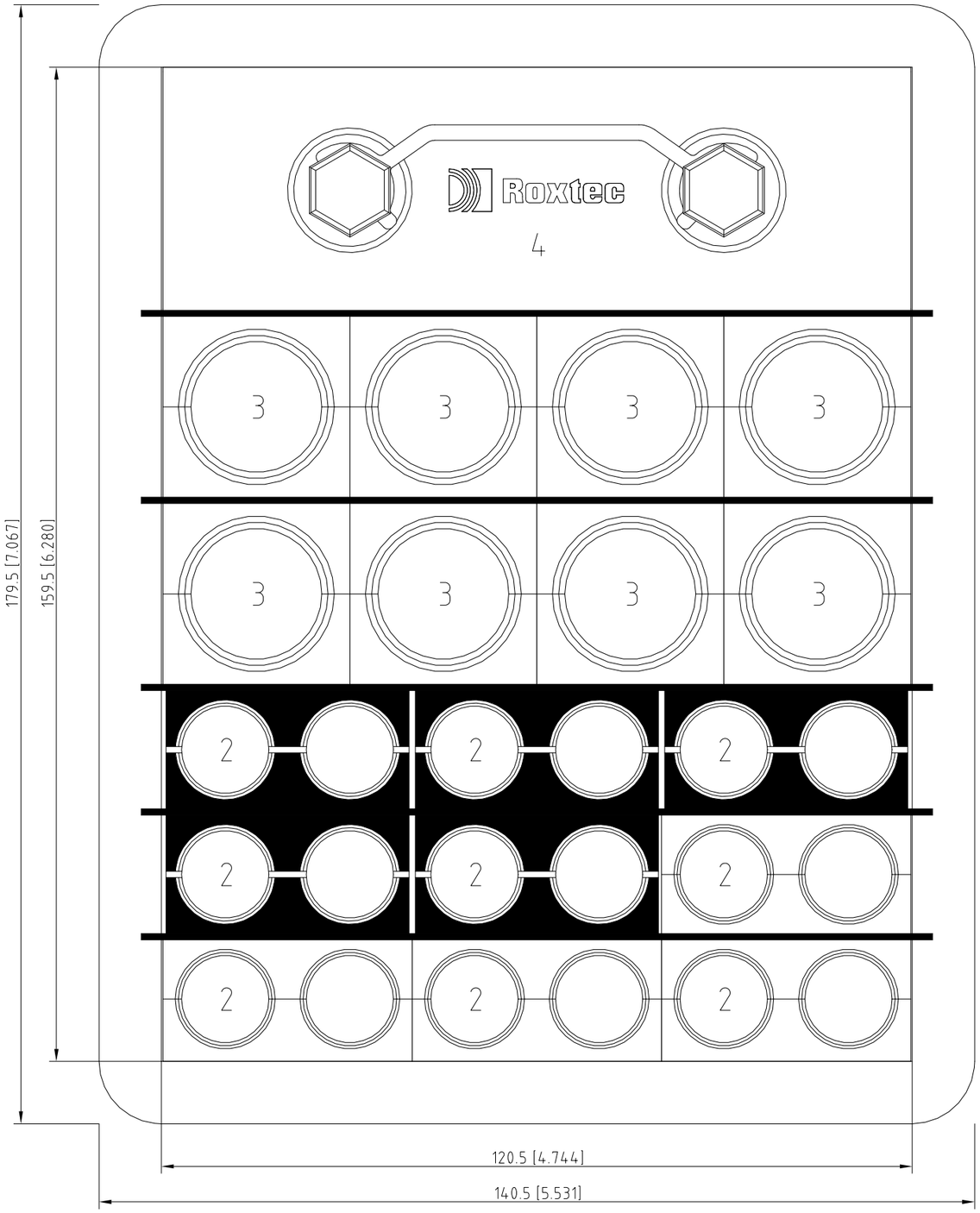
Cutout Detail

Frame: S 4x1 PRIMED Solution: 1

Item	Qty	Roxtec Packing Material	mm ["]	Roxtec Art No	Weight Kg [lb]

Responsible: Rosetti Marino	Created Date: 2024-05-24	Modify Date: 2024-09-30	Project: Base Load Power Hub (BLPH) Location/ Sublocation	TotWeight: 5.5 [12.17]
Roxtec	Format: NTS		Transit name: I-MCT-303	Sheet No: 1/3
	Client		Drawing number: 123A90-DDL-IN-DD-40074	Rev: 01

CUTOUT TO FIT SOLUTION WELDING, 140.5x179.5 [5.531"x7.067"]





Detail Drawing

Solution: 1

I-MCT-303 - B-300 AC UPS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40074**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

Item	Qty	Roxtec Packing Material mm ["]	Roxtec Art No	Weight Kg [lb]
5	5	Stayplate 120 galv	ASP0001200018	0.1 [0.24]
4	1	Wedge 120 galv	ARW0001201018	0.8 [1.76]
3	8	RM 30 10-25 [0.394"-0.984"]	RM00100301000	0.1 [0.18]
2	9	RM 20W40 3.5-16.5 [0.138"-0.650"]	RM00120401000	0.1 [0.15]
1	1	S 4x1 PRIMED	S004000000112	2.9 [6.39]

Responsible: Rosetti Marino	Created Date: 2024-05-24	Modify Date: 2024-09-30	Project: Base Load Power Hub (BLPH) Location/ Sublocation	TotWeight: 5.5 [12.17]
Roxtec	Format: NTS		Transit name: I-MCT-303	Sheet No: 2/3
	Client		Drawing number: 123A90-DDL-IN-DD-40074	Rev: 01

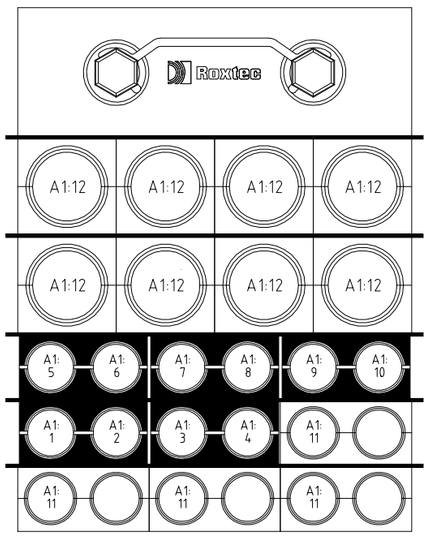
Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

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A1

A1



VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DD-40074**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

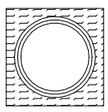
ROSETTI MARINO SpA

Drawing shows component layout according to design. Verification is needed to check if the configuration is valid for the application/certification intended.

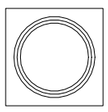
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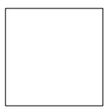
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Pos	Cable ID	Name	Cable Type	Cable Category	OD (mm/ ["])	Module Type
A1:12						RM 30 10-25 [0.394"-0.984"]
A1:11						RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:10	27	C-77-HY-009/77-HS-009B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:9	22	C-77-HS-009A/77-HS-009B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:8	26	C-77-HY-008/77-HS-008B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:7	21	C-77-HS-008A/77-HS-008B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:6	25	C-77-HY-007/77-HS-007B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:5	20	C-77-HS-007A/77-HS-007B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:4	29	C-77-HY-011/77-HS-011B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:3	24	C-77-HS-011A/77-HS-011B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:2	28	C-77-HY-010/77-HS-010B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]
A1:1	23	C-77-HS-010A/77-HS-010B	2x2.5 mm2	Ex-d	14.1 [0.555"]	RM 20W40 3.5-16.5 [0.138"-0.650"]


MODULE WITH PIPE


MODULE WITH CABLE


SPARE MODULE


SOLID MODULE

Responsible	Created Date	Modify Date	Project	TotWeight
Rosetti Marino	2024-05-24	2024-09-30	Base Load Power Hub (BLPH) Location/ Sublocation	5.5 [12.17]
Roxtec	Format NTS		Transit name I-MCT-303	Sheet No 3/3
	Client		Drawing number 123A90-DDL-IN-DD-40074	Rev 01

POS.	REV.	FEATURE	REQUIRED	MANUFACTURER PROPOSAL	COMMENTS
GENERAL DATA					
1	00	LOCATION	OUTDOOR		
2	00	DEPTH	163 mm		
3	00	CONSTRUCTION TYPE	PRIMED MILD STEEL = PRIMED STAINLESS STEEL = AISI 316		
4	00	TYPE OF INSTALLATION	BY WELDING		
5	00	CLASS	A0		
6	00	BLAST	N.A.		
7	00	POSITION	CONTAINER WALL, FLOOR PENETRATION		
8	00	CERTIFICATION Ex	REQUIRED WHERE INDICATED (Note 1)		

MULTICABLES TRANSIT SYSYTEM - FRAMES				
POS.	REV.	DESCRIPTION	Q.TY	NOTES
		S 4x1 PRIMED	6	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x1 PRIMED		
		S 4x2 PRIMED	4	Provided by others
		Manufacturer: Roxtec		
		Model: S 4x2 PRIMED		
		S 6x3 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x3 PRIMED		
		S 6x6 PRIMED	1	Provided by others
		Manufacturer: Roxtec		
		Model: S 6x6 PRIMED		
		SK 2x1 Ex PRIMED Depht 100mm	4	Provided by others
		Manufacturer: Roxtec		
		Model: SK 2x1 Ex PRIMED Depht 100mm		
		SK 4x3 Ex PRIMED Depht 100mm	3	Provided by others
		Manufacturer: Roxtec		
		Model: SK 4x3 Ex PRIMED Depht 100mm		

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MULTICABLES TRANSIT SYSYTEM - BLOCKS & ACCESSORIES

POS.	REV.	DESCRIPTION	Q.TY	NOTES
		RM 40	72	
		Manufacturer: Roxtec		
		Model: RM 40		
		RM 20W40	219	
		Manufacturer: Roxtec		
		Model: RM 20W40		
		RM 30	92	
		Manufacturer: Roxtec		
		Model: RM 30		
		RM 60 WOC	5	
		Manufacturer: Roxtec		
		Model: RM 60 WOC		
		RM 10/0x12	4	
		Manufacturer: Roxtec		
		Model: RM 10/0x12		
		Wedge 120 Galv	23	
		Manufacturer: Roxtec		
		Model: Wedge 120 Galv		
		Stayplate 120 Galv	123	
		Manufacturer: Roxtec		
		Model: Stayplate 120 Galv		
		RM 20W40 EX	54	Note 1
		Manufacturer: Roxtec		
		Model: RM 20W40 EX		
		RM 30 EX	48	Note 1
		Manufacturer: Roxtec		
		Model: RM 30 EX		
		RM 40 EX	33	Note 1
		Manufacturer: Roxtec		
		Model: RM 40 EX		
		RM 60 WOC EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 60 WOC EX		
		~~RM 60/24-54 EX~~	~~2~~	~~Note 1~~
		~~Manufacturer: Roxtec~~		
		~~Model: (*)~~		
		RM 10/0x12 EX	4	Note 1
		Manufacturer: Roxtec		
		Model: RM 10/0x12 EX		
		Wedge 120 Ex Galv	13	Note 1
		Manufacturer: Roxtec		
		Model: Wedge 120 Ex Galv		
		Stayplate 120 Ex Galv	47	Note 1
		Manufacturer: Roxtec		
		Model: Stayplate 120 Ex Galv		
		RS 43 W Ex AISI 316/AISI 316	3	Note 1
		Manufacturer: Roxtec		
		Model: RS 43 W Ex AISI 316/AISI 316		
		Lubrificant 25 ml	(*)	
		Manufacturer: STD Vendor		
		Model: STD Vendor		

NOTES:

1) Frame, modules and other accessories shall have ATEX Certification

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ITEM	Tag	CABLE_TRAY_B300_INS	: Cable Tray B300 - Instrumental			Dwg	
	S/Sys	90-03	: UPS System Equipment Room B-300			Module	LD_B-300
TASK	code	C10002290		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX30A		Cable Tray/Ladder Before pulling

BEFORE PULLING

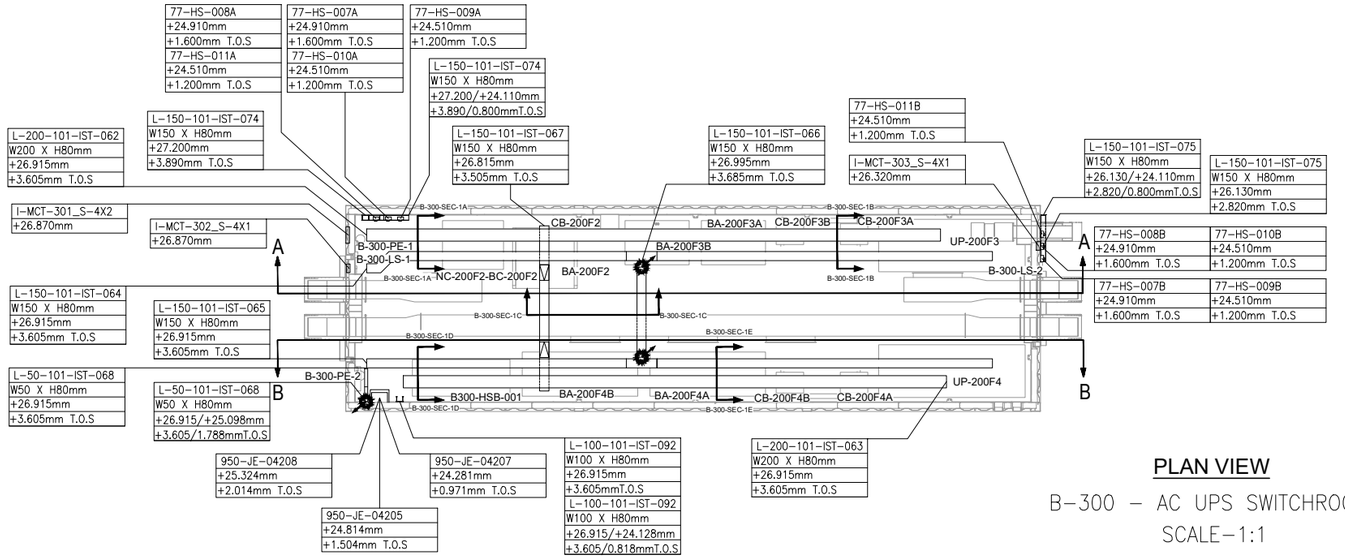
1	Check cable tray / ladder is undamaged and installed against drawings without clashes with pipe runs or other equipment.	PL
2	Check cable tray / ladder is adequately supported against drawings (no excessive deflection).	OK
3	Check cable tray / ladder segregation between racks	OK
4	Check Material for Bolt and splices	OK
5	Check insulation pads are adapted to stainless steel or aluminium cable tray /ladder.	OK
6	Check cable tray / ladder cleanness.	OK
7	Check cable tray / ladder earthed and bonded against drawings.	PL
8	Check Continuity and Resistance test on tray	OK
9	Check proper mitigations against sharp edges that could damage the cables	OK
10	Check Transitions to ensure proper cables bending radius	OK
11	Check Proper protection of racks and trays until cable pulling	OK
12	Painting touch-up as necessary, if applicable	OK
13	Check Labelling with system and segment number	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-02	2024-10-03	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-02T14:51:04.520Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-03T06:59:06.652Z	

DRAWING NO. 123A90-DDL-IN-DL-40115

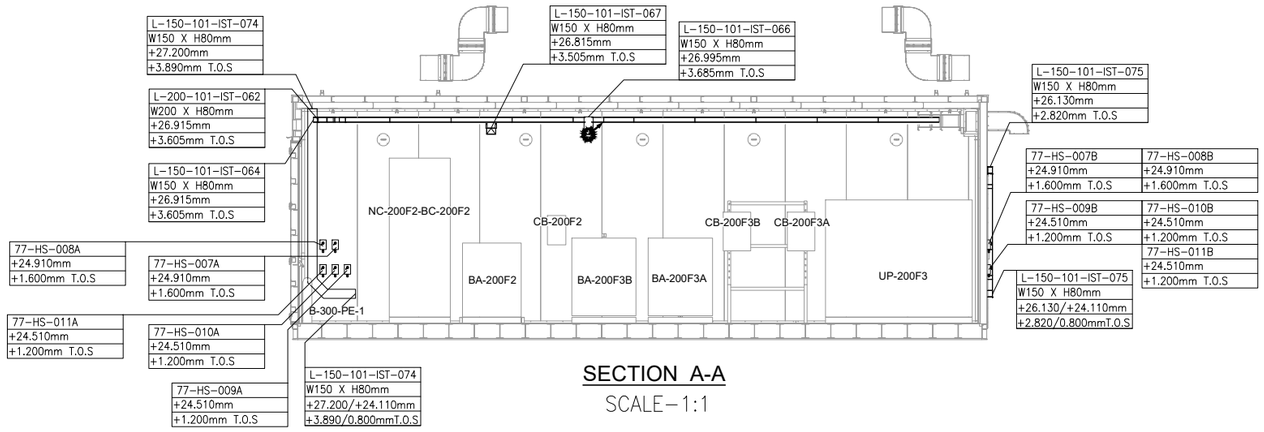
REV. 00



PLAN VIEW

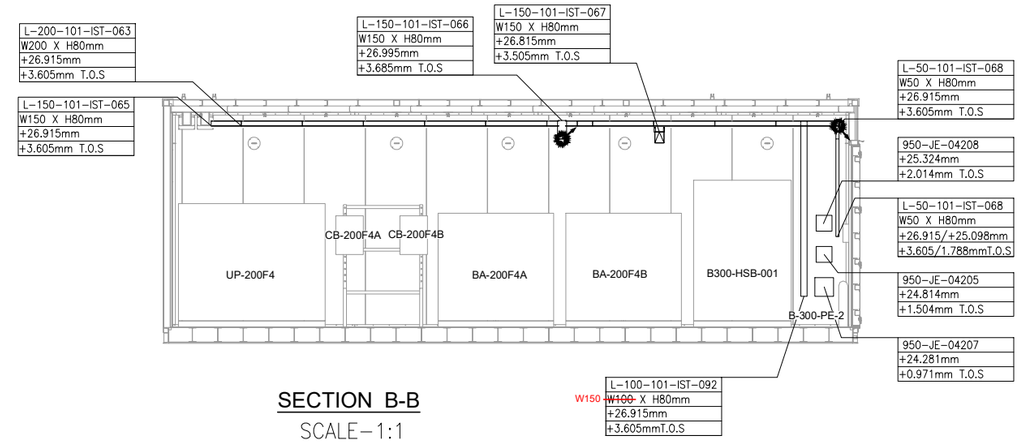
B-300 – AC UPS SWITCHROOM

SCALE-1:1



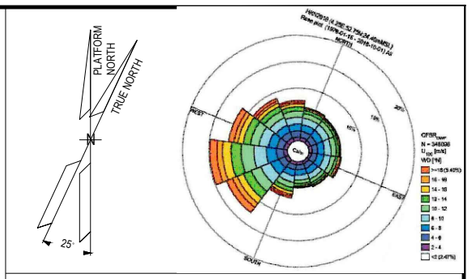
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION

FDL DWG: **123A90-123A90-FDL-IN-DL-40115**

REV.:	DATE:	SIGNATURE:
0_B	18/09/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)

Base Load Power HUB Cables Tray Layout

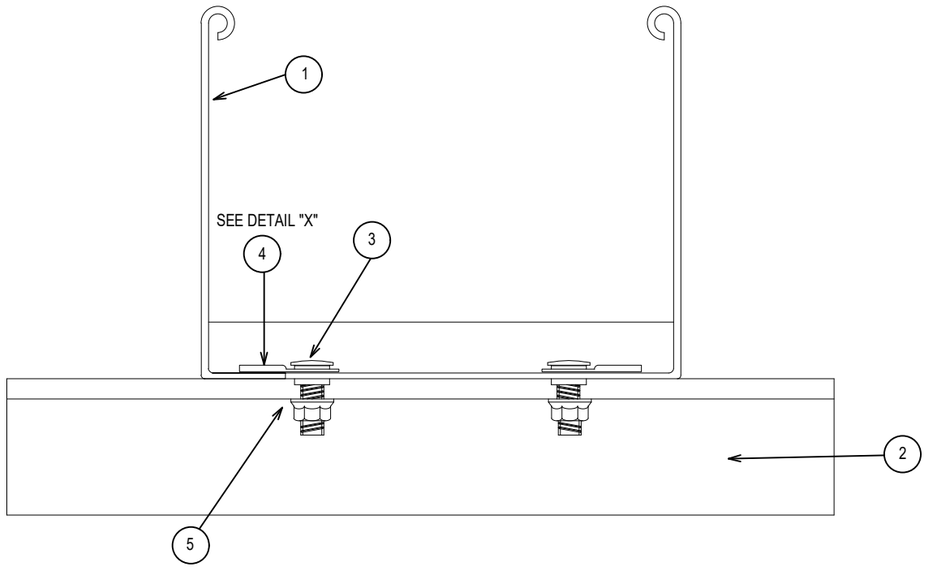
B-300 Container Lower Deck – TOS EL. 23.310m

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/08/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40115	SHEET 001	REV. 00

File Name : 123A90-DDL-IN-DL-40115 REV00.dwg

CABLE LADDER FIXING ON FRP RACK

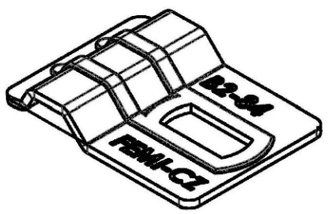
POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SQUARE NECK SCREW	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	FLANGED NUT	AISI 316L	M8	2	



TYPICAL

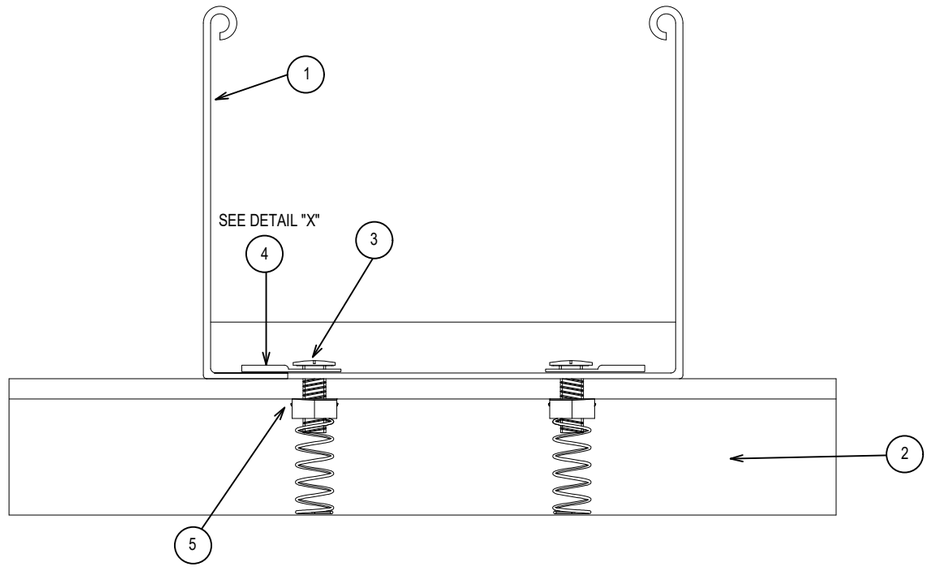
LF

DETAIL "X"



CABLE LADDER FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M8x40	2	



TYPICAL

LU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE LADDER FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

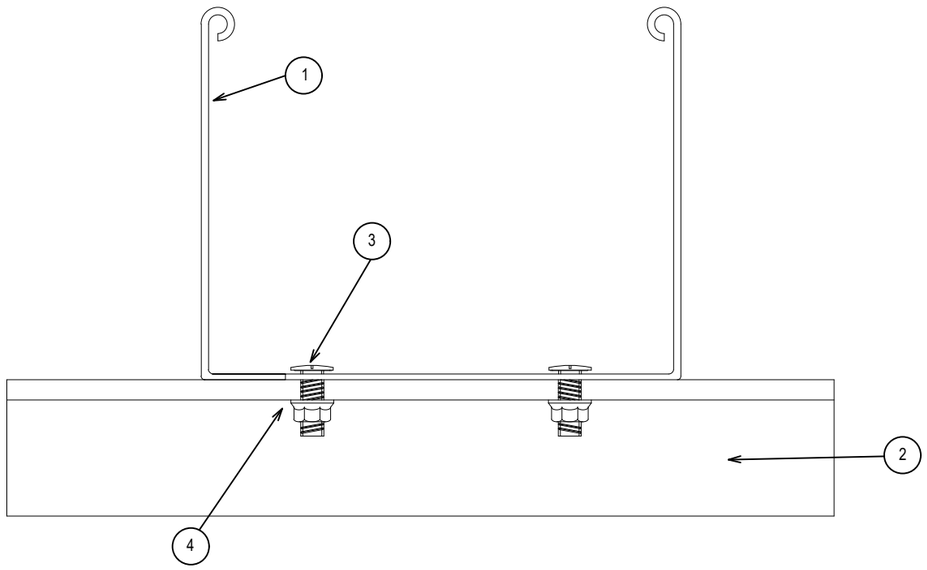
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 004 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

CABLE TRAY PERFORATED FIXING ON FRP RACK

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
4	FLANGED NUT	AISI 316L	M6	2	

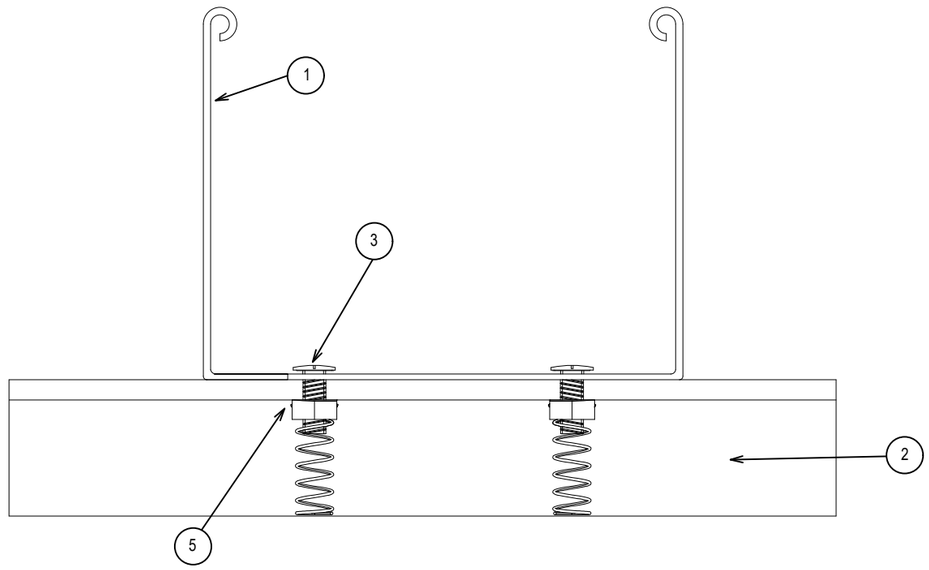


TYPICAL

TF

CABLE TRAY PERFORATED FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M6x40	2	



TYPICAL

TU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE TRAY PERFORATED FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

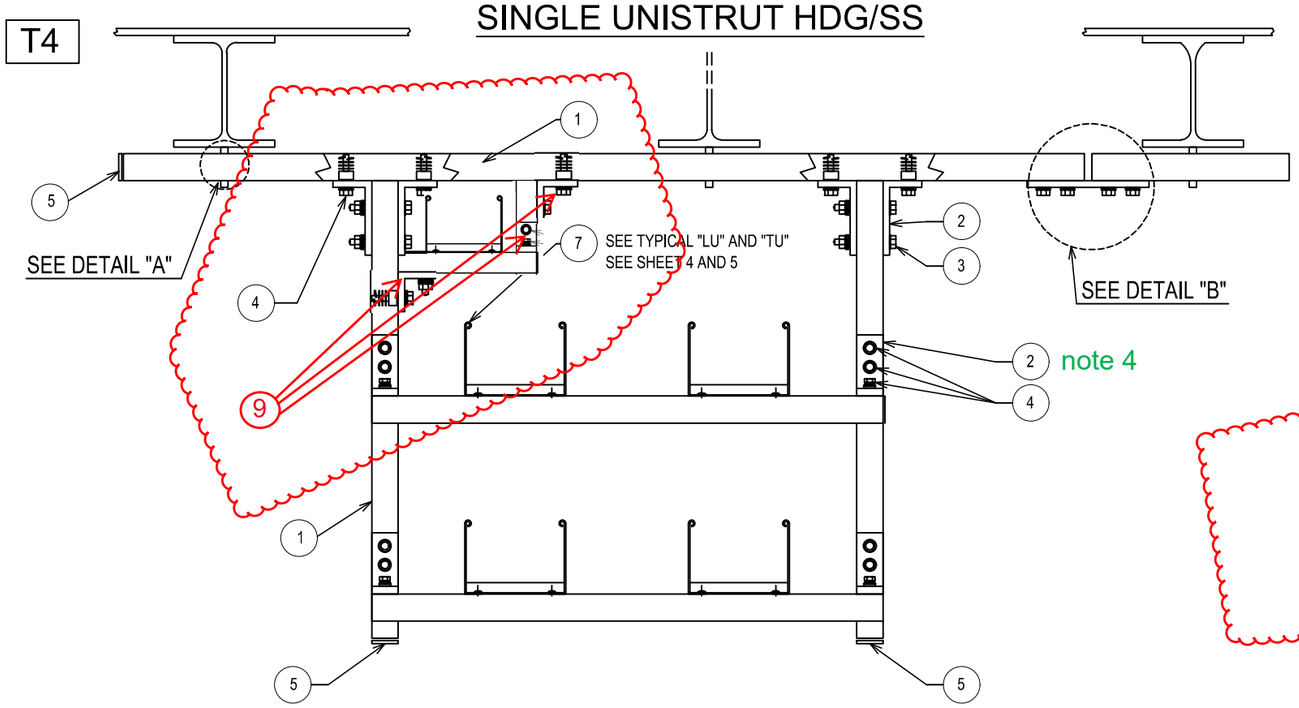
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 005 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

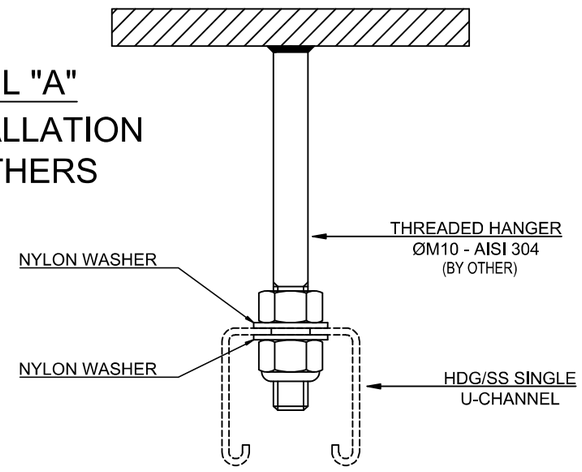
T4

SINGLE UNISTRUT HDG/SS

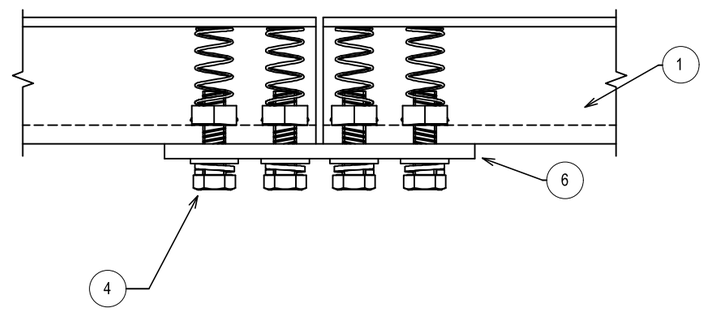


POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
2	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 3 HOLES	AISI 316L		8	
3	HEXAGONAL BOLT COMPLETE WITH PLANE WASHERS, GROWER AND NUT	AISI 316L	M10x70	4	
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	~~M10~~ M12	16	
5	PLUG FOR U-CHANNEL	LPDE		AS R	
6	CONNECTION PLATE (4 HOLES)	AISI 316L		AS R	
7	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
8	DOUBLE SLOT CROWNED HEAD SCREW C/W PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x20	AS R	
9	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 2 HOLES	AISI 316L		3	

DETAIL "A"
INSTALLATION
BY OTHERS



DETAIL "B"



4) ALTERNATIVELY, USE PLATE FOR CONNECTION WITH 2 HOLES

NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) FOR DISTANCE BETWEEN CABLE LADDERS/TRAYS, SEE SEGREGATION DISTANCES DETAIL ON SHEET 003.
3) THIS TYPICAL SHALL BE USED ONLY FOR INDOOR INSTALLATION.

TYPICAL VALID INSIDE TECHNICAL ROOMS

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY FIXING TO WELDED THREADED HANGER WITH U-CHANNEL

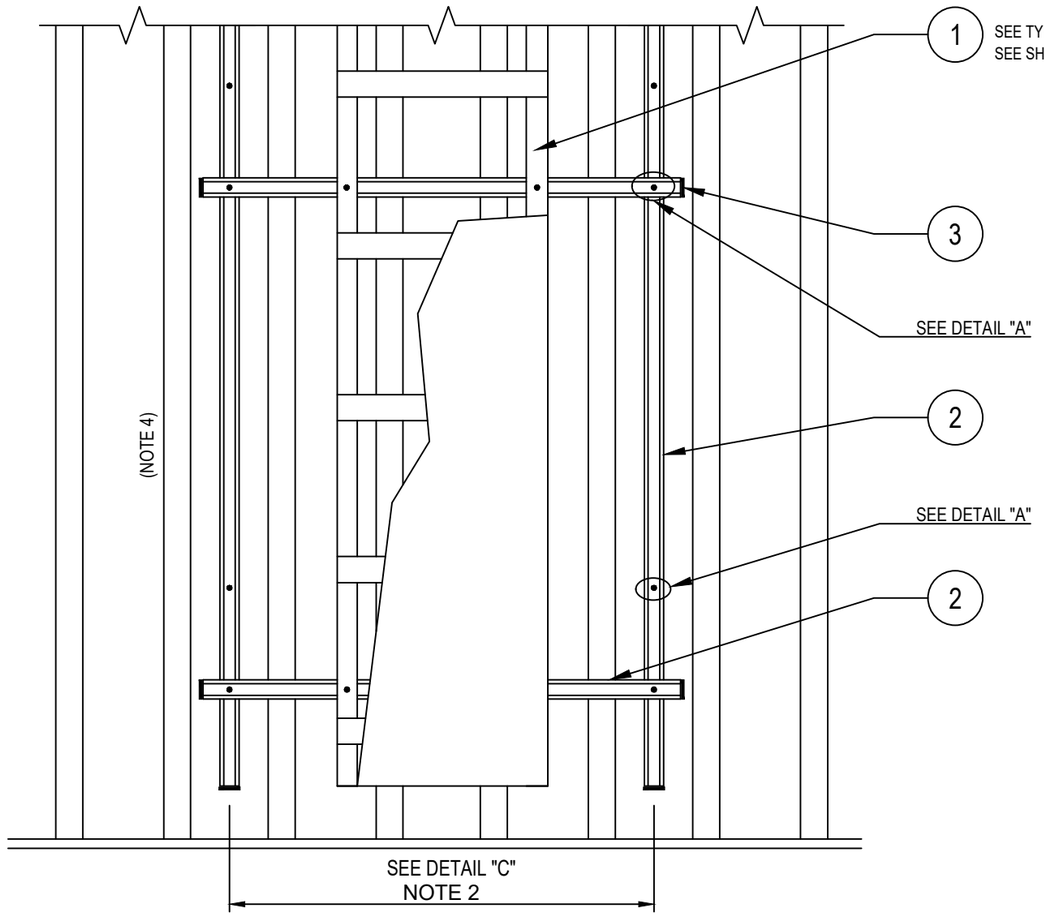
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20093	009	02

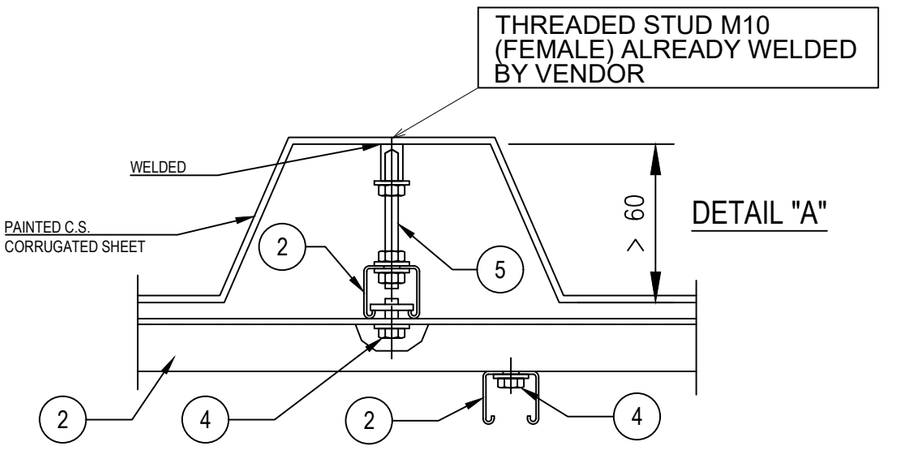
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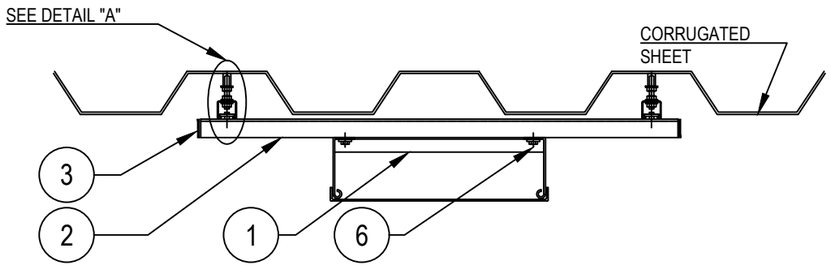
T7



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED	AISI 316L	41x41x2		NOTE 1
3	PLUG FOR U-CHANNEL	LPDE			
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M10x30		
5	THREADED ROD M10 (L=110mm) COMPLETE WITH PLANE WASHER, LARGE PLANE WASHERS, SPRING WASHER AND NUTS	AISI 316L	M10x110		



DETAIL "C"



NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) THE DISTANCE BETWEEN SUPPORTS SHALL BE DEFINED ACCORDING TO THE SIZE OF THE CABLE LADDER AND TYPE OF CORRUGATED SHEET

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093
REV.: 2_D | DATE: 06/09/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY WITH NELSON STARTER ON SHELTER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 014 | REV. 02

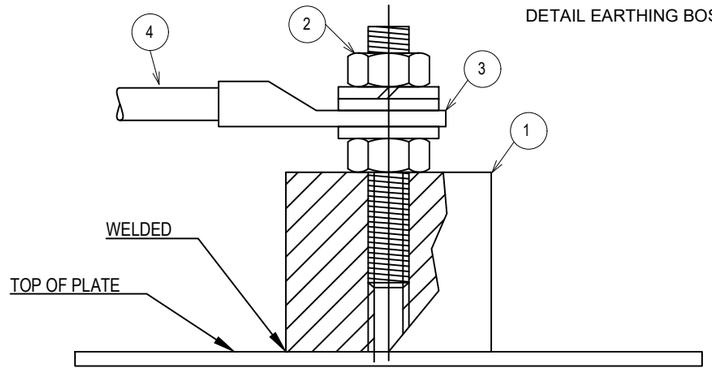
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50 50X150	1	NOTE 2
2	STUD BOLT WITH PLANE WASHER, GROWER AND NUT	AISI 316L	M10X50		
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER			~~NOTE 3~~
4	Y/G INSULATING COPPER CONDUCTOR				NOTE 1 NOTE 5
5	EARTHING PLATE	AISI 316L (NOT PAINTED)	50X50X5		NOTE 4
6	HEXAGONAL BOLT WITH PLANE WASHERS, GROWER AND NUT.	AISI 316L	M10X30		
7	THREADED STUD COMPLETE WITH GROWER AND NUTS	AISI 316L	M10X28		NOTE 6 NOTE 7

E11A

DETAIL EARTHING BOSS 50x50

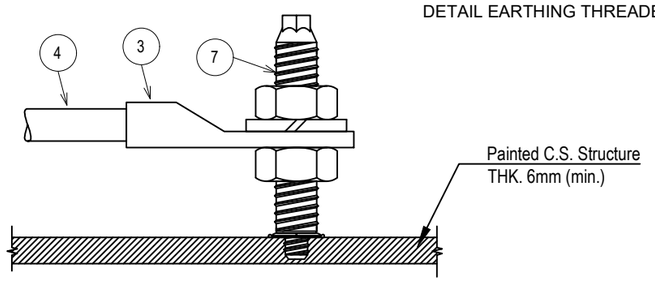


E11D

SEE NOTE 6

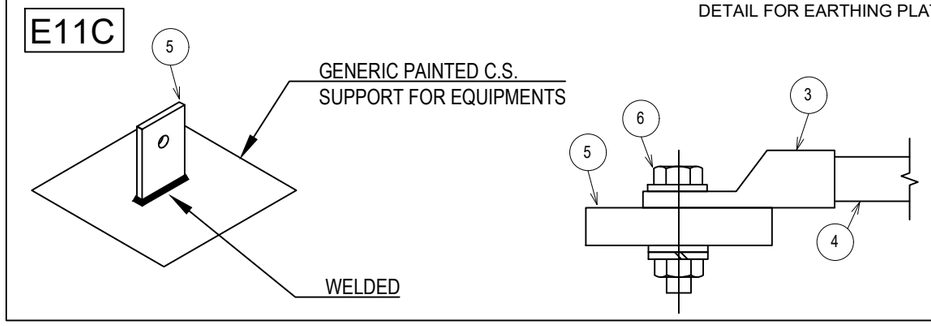
FOR CABLE
MAX 10mm²

DETAIL EARTHING THREADED STUD



E11C

DETAIL FOR EARTHING PLATE

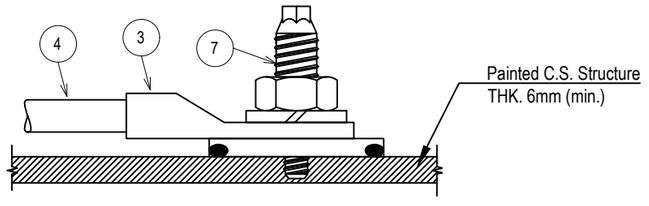


E11E

SEE NOTE 7

FOR CABLE
MAX 35mm²

DETAIL EARTHING THREADED STUD



NOTES:

1) ONLY ONE PROTECTIVE CONDUCTOR TERMINATION LUG SHALL BE CONNECTED TO A DEDICATED EARTHING BOSS, EARTH PLATE OR EARTH STUD.
2) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
4) EARTHING PLATE SHALL BE DEDICATED TO CABLE TRAY AND PIPE SUPPORTS, JUNCTION BOX, LOCAL CONTROL STATION AND SMALL EQUIPMENT SUPPORTS, LIGHTING POLES, RECEPTACLE SUPPORTS AND REMOVABLE HANDRAILS, ONLY.
5) FOR SIZE OF THE EARTHING CABLE SEE EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS
6) HILTI S-BT-ER M10/15 SN6 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 10mm².
7) HILTI S-BT-ER M10 HC 120 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 35mm².

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_C	09/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
SINGLE EARTHING CONNECTION

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 123A90–DDL–EL–DD–20090

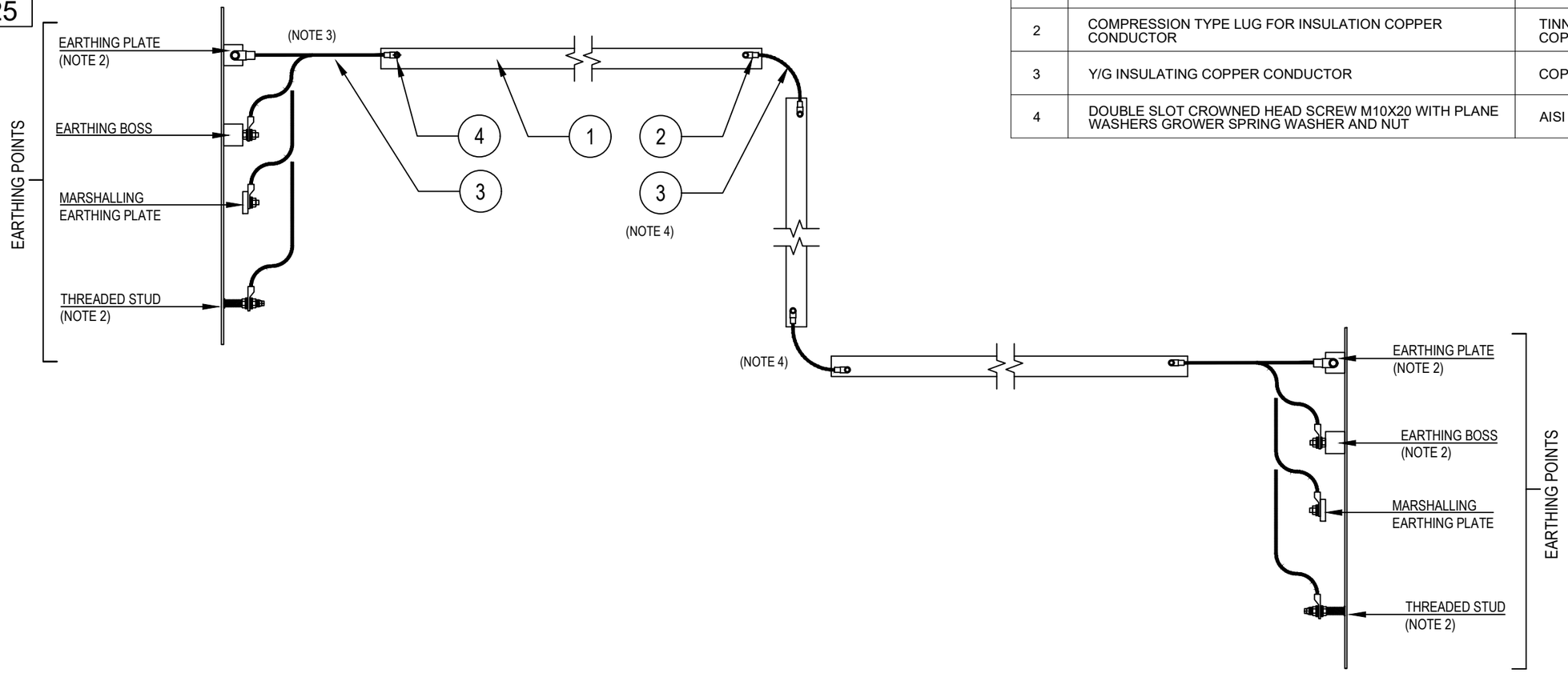
SHEET 003

REV. 02

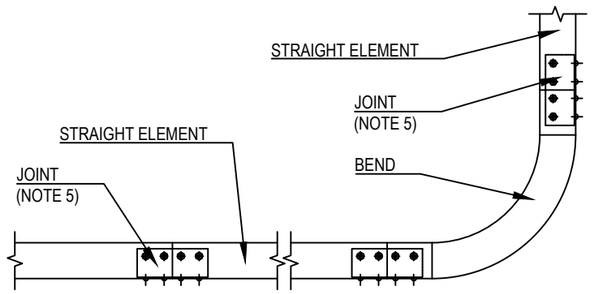
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

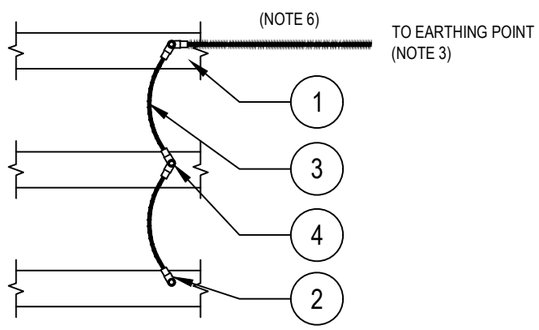
E25



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER/TRAY	FRP/GRP			
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	16mm^2		~~NOTE 1~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	16mm^2		
4	DOUBLE SLOT CROWNED HEAD SCREW M10X20 WITH PLANE WASHERS GROWER SPRING WASHER AND NUT	AISI 316L	~~M10X20~~ M6x20		



PARALLEL ROUTING



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) FOR DETAIL OF EARTHING PLATE, EARTHING BOSS AND THREADED STUD SEE TYP. E11A/C/D/E.
3) FOR EARTHING USE NEAREST EXISTING EARTHING POINT OR A NEW DEDICATED.
4) ON EVERY CHANGE OF DIRECTION MADE WITHOUT A PREFABBRICATED BEND, BONDING CONNECTION IS REQUIRED BY MEAN OF INSULATED Y/G EARTHING CONDUCTOR.
5) THE ELECTRIC CONTINUITY BETWEEN THE VARIOUS PREFABRICATED COMPONENTS IS GUARANTEED BY THE JOINTS INSTALLED ACCORDING TO THE ASSEMBLY INSTRUCTIONS OF THE CABLE TRAY/LADDER MANUFACTURER.
6) CABLE LADDER/TRAY SHALL BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM AT BOTH ENDS. FULL CONTINUITY SHALL BE ENSURED. IN CASE OF SHORT LENGHT ELEMENTS (LESS THAN 3 m) ONE END ONLY MAY BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM.
7) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_C	09/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM
EARTHING FOR CABLE LADDERS & TRAYS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20090	013	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

DESIGN DATA - *CABLE TRAYS LADDER TYPE FOR EXTERNAL INSTALLATION - GREY COLOUR*

TYPE	☑ Ladder	☐ Tray with simple ribs	☐ Tray with rimmed ribs		
	Thickness 5mm (*)	BENDING RADIUS:	☑ 300mm	☐ 500mm	
	☑ Cover	☐ Cover spacer	☐ Whitout Cover		
	Thickness 5mm (*)				
MATERIAL	☐ Galvanized steel	☐ Stainless steel	☐ Light alloy	☑ FRP (3)	☐ AISI 316L
SURFACE PROTECTION	Galvanized	☐ before machined (ex. with "Sendzimir" process)	☐ after machined		
	☐ Surface clean and polished from any welding and working residual				
	☐ Painting				
	Colour:	☑ Grey RAL 7035	☐ blue RAL 5012	☐	
	Cycle:				

POS.	DIMENSIONS (6)		a	b	c	d	e	f	g	h	i	l		
	Total External height	H	100	100	100									Manufacturer: Oglaend Supplier: HILTI Series: FOE100 P.O.
	Working internal width	W	300	450	600									
	Working internal width (reducer)	W1												
	DESCRIPTION	**FIG. (7)**	**QUANTITY (8)**											
1	Straight section Y = 3000 mm	A												
2	Straight section Y = mm													
3	Plane 90 degree bend	B												
4	Plane 45 degree bend	C												
	Plane 30 degree bend													
5	"T" junction	D												
6	Cross junction	E												
7	Single element for vertical bend	F												
8	Plane left-hand reducing section	G												
9	Plane simmetric reducing section	H												
10	Plane right-hand reducing section	I												
11	Elbow Inside 30°													
12	Elbow Outside 30°													
13	Elbow Inside 45°													
14	Elbow Outside 45°													
15	Elbow Inside 90°													
16	Elbow Outside 90°													
17														
18	Horizontally hinged joint	L												
19	Vertically hinged joint (note 6)	M												
20														
21	Separators													

NOTES :

6) Dimensions in millimeters

7) Reference to sheet 6

8) For quantities please refer to sheet 9 Cable Trays Material Take-OFF

9) FRP = Fiberglass Reinforced Plastic

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CABLE TRAYS LADDER TYPE - FIGURES

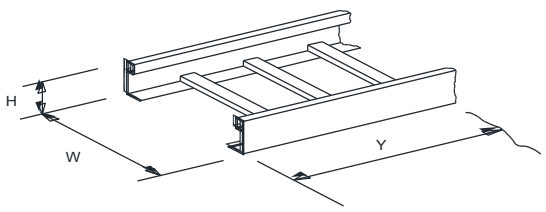


Fig. A
STRAIGHT ELEMENT

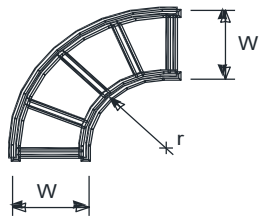


Fig. B
PLANE 90° BEND

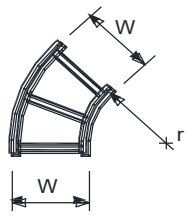


Fig. C
PLANE 45° BEND

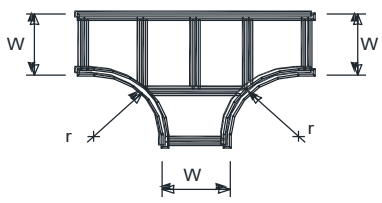


Fig. D
TEE JUNCTION

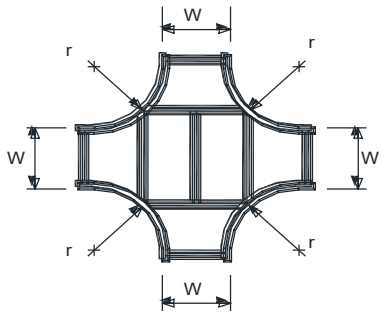


Fig. E
CROSS JUNCTION

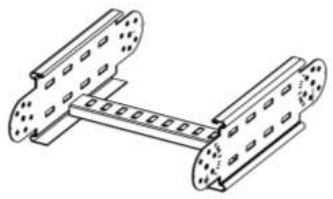


Fig. F
SINGLE ELEMENT FOR VERTICAL BENDS

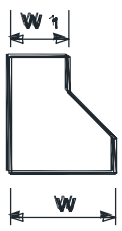


Fig. G
PLANE LEFT - HAND REDUCING SECTION



Fig. H
PLANE SYMMETRIC REDUCING SECTION



Fig. I
PLANE RIGHT - HAND REDUCING SECTION

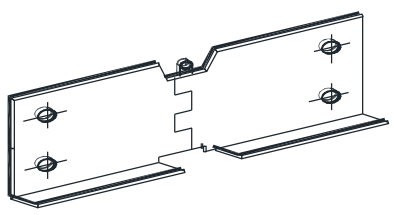


Fig. L
HORIZONTAL HINGED JOINT

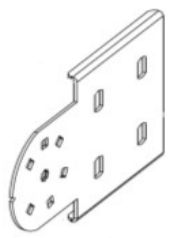


Fig. M
VERTICAL HINGED JOINT

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DESIGN DATA - *CABLE TRAY PERFORATED TYPE FOR EXTERNAL INSTALLATION - GREY COLOUR*

TYPE	☑ Perforated	☐ Tray with simple ribs	☐ Tray with rimmed ribs	
	Thickness 5mm (*)	BENDING RADIUS:	☑ 300mm	☐ Adjustable elbow
	☑ Cover	☐ Cover spacer	☐ Whitout Cover	
	Thickness 5mm (*)			
MATERIAL	☐ Galvanized steel	☐ Stainless steel	☐ Light alloy	☑ FRP ☐ AISI 316L
SURFACE PROTECTION	Galvanized ☐ before machined (ex. with "Sendzimir" process)			☐ Hot dip Galvanized after machined - 50 µm
	☐ Surface clean and polished from any welding and working residual			
	☐ Painting			
	Colour: ☑ Grey RAL 7035	☐ blue RAL 5012	☐	
	Cycle:			

POS.	DIMENSIONS (6)		a	b	c	d	e	f	g	h	i	l		
	Total External height	H	50	80	80									Manufacturer: Oglaend Supplier: HILTI Series: FTE80 P.O.
	Working internal width	W	50	150	200									
	Working internal width (reducer)	W1												
	DESCRIPTION	**FIG. (7)**	**QUANTITY (8)**											
1	Straight section Y = 3000 mm	A												
2	Straight section Y = mm													
3	Plane 90 degree bend	B												
4	Plane 45 degree bend	C												
	"T" junction													
5	Vertical convex 90° Bend	D												
6	Vertical concave 90° Bend	E												
7	Plane left-hand reducing section	F												
8	Plane simmetric reducing section	G												
9	Plane right-hand reducing section	H												
10		I												
11														
12														
13														
14														
15														
16														
17														
18	Horizontally hinged joint	L												
19	Vertically hinged joint	M												
20														
21	Separators													

NOTES :

6) Dimensions in millimeters
7) Reference to Sheet 9
8) For quantities please refer to sheet 9 Cable Trays Material Take-OFF
9) FRP = Fiberglass Reinforced Plastic

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CABLE TRAYS PERFORATED TYPE - FIGURES

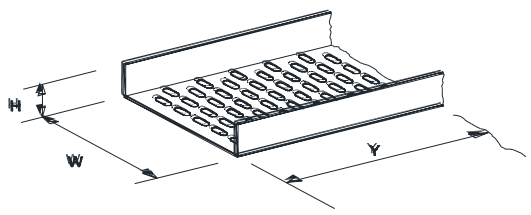


Fig. A
STRAIGHT ELEMENT

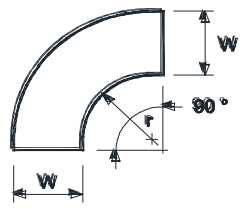


Fig. B
PLANE 90° BEND

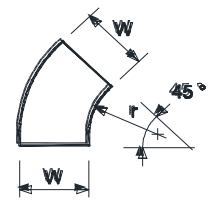


Fig. C
PLANE 45° BEND

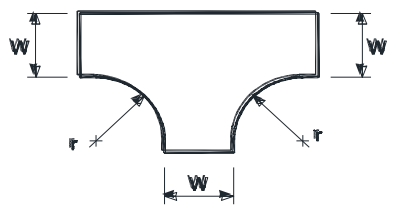


Fig. D
TEE JUNCTION

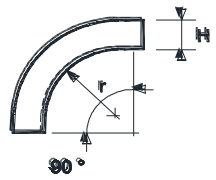


Fig. E
VERTICAL CONVEX 90° BEND

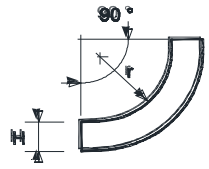


Fig. F
VERTICAL CONCAVE 90° BEND

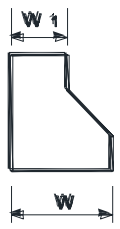


Fig. G
PLANE LEFT - HAND REDUCING SECTION



Fig. H
PLANE SYMMETRIC REDUCING SECTION

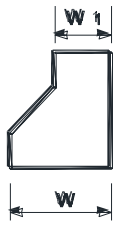


Fig. I
PLANE RIGHT - HAND REDUCING SECTION

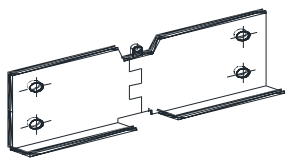


Fig. L
HORIZONTAL HINGED JOINT

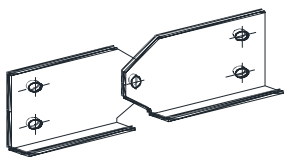


Fig. M
VERTICAL HINGED JOINT

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INSTRUMENT CABLE TRAYS MTO				
S.No	**Description**	**U.M.**	**Rev. 00**	**Rev. 01**
Perforated Cable Tray 50(W)x50(H), R=300, Grey, Complete with Cover				
1	Straight elements	m	1338	1338
2	Bends 45°	N.	-	8
3	Inside Risers 90°	N.	-	3
4	Outside Risers 90°	N.	-	14
Perforated Cable Tray 150(W)x80(H), R=300, Grey, Complete with Cover				
5	Straight elements	m	453	453
6	Bends 45°	N.	7	12
7	Bends 90°	N.	40	40
8	Inside Risers 90°	N.	18	18
9	Inside Risers 45°	N.	6	6
10	Outside Risers 90°	N.	25	25
11	Outside Risers 45°	N.	3	3
12	"T"	N.	-	3
Perforated Cable Tray 200(W)x80(H), R=300, Grey, Complete with Cover				
13	Straight elements	m	480	480
14	Bends 90°	N.	22	22
15	Bends 45°	N.	10	12
16	Inside Risers 90°	N.	6	8
17	Inside Risers 45°	N.	12	12
18	Outside Risers 90°	N.	6	14
19	Outside Risers 45°	N.	12	12
Ladder Cable Tray 300(W)x100(H)), R=300, Grey, Complete with Cover				
20	Straight elements	m	111	111
21	Bends 90°	N.	7	7
22	Inside Risers 90°	N.	8	8
23	Outside Risers 90°	N.	4	4
24	"T"	N.	3	3
Ladder Cable Tray 450(W)x100(H)), R=300, Grey, Complete with Cover				
25	Straight elements	m	18	99
26	Bends 90°	N.	-	5
27	Bends 90°, Radius 500mm	N.	2	2
Ladder Cable Tray 600(W)x100(H)), R=300, Grey, Complete with Cover				
28	Straight elements	m	171	171
29	Bends 45°	N.	3	3
30	Inside Risers 90°	N.	2	2
31	Inside Risers 45°	N.	3	3
32	Outside Risers 90°	N.	4	4
33	Outside Risers 45°	N.	3	3
34	Reducer 600X450	N.	-	1
Accessories				
35	Divider straight elements, 45(H)	m	87	120
36	Divider for bend elements, 45(H)	m	15	15
37	Divider for riser elements, 45(H)	m	15	15
38	Fixing Clamps	N.	(1)	(1)
Notes 1) Vendor shall estimate fixing clamp quantities				

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ITEM	Tag	CABLE_TRAY_B300_INS	: Cable Tray B300 - Instrumental		Dwg	123A90-DDL-IN-DL-40115	
	S/Sys	90-03	: UPS System Equipment Room B-300		Module	LD_B-300	
TASK	code	C10002291		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX30B	Cable Tray/Ladder After pulling

AFTER PULLING

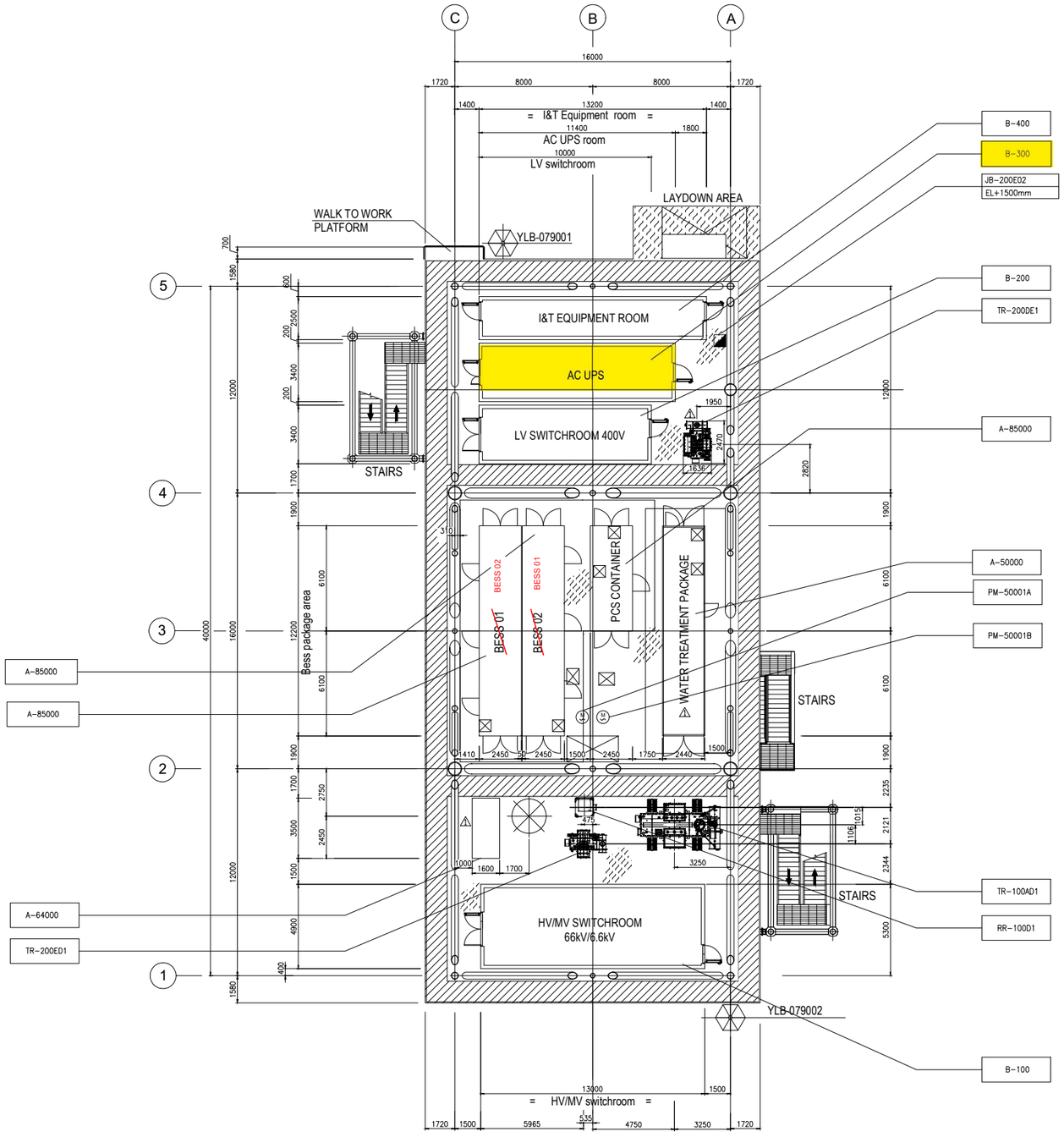
1	Check cable segregation on rack and tray	OK
2	Check capacity of cable rack and tray (bunching, size of cables, spare capacity, etc.)	OK
3	Check cable tray / ladder for Damages and cleanliness	OK
4	Check of proper cable bending radius	OK
5	Check proper fastening of cables (distance and material)	PL
6	Check lids intallation (if any) against drawings OR Proper protection until additional cable pulling or all work completed in the vicinity	NA
7	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

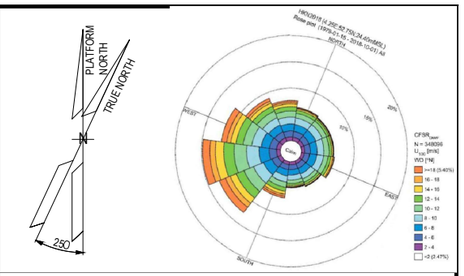
	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Eleonora Carotenuto	
Date	2025-02-18	2025-02-21	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-02-18T16:02:10.189Z	PROVERLIS Digitaly signed by Eleonora Carotenuto 2025-02-21T12:29:46.338Z	

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
1_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

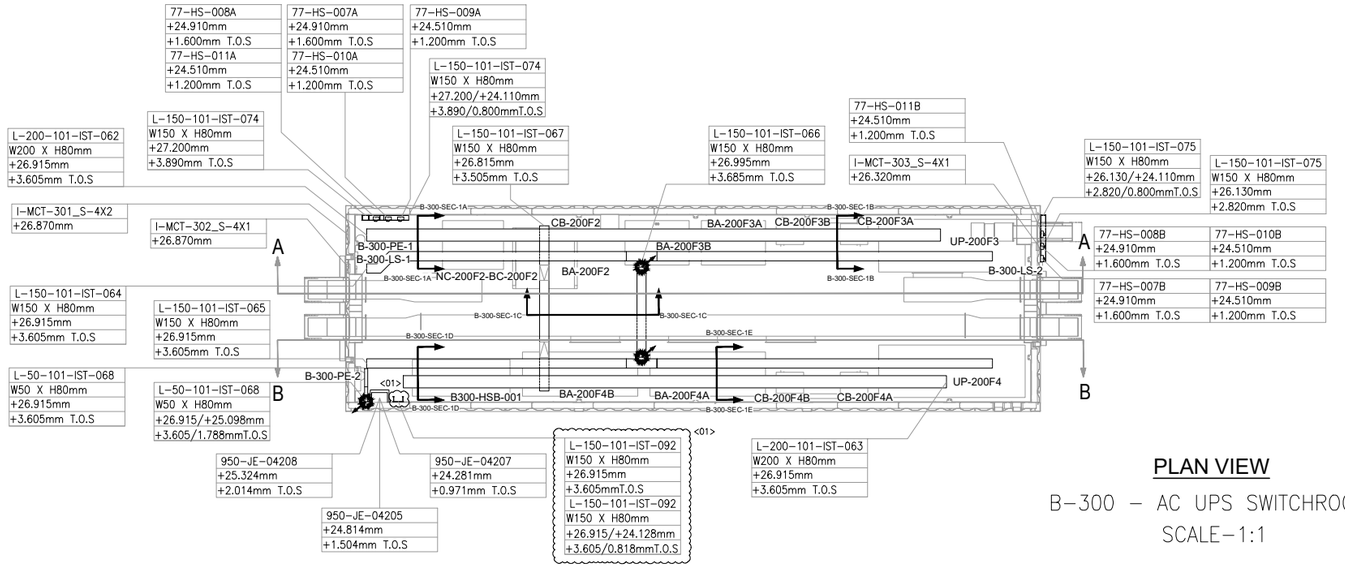
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

DRAWING NO. 123A90-DDL-IN-DL-40115

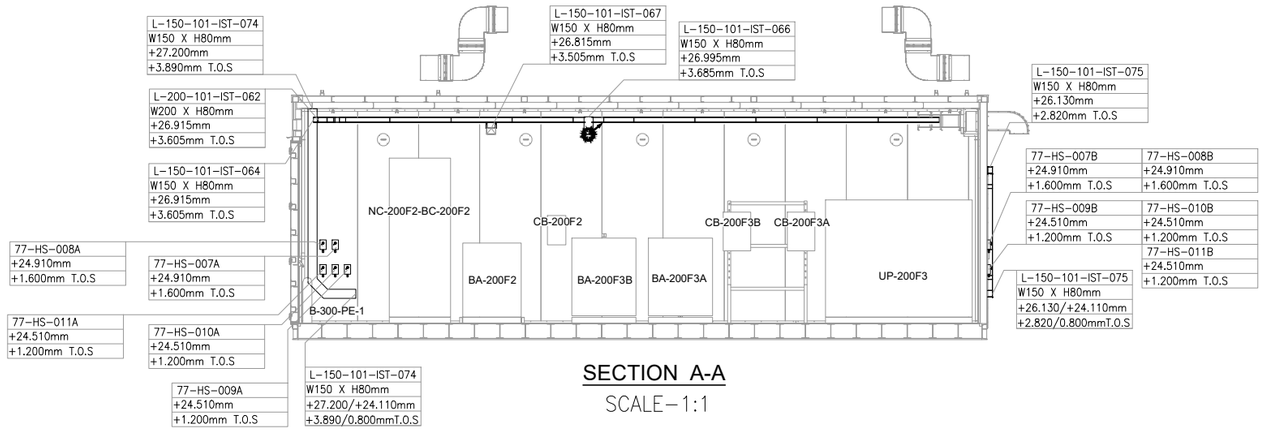
REV. 01



PLAN VIEW

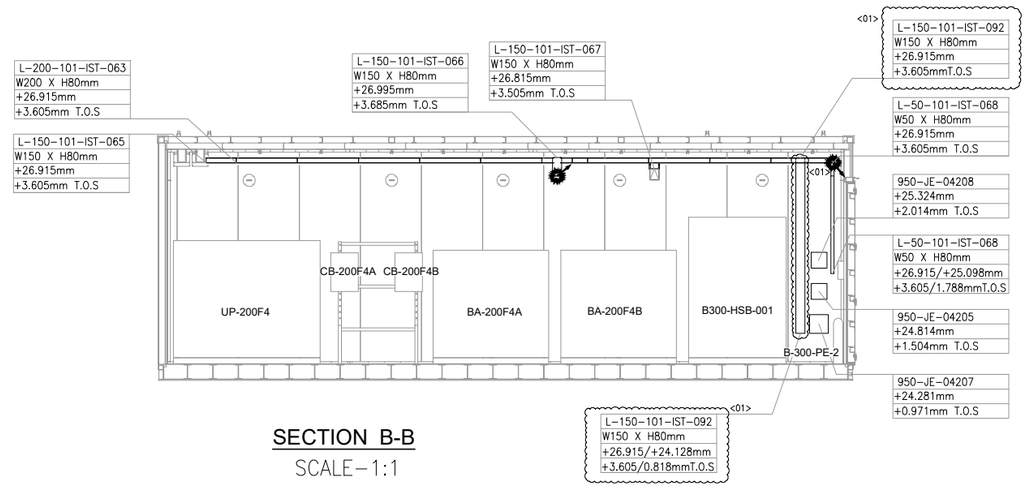
B-300 – AC UPS SWITCHROOM

SCALE-1:1



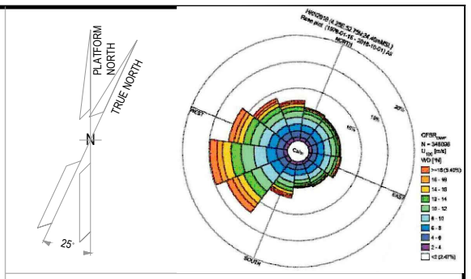
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DL-40115**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)

Base Load Power HUB Cables Tray Layout

B-300 Container Lower Deck – TOS EL. 23.310m

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24

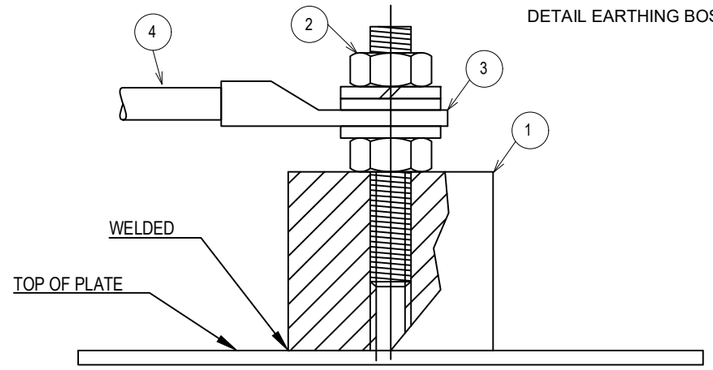
A1	DRAWING NO. 123A90-DDL-IN-DL-40115	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40115 REV01.dwg

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50 50X150	1	NOTE 2
2	STUD BOLT WITH PLANE WASHER, GROWER AND NUT	AISI 316L	M10X50		
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER			~~NOTE 3~~
4	Y/G INSULATING COPPER CONDUCTOR				NOTE 1 NOTE 5
5	EARTHING PLATE	AISI 316L (NOT PAINTED)	50X50X5		NOTE 4
6	HEXAGONAL BOLT WITH PLANE WASHERS, GROWER AND NUT.	AISI 316L	M10X30		
7	THREADED STUD COMPLETE WITH GROWER AND NUTS	AISI 316L	M10X28		NOTE 6 NOTE 7

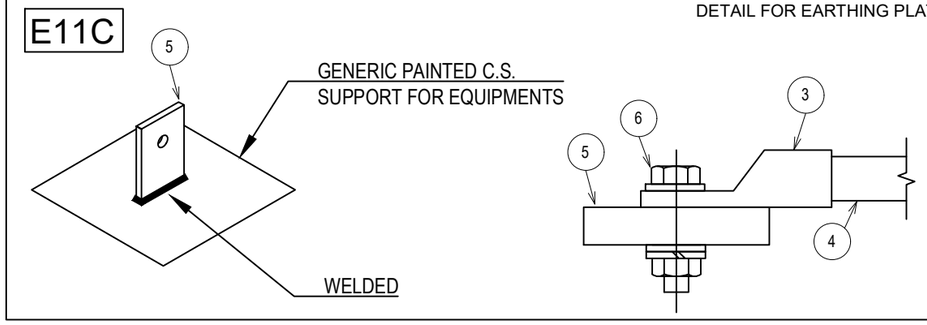
E11A

DETAIL EARTHING BOSS 50x50



E11C

DETAIL FOR EARTHING PLATE

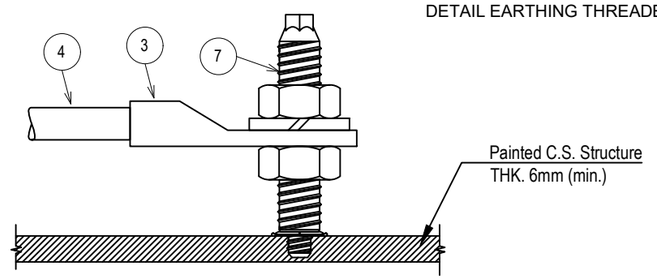


E11D

SEE NOTE 6

FOR CABLE
MAX 10mm²

DETAIL EARTHING THREADED STUD

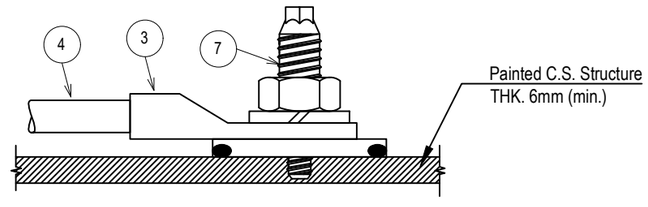


E11E

SEE NOTE 7

FOR CABLE
MAX 35mm²

DETAIL EARTHING THREADED STUD



NOTES:
1) ONLY ONE PROTECTIVE CONDUCTOR TERMINATION LUG SHALL BE CONNECTED TO A DEDICATED EARTHING BOSS, EARTH PLATE OR EARTH STUD.
2) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
4) EARTHING PLATE SHALL BE DEDICATED TO CABLE TRAY AND PIPE SUPPORTS, JUNCTION BOX, LOCAL CONTROL STATION AND SMALL EQUIPMENT SUPPORTS, LIGHTING POLES, RECEPTACLE SUPPORTS AND REMOVABLE HANDRAILS, ONLY.
5) FOR SIZE OF THE EARTHING CABLE SEE EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS
6) HILTI S-BT-ER M10/15 SN6 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 10mm².
7) HILTI S-BT-ER M10 HC 120 CERTIFIED FOR EARTHING SYSTEM. RECOMMENDED MAX CONDUCTOR SIZE 35mm².

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
SINGLE EARTHING CONNECTION

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 123A90–DDL–EL–DD–20090

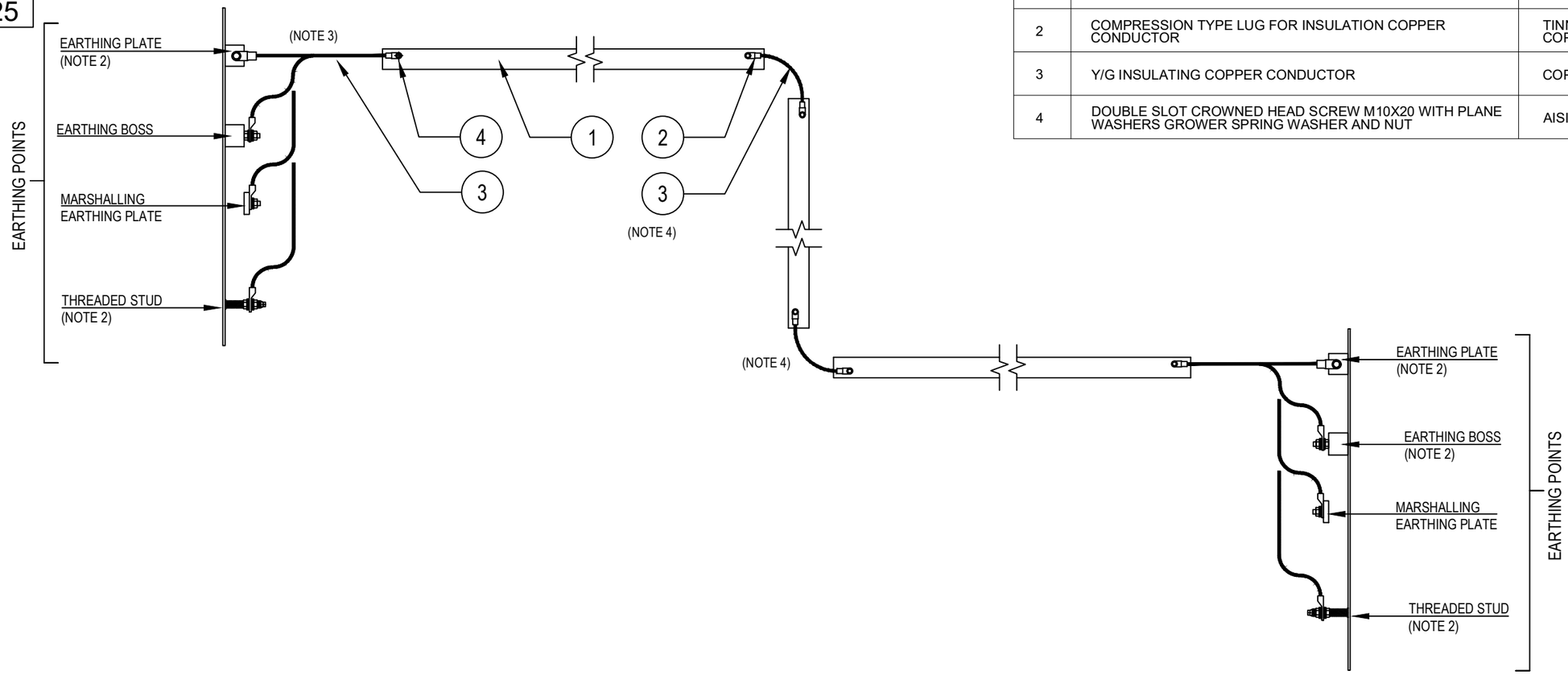
SHEET 003

REV. 02

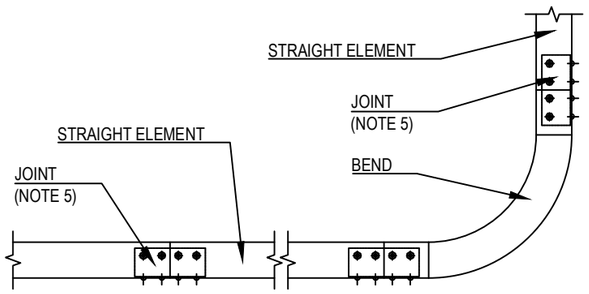
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

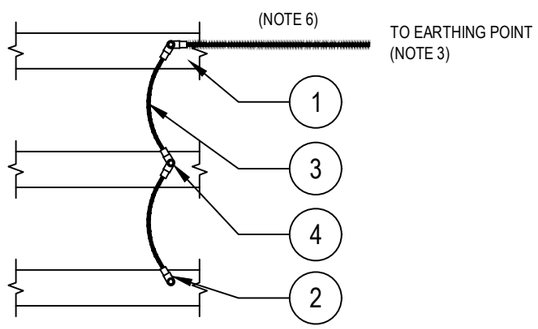
E25



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER/TRAY	FRP/GRP			
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	16mm^2		~~NOTE 1~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	16mm^2		
4	DOUBLE SLOT CROWNED HEAD SCREW M10X20 WITH PLANE WASHERS GROWER SPRING WASHER AND NUT	AISI 316L	~~M10X20~~ M6x20		



PARALLEL ROUTING



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) FOR DETAIL OF EARTHING PLATE, EARTHING BOSS AND THREADED STUD SEE TYP. E11A/C/D/E.
3) FOR EARTHING USE NEAREST EXISTING EARTHING POINT OR A NEW DEDICATED.
4) ON EVERY CHANGE OF DIRECTION MADE WITHOUT A PREFABBRICATED BEND, BONDING CONNECTION IS REQUIRED BY MEAN OF INSULATED Y/G EARTHING CONDUCTOR.
5) THE ELECTRIC CONTINUITY BETWEEN THE VARIOUS PREFABRICATED COMPONENTS IS GUARANTEED BY THE JOINTS INSTALLED ACCORDING TO THE ASSEMBLY INSTRUCTIONS OF THE CABLE TRAY/LADDER MANUFACTURER.
6) CABLE LADDER/TRAY SHALL BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM AT BOTH ENDS. FULL CONTINUITY SHALL BE ENSURED. IN CASE OF SHORT LENGHT ELEMENTS (LESS THAN 3 m) ONE END ONLY MAY BE CONNECTED TO THE EQUIPOTENTIAL BONDING SYSTEM.
7) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE).

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR CABLE LADDERS & TRAYS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

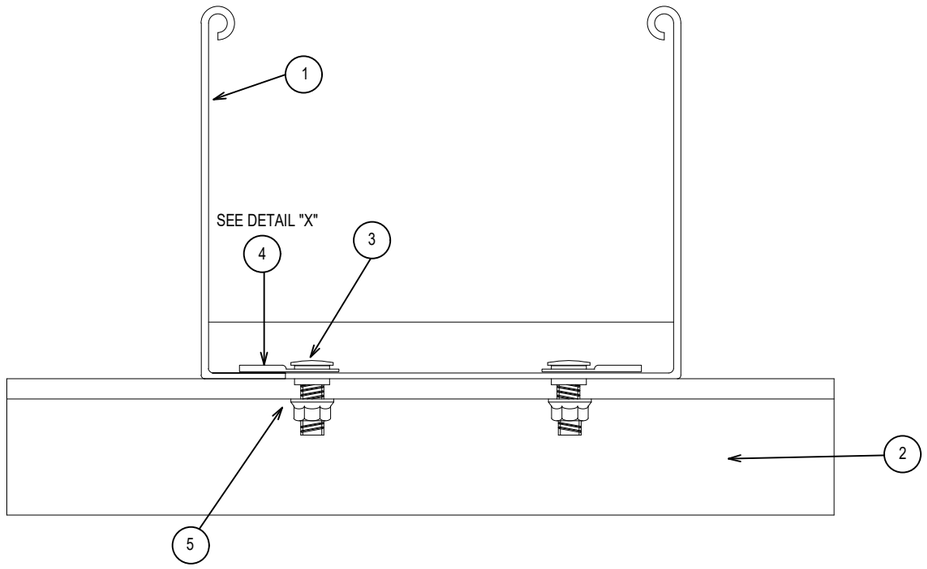
A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20090	013	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

CABLE LADDER FIXING ON FRP RACK

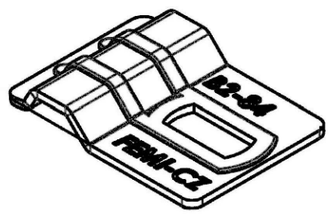
POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SQUARE NECK SCREW	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	FLANGED NUT	AISI 316L	M8	2	



TYPICAL

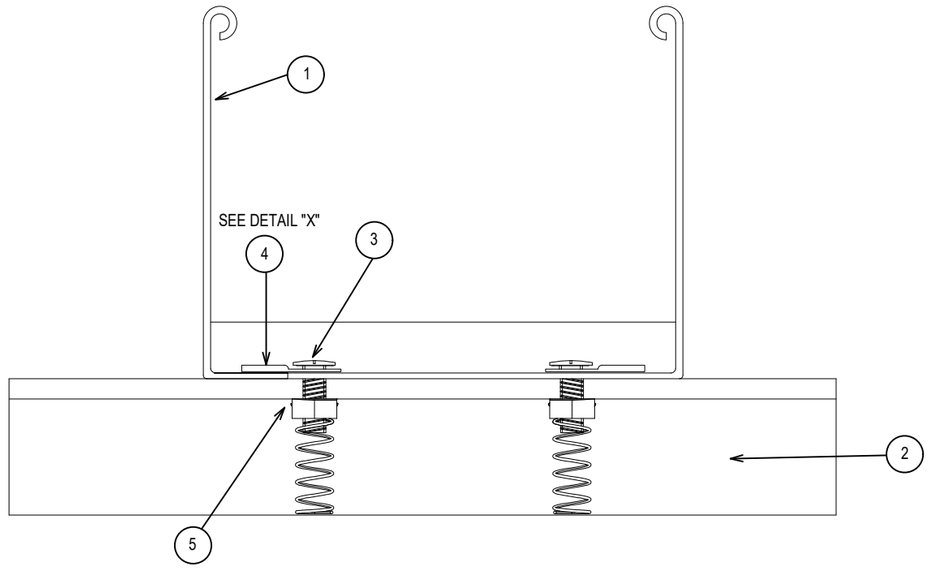
LF

DETAIL "X"



CABLE LADDER FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M8x20	2	
4	HOLD DOWN CLAMP	AISI 316L		2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M8x40	2	



TYPICAL

LU

SEE SHEET 18 FOR FIXING OF CABLE LADDER ON UNISTRUT ON VERTICAL RUNS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE LADDER FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

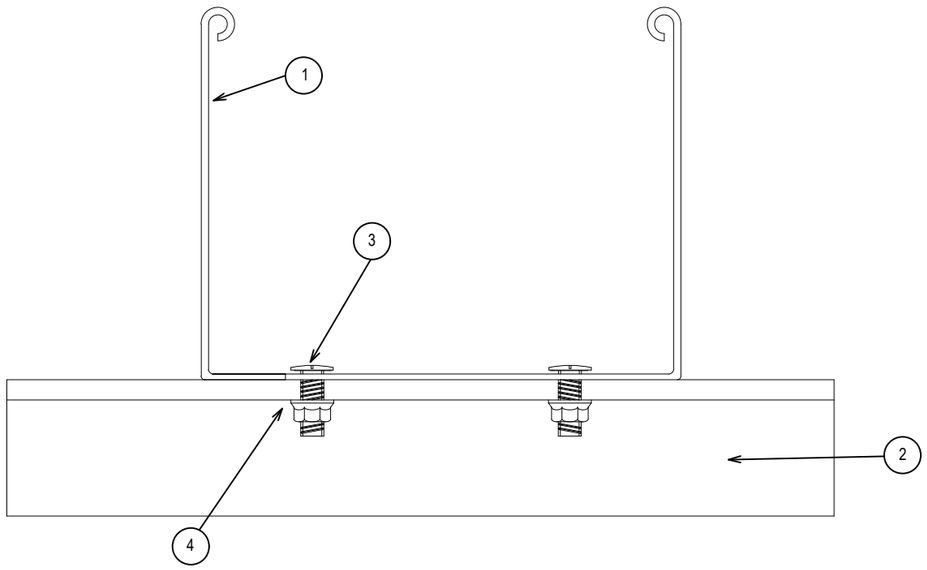
A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 004 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

CABLE TRAY PERFORATED FIXING ON FRP RACK

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	PROFILE SUPPORT	FRP			
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
4	FLANGED NUT	AISI 316L	M6	2	

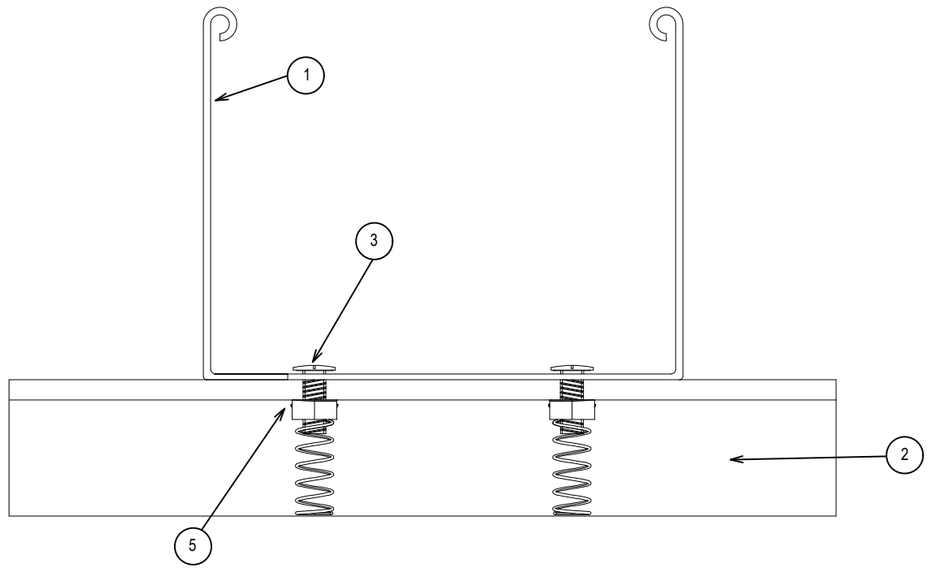


TYPICAL

TF

CABLE TRAY PERFORATED FIXING ON UNISTRUT

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE TRAY PERFORATED	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		
3	ROUND HEAD SCREW DOUBLE SLOT	AISI 316L	M6x20	2	
5	NUT FOR CHANNEL WITH SPRING	AISI 316L	M6x40	2	



TYPICAL

TU

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20093

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE TRAY PERFORATED FIXING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

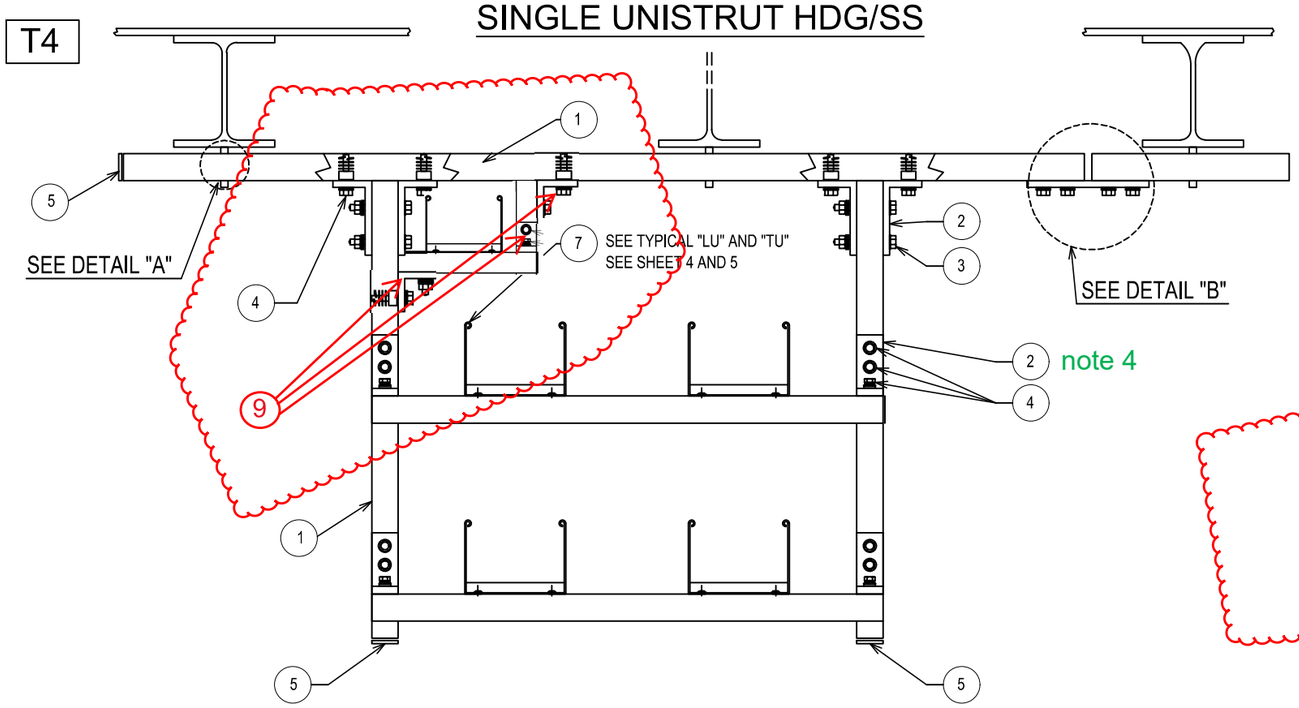
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F.to UNI A3: 420mmx297mm

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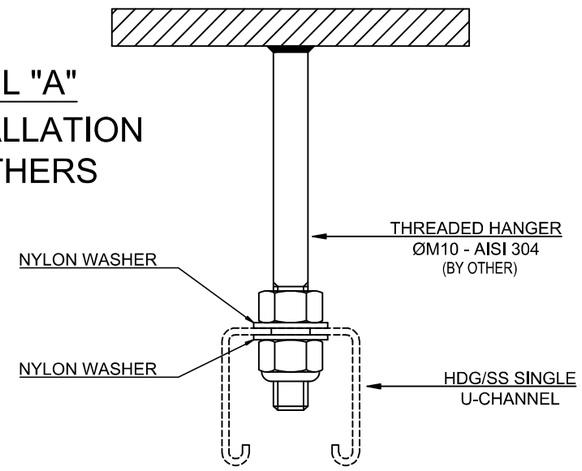
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SINGLE UNISTRUT HDG/SS

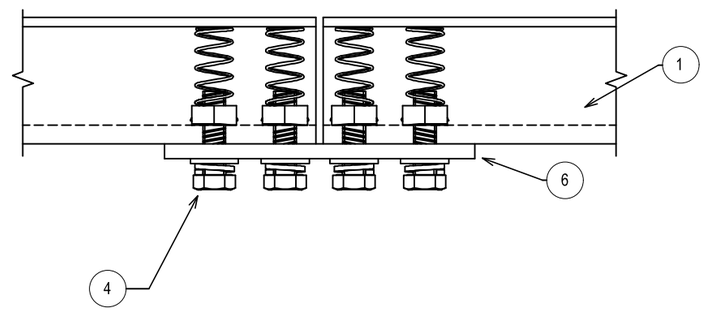


POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
2	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 3 HOLES	AISI 316L		8	
3	HEXAGONAL BOLT COMPLETE WITH PLANE WASHERS, GROWER AND NUT	AISI 316L	M10x70	4	
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	~~M10~~ M12	16	
5	PLUG FOR U-CHANNEL	LPDE		AS R	
6	CONNECTION PLATE (4 HOLES)	AISI 316L		AS R	
7	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
8	DOUBLE SLOT CROWNED HEAD SCREW C/W PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x20	AS R	
9	PLATE FOR ORTHOGONAL TRASVERSAL CONNECTION WITH 2 HOLES	AISI 316L		3	

DETAIL "A"
INSTALLATION
BY OTHERS



DETAIL "B"



4) ALTERNATIVELY, USE PLATE FOR CONNECTION WITH 2 HOLES

NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) FOR DISTANCE BETWEEN CABLE LADDERS/TRAYS, SEE SEGREGATION DISTANCES DETAIL ON SHEET 003.
3) THIS TYPICAL SHALL BE USED ONLY FOR INDOOR INSTALLATION.

TYPICAL VALID INSIDE TECHNICAL ROOMS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

02

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY FIXING TO WELDED THREADED HANGER WITH U-CHANNEL

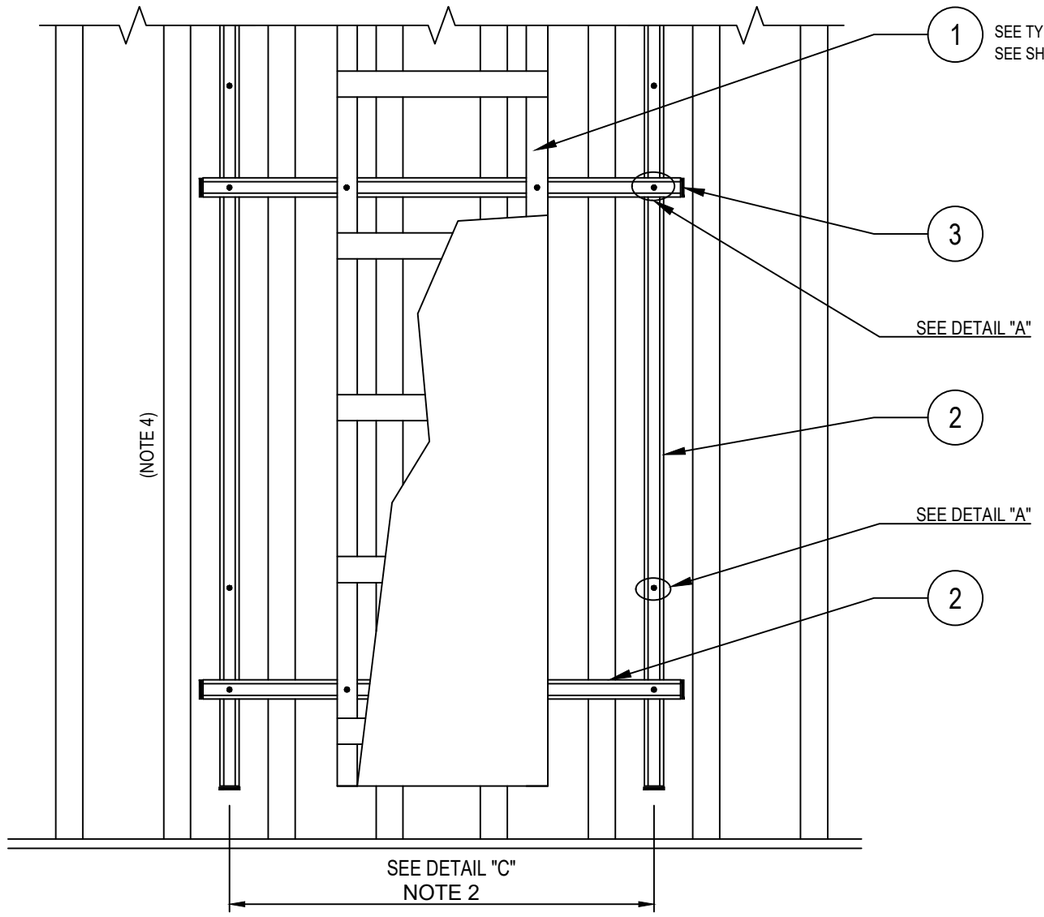
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

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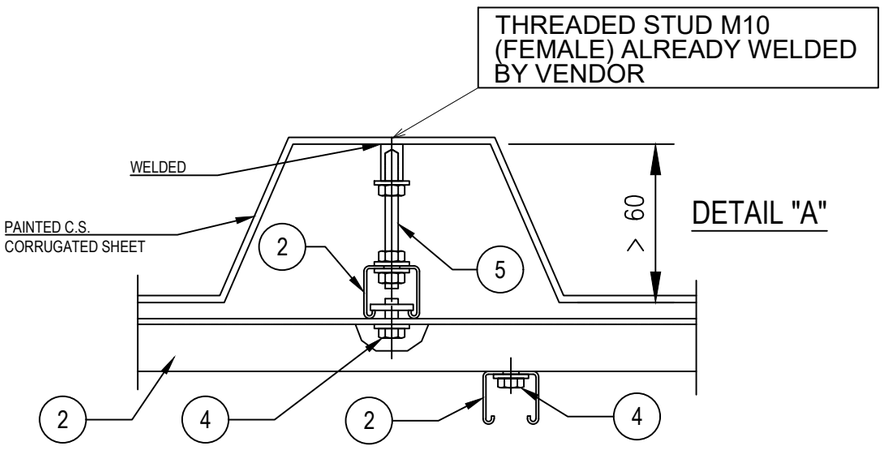
F.to UNI A3: 420mmx297mm

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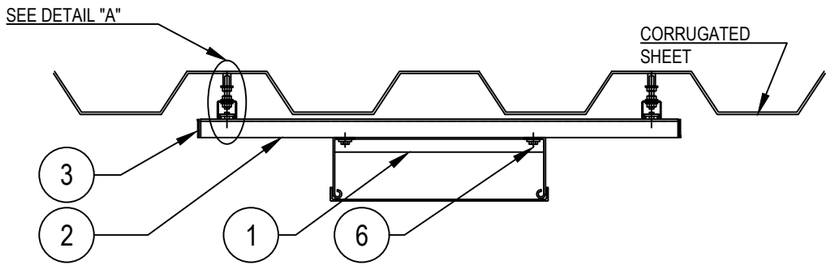
T7



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	CABLE LADDER OR PERFORATED TRAY	AISI 316L			
2	SINGLE U-CHANNEL PERFORATED	AISI 316L	41x41x2		NOTE 1
3	PLUG FOR U-CHANNEL	LPDE			
4	HEXAGONAL BOLT COMPLETE WITH LARGE PLANE WASHER, NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M10x30		
5	THREADED ROD M10 (L=110mm) COMPLETE WITH PLANE WASHER, LARGE PLANE WASHERS, SPRING WASHER AND NUTS	AISI 316L	M10x110		



DETAIL "C"



NOTES:
1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY FASE.
2) THE DISTANCE BETWEEN SUPPORTS SHALL BE DEFINED ACCORDING TO THE SIZE OF THE CABLE LADDER AND TYPE OF CORRUGATED SHEET

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20093**

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	05/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	29/04/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

02

CROSSWIND

ROSETTI MARINO

TITLE : 02 BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-CABLE ROUTES SYSTEM
CABLE WAY WITH NELSON STARTER ON SHELTER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20093 | SHEET 014 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20093_02.DWG

DESIGN DATA - *CABLE TRAYS LADDER TYPE FOR EXTERNAL INSTALLATION - GREY COLOUR*

TYPE	☑ Ladder	☐ Tray with simple ribs	☐ Tray with rimmed ribs		
	Thickness 5mm (*)	BENDING RADIUS:	☑ 300mm	☐ 500mm	
	☑ Cover	☐ Cover spacer	☐ Whitout Cover		
	Thickness 5mm (*)				
MATERIAL	☐ Galvanized steel	☐ Stainless steel	☐ Light alloy	☑ FRP (3)	☐ AISI 316L
SURFACE PROTECTION	Galvanized	☐ before machined (ex. with "Sendzimir" process)	☐ after machined		
	☐ Surface clean and polished from any welding and working residual				
	☐ Painting				
	Colour:	☑ Grey RAL 7035	☐ blue RAL 5012	☐	
	Cycle:				

POS.	DIMENSIONS (6)		a	b	c	d	e	f	g	h	i	l		
	Total External height	H	100	100	100									Manufacturer: Oglaend Supplier: HILTI Series: FOE100 P.O.
	Working internal width	W	300	450	600									
	Working internal width (reducer)	W1												
	DESCRIPTION	**FIG. (7)**	**QUANTITY (8)**											
1	Straight section Y = 3000 mm	A												
2	Straight section Y = mm													
3	Plane 90 degree bend	B												
4	Plane 45 degree bend	C												
	Plane 30 degree bend													
5	"T" junction	D												
6	Cross junction	E												
7	Single element for vertical bend	F												
8	Plane left-hand reducing section	G												
9	Plane simmetric reducing section	H												
10	Plane right-hand reducing section	I												
11	Elbow Inside 30°													
12	Elbow Outside 30°													
13	Elbow Inside 45°													
14	Elbow Outside 45°													
15	Elbow Inside 90°													
16	Elbow Outside 90°													
17														
18	Horizontally hinged joint	L												
19	Vertically hinged joint (note 6)	M												
20														
21	Separators													

NOTES :

6) Dimensions in millimeters

7) Reference to sheet 6

8) For quantities please refer to sheet 9 Cable Trays Material Take-OFF

9) FRP = Fiberglass Reinforced Plastic

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CABLE TRAYS LADDER TYPE - FIGURES

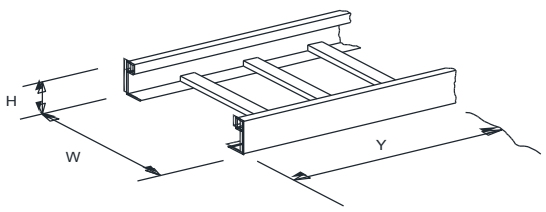


Fig. A
STRAIGHT ELEMENT

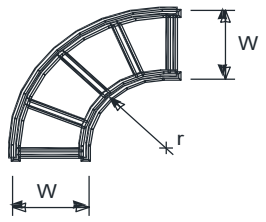


Fig. B
PLANE 90° BEND

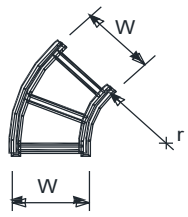


Fig. C
PLANE 45° BEND

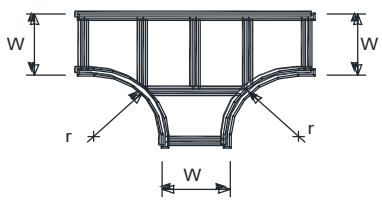


Fig. D
TEE JUNCTION

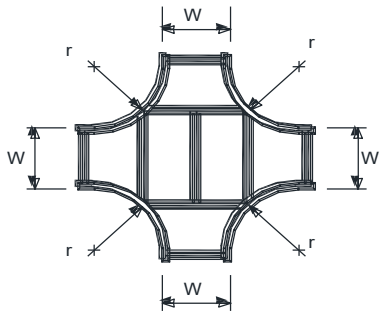


Fig. E
CROSS JUNCTION

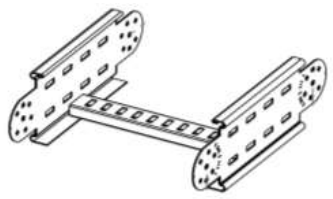


Fig. F
SINGLE ELEMENT FOR VERTICAL BENDS

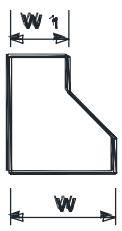


Fig. G
PLANE LEFT - HAND REDUCING SECTION



Fig. H
PLANE SYMMETRIC REDUCING SECTION



Fig. I
PLANE RIGHT - HAND REDUCING SECTION

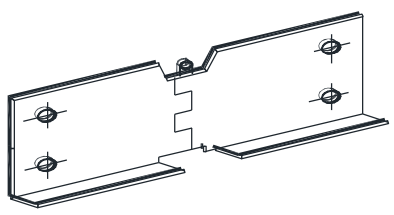


Fig. L
HORIZONTAL HINGED JOINT

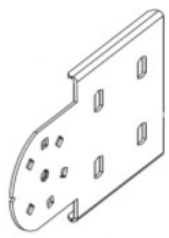


Fig. M
VERTICAL HINGED JOINT

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DESIGN DATA - *CABLE TRAY PERFORATED TYPE FOR EXTERNAL INSTALLATION - GREY COLOUR*

TYPE	☑ Perforated	☐ Tray with simple ribs	☐ Tray with rimmed ribs	
	Thickness 5mm (*)	BENDING RADIUS:	☑ 300mm	☐ Adjustable elbow
	☑ Cover	☐ Cover spacer	☐ Whitout Cover	
	Thickness 5mm (*)			
MATERIAL	☐ Galvanized steel	☐ Stainless steel	☐ Light alloy	☑ FRP ☐ AISI 316L
SURFACE PROTECTION	Galvanized ☐ before machined (ex. with "Sendzimir" process)			☐ Hot dip Galvanized after machined - 50 µm
	☐ Surface clean and polished from any welding and working residual			
	☐ Painting			
	Colour: ☑ Grey RAL 7035	☐ blue RAL 5012	☐	
	Cycle:			

POS.	DIMENSIONS (6)		a	b	c	d	e	f	g	h	i	l		
	Total External height	H	50	80	80									Manufacturer: Oglaend Supplier: HILTI Series: FTE80 P.O.
	Working internal width	W	50	150	200									
	Working internal width (reducer)	W1												
	DESCRIPTION	**FIG. (7)**	**QUANTITY (8)**											
1	Straight section Y = 3000 mm	A												
2	Straight section Y = mm													
3	Plane 90 degree bend	B												
4	Plane 45 degree bend	C												
	"T" junction													
5	Vertical convex 90° Bend	D												
6	Vertical concave 90° Bend	E												
7	Plane left-hand reducing section	F												
8	Plane simmetric reducing section	G												
9	Plane right-hand reducing section	H												
10		I												
11														
12														
13														
14														
15														
16														
17														
18	Horizontally hinged joint	L												
19	Vertically hinged joint	M												
20														
21	Separators													

NOTES :

6) Dimensions in millimeters
7) Reference to Sheet 9
8) For quantities please refer to sheet 9 Cable Trays Material Take-OFF
9) FRP = Fiberglass Reinforced Plastic

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CABLE TRAYS PERFORATED TYPE - FIGURES

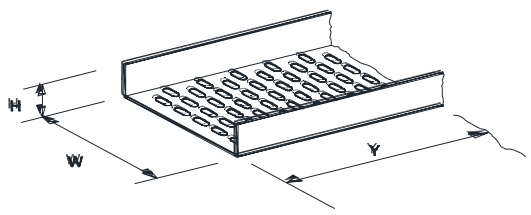


Fig. A
STRAIGHT ELEMENT

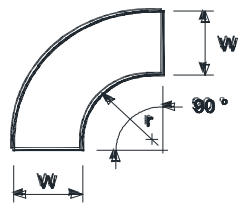


Fig. B
PLANE 90° BEND

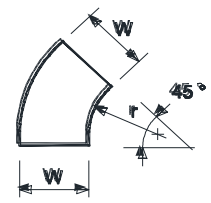


Fig. C
PLANE 45° BEND

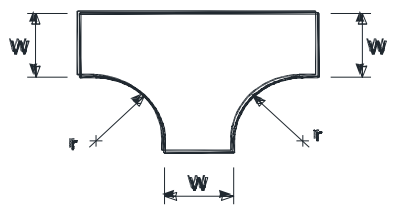


Fig. D
TEE JUNCTION

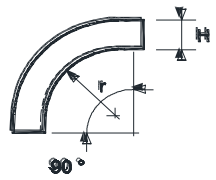


Fig. E
VERTICAL CONVEX 90° BEND

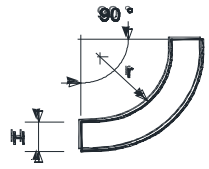


Fig. F
VERTICAL CONCAVE 90° BEND

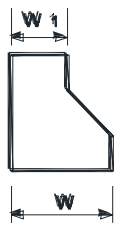


Fig. G
PLANE LEFT - HAND REDUCING SECTION



Fig. H
PLANE SYMMETRIC REDUCING SECTION

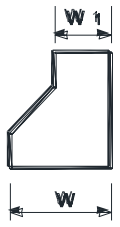


Fig. I
PLANE RIGHT - HAND REDUCING SECTION

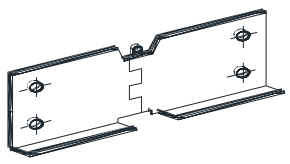


Fig. L
HORIZONTAL HINGED JOINT

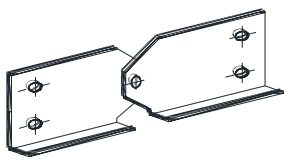


Fig. M
VERTICAL HINGED JOINT

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INSTRUMENT CABLE TRAYS MTO				
S.No	**Description**	**U.M.**	**Rev. 00**	**Rev. 01**
Perforated Cable Tray 50(W)x50(H), R=300, Grey, Complete with Cover				
1	Straight elements	m	1338	1338
2	Bends 45°	N.	-	8
3	Inside Risers 90°	N.	-	3
4	Outside Risers 90°	N.	-	14
Perforated Cable Tray 150(W)x80(H), R=300, Grey, Complete with Cover				
5	Straight elements	m	453	453
6	Bends 45°	N.	7	12
7	Bends 90°	N.	40	40
8	Inside Risers 90°	N.	18	18
9	Inside Risers 45°	N.	6	6
10	Outside Risers 90°	N.	25	25
11	Outside Risers 45°	N.	3	3
12	"T"	N.	-	3
Perforated Cable Tray 200(W)x80(H), R=300, Grey, Complete with Cover				
13	Straight elements	m	480	480
14	Bends 90°	N.	22	22
15	Bends 45°	N.	10	12
16	Inside Risers 90°	N.	6	8
17	Inside Risers 45°	N.	12	12
18	Outside Risers 90°	N.	6	14
19	Outside Risers 45°	N.	12	12
Ladder Cable Tray 300(W)x100(H)), R=300, Grey, Complete with Cover				
20	Straight elements	m	111	111
21	Bends 90°	N.	7	7
22	Inside Risers 90°	N.	8	8
23	Outside Risers 90°	N.	4	4
24	"T"	N.	3	3
Ladder Cable Tray 450(W)x100(H)), R=300, Grey, Complete with Cover				
25	Straight elements	m	18	99
26	Bends 90°	N.	-	5
27	Bends 90°, Radius 500mm	N.	2	2
Ladder Cable Tray 600(W)x100(H)), R=300, Grey, Complete with Cover				
28	Straight elements	m	171	171
29	Bends 45°	N.	3	3
30	Inside Risers 90°	N.	2	2
31	Inside Risers 45°	N.	3	3
32	Outside Risers 90°	N.	4	4
33	Outside Risers 45°	N.	3	3
34	Reducer 600X450	N.	-	1
Accessories				
35	Divider straight elements, 45(H)	m	87	120
36	Divider for bend elements, 45(H)	m	15	15
37	Divider for riser elements, 45(H)	m	15	15
38	Fixing Clamps	N.	(1)	(1)
Notes 1) Vendor shall estimate fixing clamp quantities				

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Section 7 MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE

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Section 8 MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE

NOT APPLICABLE

Section 9 MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE

NOT APPLICABLE

Section 10 MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE

NOT APPLICABLE

Section 11 MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE

NOT APPLICABLE

Section 12 FAT / VENDOR REPORTS

NOT APPLICABLE

Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE