



TEST REPORT

Cover page

HELES2506000494-1

SGS Fimko Ltd

Takomotie 8

FI-00380 Helsinki, Finland

t. +358 9 696 361 www.sgs.com

Business ID 0634247-4

Member of the SGS Group (SGS SA)

TEST REPORT EN 50085-1 and EN 50085-2-1 Part 1:Cable trunking systems and cable ducting systems for electrical installations Part 2-1:Particular requirements for cable trunking systems and cable ducting systems intended for mounting on walls and/or ceilings	
Report Number.:	HELES2506000494-1
Date of issue	2025-09-19
Total number of pages.....:	20
Applicant's name.....:	MP Bolagen Industri AB
Address	Box 3, Storgatan 25 D, SE-57421 Vetlanda, Sweden
Test specification:	
Standard	EN 50085-1:2005 + A1:2013 and EN 50085-2-1:2006 + A1:2011
Test procedure	FI Scheme
Non-standard test method.....:	N/A
Test Report Form No.....:	EN 50085-2-1e2023
Test Report Form(s) Originator	SGS Fimko
Master TRF	Dated 2023-02
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Test item description	Cable trunking system (CTS)
Trade Mark	DUCTEL
Manufacturer.....:	MP Bolagen Industri AB Box 3, Storgatan 25 D, SE-57421 Vetlanda, Sweden
Model/Type reference	Ductel series
Ratings	IP20, material: Al 230/400V for electrical components used inside the cable trunking system

Testing procedure and testing location:		
☒	CB Testing Laboratory:	SGS Fimko Ltd. 
Testing location/ address		Takomotie 8, FI-00380 Helsinki, Finland
☐	Associated CB Testing Laboratory:	N/A
Testing location/ address		-
Tested by (name + signature)		Vesa Haapaoja Testing Engineer 
Approved by (name + signature)		Janne Rauta Senior Testing Engineer 
☐	Testing procedure: TMP	N/A
Testing location/ address		-
Tested by (name + signature)		-
Approved by (name + signature)		-
☐	Testing procedure: WMT	N/A
Testing location/ address		-
Tested by (name + signature)		-
Witnessed by (name + signature)		-
Approved by (name + signature)		-
☐	Testing procedure: SMT	N/A
Testing location/ address		-
Tested by (name + signature)		-
Approved by (name + signature)		-
Supervised by (name + signature) ..		-

List of Attachments (including a total number of pages in each attachment):

Attachment 1 (21 pages): Photographic documentation.
Attachment 2 (1 page): Clause 10.2 and 10.4 test results

Summary of testing:

Tests performed (name of test and test clause):

All relevant tests performed on all samples.

Testing location:

SGS CBTL (see page 2)

Summary of compliance with National Differences

List of countries addressed:

Norway, Sweden (no national differences)

☒ **The product fulfils the requirements of EN 50085-1:2005 + A1:2013 and EN 50085-2-1:2006 + A1:2011**

Copy of marking plate**Product:**

BOLAGEN REDUCED 

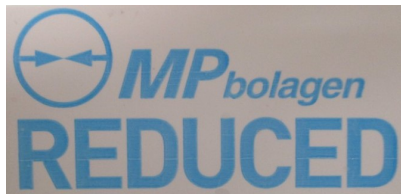
TB1010-3 EN 50085-1

16A 400V

UP

25-6-10

CE   

Package:

Test item particulars.....:	
According to material.....:	Metallic (Al)
According to resistance to impact (IK-code)	-
According to temperatures:	
- minimum storage and transport temperature	-45 °C
- minimum installation and application temperature	-25 °C
- maximum application temperature	+90 °C
According to flame propagation.....:	Non-flame propagating
According to electrical continuity characteristic:	with electrical continuity characteristic
According to electrical insulating characteristic:	without electrical insulating characteristic
According to degrees of protection (IP-code)	IP20
According to protection against corrosive or polluting substances.....:	with medium protection outside and inside
According to the system access cover retention ...:	access cover, which can be opened without a tool
According to electrically protective separation	without internal protective partition
According to position when surface mounted.....:	wall
According to intended installation positions	surface
According to the prevention of contact between liquids and insulated conductors and live parts in case of CTS/CDS mounted in a skirting position and wet-treatment floor.....:	Installation min. 10 mm above floor
According to the functions provided.....:	-
According to resistance to compression for CDS.:	-
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item	2025-07-24
Date (s) of performance of tests	2025-08-20 – 2025-09-18

General remarks:

The test results presented in this report relate only to the object tested.

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"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

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Manufacturer’s Declaration per sub-clause 4.2.5 of IECCE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

☐ Yes

☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : MP Bolagen Industri AB

Barkvägen 7, Ekenässjön

SE-57491, Vetlanda, Sweden

General product information:

Trunking models of DUCTEL series:

TB 1010-1

Wall trunking 100/80x65 mm 3 m

E-NO — MP-NO TB1010-1

Wall trunking TB1010 – 3 m - natural anodised. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. This trunking can be installed with the cantilever arm TBE5. The back profile has holes for easier mounting.

SURFACE	Natural anodised
HEIGHT	100
MODEL	Surface mounted

TB 1010-3

Wall trunking 100/80x65 mm 3 m

E-NO — MP-NO TB1010-3

Wall trunking TB 1010 – 3 m - white finish. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. This trunking can be installed with the cantilever arm TBE5. The back profile has holes for easier mounting.

SURFACE	RAL 9010
HEIGHT	100
MODEL	Surface mounted

TB 1032-3

Recessed trunking 125(100)x65 mm 3 m

E-NO — MP-NO TB1032-3

Wall trunking for recessed installation in the wall. 3 m - white finish. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. Installation dimensions: 100x65 mm. Hole in back of profile.

SURFACE	RAL 9010
HEIGHT	125
MODEL	Recessed

TB 1040-1

Wall trunking 100/45x65 mm 3 m

E-NO — MP-NO TB1040-1

Wall trunking TB 1040 – 3 m - natural anodised. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. This trunking can be installed with the cantilever arm TBE5. The back profile has holes for easier mounting.

SURFACE	Natural anodised
HEIGHT	100
MODEL	Surface mounted

TB 1040-3

Wall trunking 100/45x65 mm 3 m

E-NO — MP-NO TB1040-3

Wall trunking TB 1040 – 3 m - white finish. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. This trunking can be installed with the cantilever arm TBE5. The back profile has holes for easier mounting.

SURFACE	RAL 9010
HEIGHT	100
MODEL	Surface mounted

TB 1210-3

Wall trunking 120/80x60 mm 3 m

E-NO — MP-NO TB1210-3

Wall trunking - white, length: 3 m with 80 mm opening for installation at e.g. door frames or black boards. The cable area can be divided into sections with an intermediate shelf. There are slots in the trunking for earthing clamp TBM 1. This trunking cannot be installed with the cantilever arm.

SURFACE	RAL 9010
HEIGHT	120
MODEL	Surface mounted

TB 1310-1

Wall trunking 135/80x65 mm 3 m

E-NO — MP-NO TB1310-1

Wall trunking TB 1310 – 3 m - natural anodised. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile.

SURFACE	Natural anodised
HEIGHT	135
MODEL	Surface mounted

TB 1310-3

Wall trunking 135/80x65 mm 3 m

E-NO — MP-NO TB1310-3

Wall trunking TB 1310 – 3 m - white finish. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile.

SURFACE	RAL 9010
HEIGHT	135
MODEL	Surface mounted

TB 1332-3

Recessed trunking 148(123)x65mm 3 m

E-NO — MP-NO TB1332-3

Wall trunking for recessed installation in the wall. 3 m - white finish. The cable area can with help of an intermediate shelf be divided into sections. There are slots in the trunking for earthing clamp TBM 1. Installation dimensions: 123x65 mm. Hole in back of profile.

SURFACE	RAL 9010
HEIGHT	148
MODEL	Recessed

TB 1340-1

Wall trunking 135/2-45x65 mm 3 m

E-NO — MP-NO TB1340-1

Wall trunking TB 1340 – 3 m - natural anodised. The cable area can be divided into sections with TDH intermediate shelf. There are slots in the trunking for earthing clamp TBM 1.

SURFACE	Natural anodised
HEIGHT	135
MODEL	Surface mounted

TB 1340-3

Wall trunking 135/2-45x65 mm 3 m

E-NO — MP-NO TB1340-3

Wall trunking TB 1340 – 3 m - white finish. The cable area can be divided into sections with TDH intermediate shelf. There are slots in the trunking for earthing clamp TBM 1.

SURFACE	RAL 9010
HEIGHT	135
MODEL	Surface mounted

TB 1710-1

Wall trunking 170/80x65 mm 3 m

E-NO — MP-NO TB1710-1

Wall trunking TB 1710 – 3 m - natural anodised. The cable area can be divided into sections with TDH intermediate shelf. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile.

SURFACE	Natural anodised
HEIGHT	170
MODEL	Surface mounted

TB 1710-3

Wall trunking 170/80x65 mm 3 m

E-NO — MP-NO TB1710-3

Wall trunking TB 1710 – 3 m - white finish. The cable area can be divided into sections with TDH intermediate shelf. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile.

SURFACE	RAL 9010
HEIGHT	170
MODEL	Surface mounted

TB 1740-1

Wall trunking 170/45-80x65 mm 3 m

E-NO — MP-NO TB1740-1

Wall trunking TB 1740 – 3 m - natural anodised. The trunking is installed on cantilever arms with the 80 mm slot upwards. The partition wall has a punched hole pattern of 50x21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1 and dividers TDH1 and TDH2. Hole in back of profile.

SURFACE	Natural anodised
HEIGHT	170
MODEL	Surface mounted

TB 1740-3

Wall trunking 170/45-80x65 mm 3 m

E-NO — MP-NO TB1740-3

Wall trunking TB 1740 3 m - white finish. The trunking is installed on cantilever arms with the 80 mm slot upwards. The partition wall has a punched hole pattern of 50x21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1 and dividers TDH1 and TDH2. Hole in back of profile.

SURFACE	RAL 9010
HEIGHT	170
MODEL	Surface mounted

TB 2210-1

Wall trunking 220/2x80x65 mm 3 m

E-NO — MP-NO TB2210-1

Wall trunking TB 2210 – 3 m - natural anodised. The cable area can be divided into sections with TDH intermediate shelf. The partition wall has a punched hole pattern of 50x21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile.

SURFACE	Natural anodised
HEIGHT	220
MODEL	Surface mounted

TB 2210-3 Wall trunking 220/2x80x65 mm 3 m E-NO — MP-NO TB2210-3 Wall trunking TB 2210 – 3 m - white finish. The cable area can be divided into sections with TDH intermediate shelf. The partition wall has a punched hole pattern of 50x21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile. SURFACE RAL 9010 ↕ HEIGHT 220 ↕ MODEL Surface mounted ↕	TB 2240-1 Wall trunking 220/2x45-80x65 mm 3 m E-NO — MP-NO TB2240-1 Wall trunking TB 2240 – 3 m - natural anodised. The partition walls have a punched hole pattern of 50x 21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile. SURFACE Natural anodised ↕ HEIGHT 220 ↕ MODEL Surface mounted ↕	TB 2240-3 Wall trunking 220/2x45-80x65 mm 3 m E-NO — MP-NO TB2240-3 Wall trunking TB 2240 – 3 m - white finish. The partition walls have a punched hole pattern of 50x 21 mm c-c spacing 320 mm. There are slots in the trunking for earthing clamp TBM 1. Hole in back of profile. SURFACE RAL 9010 ↕ HEIGHT 220 ↕ MODEL Surface mounted ↕	TB 1310-30 Wall trunking 135/80x65 mm 3 m E-NO — MP-NO TB1310-30 Wall duct in recycled aluminum. The material is 77.1% recycled consumer scrap and is manufactured using only fossil-free energy sources. The cable space can be divided into sections using a middle shelf. The duct has tracks for TBM 1 earthing plates. SURFACE NCS 0500 N ↕ HEIGHT 135 ↕ MODEL Surface mounted ↕												
Accessories: Corner TBC-series Ceiling frame TBCF-series End plate TBP-series Cover TB-series Wall bracket TBE-series Adjusting piece TBE-series Panel and panel clip TBE-series Wall collar TBO-series Jointing collar TBL-series Jointing piece TBJ 1 Sound absorber XTBO 304 Sound absorber XTBO 308 Mounting box TBF 1 Mounting box TBF 2 Mounting box XTBF 1211 Partition TDH 1 Strain relief TBF 11 Fitting ring TBF 12 Fastening clamp TBK 1 Earthing clamp TBM 1															
Suitable outlets for Ductel cable trunkings:															
<table><tr><th>Type</th><th>Manufacturer</th></tr><tr><td>DUCT-serie</td><td>MP bolagen</td></tr><tr><td>AUD10</td><td>ABB</td></tr><tr><td>AUD11</td><td>ABB</td></tr><tr><td>AUD12</td><td>ABB</td></tr><tr><td>AUD13</td><td>ABB</td></tr></table>				Type	Manufacturer	DUCT-serie	MP bolagen	AUD10	ABB	AUD11	ABB	AUD12	ABB	AUD13	ABB
Type	Manufacturer														
DUCT-serie	MP bolagen														
AUD10	ABB														
AUD11	ABB														
AUD12	ABB														
AUD13	ABB														
Representative samples were selected for testing.															
Tested types: TB 1010-1, TB 1010-3, TB 1040-3, TB 1210-3, TB 1310-3, TB 1332-3, TB 1340-3, TB 1710-3, TB 1740-3, TB 2210-1, TB 2210-3, TB 2240-3, TB 1310-30															

7	MARKING AND DOCUMENTATION		
7.1	Each system component shall be marked with:		
	The enclosure shall be marked as follows:		
	The manufacturer's / responsible vendor's name / trade mark / identification mark		P
	Product identification mark		P
	Certain system components supplied in a package: product identification mark may be marked on the package only		P
	Earthing terminals shall be indicated by the symbol		P
7.2	Marking shall be durable and easily legible		
	Compliance is checked by inspection and for marking on the product, in addition, by rubbing the marking for 15 s with a piece of cotton cloth soaked with water and again for 15 s with a piece of cotton cloth soaked with petroleum spirit.		P
	After rubbing test, the marking shall be legible.		P
7.3	The manufacturer shall provide in his documentation all information necessary for the proper and safe installation and use. It shall include		
	- components of the system;		P
	- function of the system components and their assemblies;		P
	- classification of the system in accordance with clause 6;	See page 4	P
	- for type 1 CTS/CDS the list of functions;		N/A
	- linear impedance, in Ω/m , of trunking length or ducting length of system declared according to 6.5.1;	Measured according to section 11.1	P
	- rated voltage of CTS/CDS declared according to 6.6.2;		P
	- usable cross sectional area, in mm^2 , for cables of the CTS/CDS		P
	- instructions to reach the declared classification and functions of the system		P
7.4	If symbols are used they shall comply with IEC 60417 database.		P
8	DIMENSIONS		
	Not applicable		N/A
9	CONSTRUCTION		
9.1	Sharp edges		
	Any surface or edge shall not damage the insulated conductors or cables		P
	Screws, studs or other securing devices provided shall be fitted so as not to damage the insulated conductors or cables		P
9.2	Apparatus mounting		
	If the CTS/CDS is provided with means for the mounting of apparatus, these means shall adequately secure this apparatus		P
9.3	Means for protective separation and/or retention		
	If the CTS/CDS is provided with means for the protective separation and/or retention, these means shall have adequate mechanical performance to fulfil their function.		P

9.4	Mechanical connections		
	Screwed connections and other mechanical connections shall withstand the mechanical stresses during installation and normal use		P
	Screws shall be one or more of the following:		
	a) ISO-metric threads;		P
	b) thread forming type;		P
	c) thread cutting type if suitable design provisions are made;		N/A
	d) threads other than a) to c) as specified by the manufacturer		N/A
	Mechanical connections of CTS used to allow the laying in of insulated conductors or cables or relocation of an apparatus shall be intended for re-use		P
9.4.1	Screws intended for re-use shall be tightened and removed:		
	- 10 times for metal screws in engagement with a thread of non-metallic material and for screws of non-metallic material		N/A
	- 5 times in all other cases		P
	The test is carried out using torque, as specified by the manufacturer. In case the manufacturer does not specify the torque, the values of table 4 apply	The screws of the connecting piece: 0,8 Nm Earthing terminal: 0,4 Nm	P
	After test there shall be no damage that will impair the further use of the screwed connection		P
9.4.2	Mechanical connections intended for re-use other than screwed connections, shall be fitted and removed 10 times		N/A
	After the test there shall be no damage to impair the further use of the mechanical connection		N/A
9.4.3	Mechanical connections not intended for re-use are checked by inspection		N/A
9.5	Accessible conductive parts		
	Accessible conductive parts of CTS/CDS shall comply with 9.5.1 unless they comply with 9.5.2		
9.5.1	Accessible conductive parts of CTS/CDS which are likely to become live in the event of an insulation fault, shall have the provision for reliable connection to earth		P
	If precautions are taken in order to prevent creepage distances and clearances from becoming less than 3 mm, even if a conductor should become loose from its terminal, the accessible conductive part is not considered likely to become live		P
	Protection against electric shock in case of a fault may be omitted for accessible conductive parts which, owing to their reduced dimensions or their disposition, cannot be gripped or come into significant contact with a part of the human body and provided that connection with a protective conductor could only be made with difficulty or would be unreliable		P
9.5.2	Accessible conductive parts need not have provision for connection to earth if they are insulated from live parts with supplementary or reinforced insulation used to form barriers or linings which shall be designed in such a way that:		
	- they cannot be removed without being permanently damaged or		P
	- they cannot be replaced in an incorrect position or		P

	- if omitted, the system is rendered inoperable or manifestly incomplete		P
9.6	Equipotential bonding		
9.6.1	The manufacturer shall declare if the CTS/CDS can be used for equipotential bonding		P
9.6.2	If there is a provision for bonding, compliance is checked by the tests of 11.1.2. Before the test the sample is subjected to conditioning of 11.1.1	Must use separate earthing connector.	P
9.7	Access to live parts		
9.7.1	When CTS/CDS are installed and fitted with apparatus and/or other electrical equipment as in normal use, live parts are not accessible		P
9.7.2	Test probe B is applied in every possible position		P
9.7.3	Non-metallic and composite system components, following additional test is carried out at the temperature declared according to table 3		N/A
	Sample is subjected for 1 min to a force of 50 N applied through the tip of test probe 11		N/A
	System components and their associated fixing devices shall not deform to such an extent that live parts can be touched with the test probe 11		N/A
9.7.4	Knockouts are subjected for 1 min to a force of 10 N applied through the tip of test probe 11		N/A
	During this test, knockouts shall not break		N/A
9.8	Inlet openings		
	Inlet openings shall allow the introduction of conduits and/or like, or the protective covering of the cable at least 1 mm into the system component, in order to maintain the mechanical protection		N/A
	Inlet openings for conduits shall be capable of accepting conduit sizes according to EN 60423:1994		N/A
9.9	Membranes		
9.9.1	Membranes and like which prevent access to live parts shall withstand the mechanical stresses occurring in normal use		N/A
	Manufacturer shall declare dimensions of the cables which may be installed in the entry membranes		N/A
9.9.2	Membranes are tested when assembled in the system. The sample is placed for 2 h in a heating cabinet the temperature at the value of table 3		N/A
	30 N is applied for 5 s to various regions of the membrane of test probe 11		N/A
	For membranes likely to be subjected to an axial pull force in normal use, an axial pull force of 30 N is applied for 5 s		N/A
	During this test, the membranes shall not deform to such an extent that live parts become accessible and the membranes shall not become detached		N/A
9.9.3	Entry membranes shall allow the introduction of cables into the system at the minimum installation temperature declared according to table 2		N/A

9.9.4	System component shall be fitted with entry membranes which have not been subjected to any ageing treatment, those without openings being suitably pierced		N/A
	Sample is then kept for 2 h in a refrigerator at the temperature according to table 2		N/A
	It shall be possible to introduce through the entry membranes without undue force, cables having the largest outside dimension as declared		N/A
9.9.5	After tests of 9.9.2 and 9.9.4, the membranes shall show no cracks or similar damages that are likely to impair safety		N/A
9.10	Cable restrainer		
	Cable restrainers shall relieve conductors from strain in terminals or terminations by resisting the pull force on cable or insulated conductors	Trunking system itself does not include cable restrainers. Strain reliefs can be found in accessories, such as in mounting boxes and socket outlets.	N/A
	It shall be clear or indicated in the manufacturer's instructions how the relief from strain is intended to be effected		N/A
	Cable restrainers shall:		
	- be suitable for the different types of cable and the different types and number of insulated conductors according to the manufacturer's instructions		N/A
	- be such that at least part of it is integral with or permanently fixed to a system component		N/A
	- not use makeshift method such as tying cable or insulated conductor in a knot or tying the ends with string		N/A
	- not impair electrical safety		N/A
	Cable restrainer is fitted with a cable of the smallest outside dimension or with insulated conductors		N/A
	Screws are tightened as specified by the manufacturer. Where the manufacturer does not specify the torque the values of table 4 apply		N/A
	An axial pull force of $20 \text{ N} \pm 1 \text{ N}$ is applied for $60 \text{ s} \pm 5 \text{ s}$ to the cable or to each insulated conductor		N/A
	Test repeated with a cable of the largest outside dimension or with insulated conductors		N/A
	After any of the tests:		
	- the longitudinal displacement of the cable or any insulated conductor in the restrainer shall not be more than 2 mm and		N/A
	- electrical safety shall not be impaired		N/A
9.11	Internal protective partition		
	Under consideration		N/A
9.12	Cable anchorage		

	Cable anchorage shall relieve conductors from strain in terminals or terminations by resisting the pull and twist forces on cable	Trunking system itself does not include cable anchorages. Cable anchorages can be found in accessories, such as in mounting boxes and socket outlets.	N/A
	It shall be clear or indicated in the manufacturer's instructions how the relief from strain is intended to be effected		N/A
	Cable anchorage shall:		
	- be suitable for the different types of cable according to the manufacturer's instructions		N/A
	- be such that at least part of it is integral with or permanently fixed to a system component		N/A
	- not use makeshift method such as tying cable in a knot or tying the ends with string		N/A
	- not impair electrical safety		N/A
	Cable anchorage is fitted with a cable of the smallest outside dimension for which it is intended		N/A
	Screws are tightened as specified by the manufacturer. Where the manufacturer does not specify the torque the values of table 4 apply		N/A
	The cable is then subjected 50 times for 1 s to a pull force as specified in table 5		N/A
	Cable is subjected to a torque not less than the relevant value specified in table 5 for 15 s $\pm$ 1 s applied as near as practicable to the cable entry		N/A
	Test is repeated with largest outside dimension for which it is intended		N/A
	After any of the tests:		
	- longitudinal displacement of the cable in the cable anchorage shall not be more than 2 mm and		N/A
	- cable shall not have turned in the cable anchorage more than 2 revolutions and		N/A
	- electrical safety shall not be impaired		N/A
9.101	System components shall fit correctly		P
9.102	Contact between liquids and insulation and live parts		
	CTS/CDS declared according to 6.102.2, 6.102.3, 6.102.4 shall prevent liquids coming into contact with insulated conductor and live parts during wet-treatment of floor		
	Area intended to accommodate insulated conductors is at least 10 mm above the floor due to		
	- design, or		N/A
	- manufacturer's instructions restricting the installation position of the CTS/CDS, or		P
	- manufacturer's instructions allowing all installation positions but restricting the position of insulated conductors and live parts in CTS/CDS		N/A
	In all other cases following test carried out		
	Assembly is made of one or more trunking-or ducting length with relevant system component		N/A

	Assembly is fixed according to manufacturer's instructions to an appropriate support		N/A
	Strip of absorbent paper placed on the lowest internal surface of CTS/CDS		N/A
	Assembly placed in a tray which containing water 10 mm for 15 s		N/A
	Within 5 min lengths of wet areas are measured		N/A
	Length of wet area shall be shorter than 50 mm		N/A

10	MECHANICAL PROPERTIES		
10.1	CTS/CDS shall have adequate mechanical strength		
10.2	Cable support test		
10.2.1	General test conditions		
	Length of the test sample 250 mm ± 5mm		P
	Trunking- or ducting length having an external cross section area lower or equal to 500 mm ² do not need to be tested		P
	Sample securely fixed		P
	Within the width of the sample the fixing is made as close as possible to each side wall		P
	If manufacturer's instructions requires use of cable retainers, test carried out using cable retainers		N/A
	Sample subjected to load of 1,0 g/mm ² of the declared usable area for cables	See attachment 2	P
	Pre-load of 10 % of the load is applied and removed after approx. 5 min		P
	No pre-load if CTS/CDS classified in accordance with 6.101.3		N/A
	Insulated conductors/cables of 25 mm ² placed in the sample so that approx.50 % of load is achieved		P
	Insulated conductors 2,5 mm ² are placed on top of the larger cables to achieve the total load within a tolerance of 5 g		P
	Non-metallic and composite trunking or ducting length are tested maximum application temperature declared by manufacturer according to table 3		N/A
	Load applied for 120 min. After this, deflection is measured at approx. middle of the length		P
10.2.2	Test for wall fixed CTS/CDS		
	Test applies to CTS/CDS declared according to 6.101.3.1 and/or 6.101.3.3		
	Trunking or ducting length mounted as in figure 102		P
	The vertical deflection F is measured:		
	- for rectangular or similar cross section CTS/CDS, on the lower edge as in figure 102a	See attachment 2	P
	- for non rectangular cross section CTS/CDS, as in figure 102b		N/A
	The vertical deflection F not exceed 10 % of external horizontal dimension X, maximum 10 mm	All tested types: F = < 1 mm (10% = 6,5 mm) See attachment 2	P

	Access covers, non removable cable separators and retainers shall remain adequately fixed		P
10.2.3	Test for wall fixed CTS/CDS with removable separator		
	Test applies to CTS/CDS with removable separator and declared according to 6.101.3.1 and/or 6.101.3.3		
	Trunking or ducting length mounted as in figure 103, with one separator in most unfavourable position	TDH1 (+ TB1310-3) TDH1 (+ TB1310-3) See attachment 2	P
	Access covers, non removable cable separators and retainers shall remain adequately fixed		P
10.2.4	Test for ceiling fixed CTS/CDS		N/A
10.2.5	Test for ceiling fixed CTS/CDS with removable separator		N/A
10.3	Impact test		
10.3.1	Impact test for storage and transport		
10.3.1.1	Test is carried out on samples each 250 mm ± 5 mm long	All tested types	P
	Non metallic and composite system components aged at temperature according to table 3 for 168 h		N/A
10.3.1.2	Test apparatus consists of a hammer which falls freely		P
	The following condition are also complied with:		
	- the fall of the hammer is along a guideway, for example a tube, with negligible braking		P
	- the guideway does not rest on the sample		P
	- the mass of the hammer is 0,5 kg + 0,005 / 0 kg and the fall height is 100 mm ± 1 mm		P
	- the intermediate part is made in a steel 20 mm diameter cylinder. Its lower surface has a 300 mm bending radius and its mass is 100 g ± 5 g		P
	Samples are placed in a refrigerator at the temperature declared according to table 1	- 45 °C	P
10.3.1.3	After 2 h, each sample is, in turn, removed from the refrigerator and immediately placed in position in the test apparatus		P
	At 12 s ± 2 s after the removal of the sample from the refrigerator the hammer is allowed to fall so that an impact is applied to the weakest accessible region	Tested in a cold cabinet	P
	This test is not applied to knockouts, membranes and like, and within 50 mm of each end		P
10.3.1.4	After test, samples shall show no signs of disintegration nor shall there be any cracks or similar damages that are likely to impair safety		P
10.3.2	Impact test for installation and application		
	Test is carried out with the impact test values declared according to table 6 and at the temperature declared according to table 2	2 J; -25 °C	P
	Manufacturer may declare the CTS/CDS IK code according to EN 62262		N/A
10.3.2.101	Test is carried out on one or more trunking or ducting length with relevant system component		P

	Non-metallic and composite system components aged at temperature according to table 3 for 168 h		N/A
10.3.2.102	The impact test apparatus according to clause 4 of EN 60068-2-75		P
10.3.2.103	After 2 h, each sample is, in turn, removed from the cabinet and immediately placed in position in the test apparatus		P
	At 12 s $\pm$ 2 s after the removal of the sample from the cabinet impact applied to the weakest accessible region	Tested in a cold cabinet	P
	No impact is applied to knockouts, membranes and the like		P
	No impact is applied to within 50 mm of any open extremity of the sample		P
	Instead of cabinet, impact test in a climatic chamber where samples are placed at the temperature according to table 2 for 2 h	Tested in a cold cabinet	P
10.3.2.104	After test:		
	- the assemblies shall show no cracks or similar damage		P
	- the assemblies shall remain intact		P
10.4	Linear deflection test		
	Applicable only if CTS/CDS declared according to 6.101.4		
	Test sample made of one trunking or ducting length or two jointed trunking or ducting length complying with the following conditions:		
	- length of the assembly is the maximum distance between supports (D) according to the manufacturer's instructions increased 200 mm + 100 mm / 0	D = 1 m	P
	- unless otherwise specified in instructions, the joint is positioned to mid span		P
	Assembly placed on two parallel support		P
	If no manufacturer's instructions provided, test carried out in most unfavourable orientation		N/A
	If no manufacturer's instructions for fixing support are provided, assembly is not fixed to the support		N/A
	Assembly subjected to an evenly distributed load of 1,0 g/mm ² per metre length of the declared usable area for cables	See attachment 2	P
	Load consist of copper cables or flexible insulated conductors which are placed in the sample as in figure 108		P
	25 mm ² cables placed in the sample so that approx.50 % of load is achieved		P
	2,5 mm ² cables are placed on top of the larger cables to achieve the total load within a tolerance of $\pm$ 100 g		P
	Pre-load of 10 % of the load is applied and removed after approx. 5 min		P
	After 1h, load still applied, deflection measured at mid at the spam at the middle at the lower surface		P
	The deflection shall not exceed 1% of the distance between supports		P
	Access covers and cable separators shall remain adequately fixed		P

10.5	External load test		
10.5.1	Fixing test for apparatus mounting of socket-outlets		
	Sample is 250 mm ± 5 mm long or 100 mm ± 5 mm longer than the apparatus mounting device, whichever is the greater	250 mm	P
	If the results are dependent on the temperature, the test is carried out at (60±2)°C		N/A
	Pull and press force of 1,5 times the maximum withdrawal force of the plug for 1 min in the most unfavourable position and direction within an angle 45° ... 90° from the front surface	Schuko: 81 N (TBF-, XTBF-, Duct serie and AUD serie)	P
	Maximum withdrawal force for plug is taken from the relevant standard. When there is no relevant standard, maximum withdrawal force of 50 N is used	81 N	P
	After test, electrical safety shall not be impaired		P
	Apparatus mounting device is subjected to torque of (3,0±0,2) Nm clockwise and anticlockwise, 1 min in each direction		P
	Apparatus mounting device shall not turn more than an angle of 15° from its initial position		P
	After test, electrical safety shall not be impaired		P
10.5.2	Fixing device for apparatus mounting other than socket outlets		
	For other apparatus, pull and press force test is carried out with a force of (50±2) N	50 N	P
10.6	System access cover retention		
	Access cover of system components shall not be capable of being opened without a tool		N/A
	Non-metallic and composite system components aged at temperature according to table 3 for 168 h		N/A
	Without the use of a tool, all reasonable effort shall be made to open the access cover manually		N/A
	After test, access cover shall remain secured		N/A
10.101	Compression test for CDS		N/A
11	ELECTRICAL PROPERTIES		
11.1	Electrical continuity		
	CTS/CDS declared according to 6.5.1 shall have adequate conductivity		
	Tests shall be carried out on samples of minimum length of 1m	1 m	P
	Screwed connections are tightened by torque specified by the manufacturer. In case the manufacturer does not specify the torque, 2/3 of the values of table 4 apply	extension piece: 0,53 Nm	P
11.1.1	All grease is removed from the parts to be tested		P
11.1.2	Electrical impedance test		
	25 A a.c. supplied by a source with a non-load voltage max. 12 V is passed through the four sample and the voltage drop is measured		P
11.1.2.1	Impedance of ducting length or trunking length		
	Test is carried out on one or more of the following samples according to the manufacturer's declaration:		

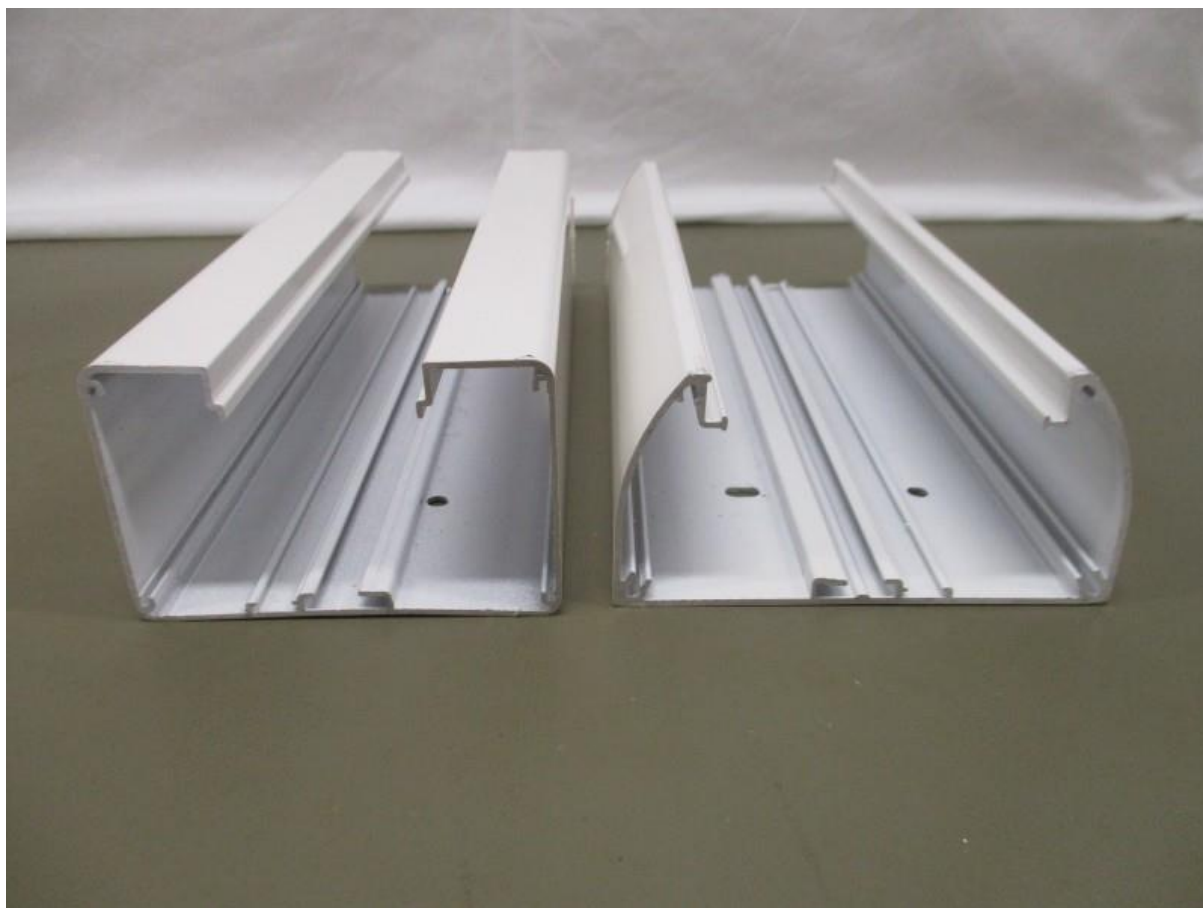
	- ducting length;		N/A
	- base of trunking length;	0,19 mΩ / m	P
	- access cover of trunking length;	0,20 mΩ / m	P
	- trunking length	0,19 mΩ / m	P
	Voltage drop ΔV is measured between two convenient points as in figure 6a		P
	Z_1 shall not be greater than the declared value		P
11.1.2.2	Impedance of a joint		
	Test is carried out on the following samples:		
	- two assembled trunking or ducting lengths;		P
	- trunking length or ducting length assembled with a different system component		N/A
	Voltage drop ΔV is measured as in figure 6b between two convenient points		P
	Z_2 shall not be greater than 50 mΩ	0,12 mΩ	P
11.1.2.3	Impedance of connection between trunking base and access cover		
	If manufacturer declares that system provides appropriate electrical continuity for good earthing, following test is carried out on one of the following samples:		
	- one access cover having a length equal to the smallest length of access cover allowed by the manufacturer's instruction mounted on a base as long as the access cover but at least 100 mm long	According to manufacturer's instruction, separate earthing terminal must be used if trunking cover is earthed.	N/A
	- system component		N/A
	Voltage drop ΔV is measured as in figure 6c		N/A
	Z_3 shall not be greater than 50 mΩ		N/A
11.1.2.4	Impedance of the connection of the earthing terminal or termination		
	Test is carried out on system components fitted or intended to be fitted with earthing terminal or termination		
	The voltage drop ΔV is measured as in figure 6d		P
	Z_4 shall not be greater than 50 mΩ	0,7 mΩ	P
11.2	Electrical insulation		
11.2.1	Solid insulation		
	System components shall be capable of withstanding electrical stress		N/A
	Internal protective partitions shall be capable of withstanding electrical stress		N/A
	Samples are 250 mm $\pm$ 5 mm long. Other system components are tested as supplied		N/A
	Solid insulation is tested in the same way as system components forming part of the enclosure		N/A
11.2.2	Humidity treatment is carried out with relative humidity between 91 – 95 % and temperature between 25 – 30 °C $\pm$ 1 °C		N/A
	Samples are kept in the cabinet for 120 h		N/A
11.2.3	Insulation resistance test		

	Insulation resistance measured of 500 V $\pm$ 25 V d.c. Measurement is made 60 s (+ 10/0) s after the application of the voltage. Insulation resistance shall not be less than 100 M Ω		N/A
11.2.4	Dielectric strength test		
	Voltage of (2 U _n + 1 000) V is applied between electrodes		N/A
	Voltage is maintained for 5 s (+ 1/0) s		N/A
	No flashover or breakdown shall occur during test		N/A
12	THERMAL PROPERTIES		
12.1	Resistance to heat		
	Non-metallic or composite system components shall have adequate resistance to heat		N/A
12.2	Non-metallic or composite system components necessary to retain current-carrying parts in position are subjected to a ball-pressure test		N/A
	Test is carried out in a heating cabinet at a temperature of 125 °C $\pm$ 2 °C for 1 h		N/A
	Diameter of the impression shall not exceed 2 mm		N/A
12.3	Non-metallic or composite system components not necessary to retain current-carrying parts in position, but in contact with them and non-metallic or composite system components which retain parts of the protective earthing circuit, are subjected to the ball-pressure test		N/A
	Test is carried out at a temperature of 70 °C $\pm$ 2 °C		N/A
	Diameter of the impression shall not exceed 2 mm		N/A
13	FIRE EFFECTS		
13.1	Reaction to fire		
13.1.1	Initiation of fire		
	Non-metallic and composite system components shall not initiate fire		
	The glow-wire test is performed under the following conditions:		
	- non-metallic or composite parts necessary to retain current-carrying parts in position, test carried out at a temperature of 850 °C		N/A
	- non-metallic or composite parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, but in contact with them, test carried out at a temperature of 650 °C	Jointing covers and corners	P
	The sample is regarded as having passed the glow-wire test if:		
	- no visible flame and no sustained glowing, or if		P
	- flames or glowing extinguish within 30 s after the removal of the glow-wire		N/A
	No ignition of tissue paper or scorching of board		P
13.1.2	Contribution to fire		
	Non-metallic system components and composite system components shall not actively contribute to fire		
	Glow-wire test performed on all parts at temperature of 650 °C		N/A

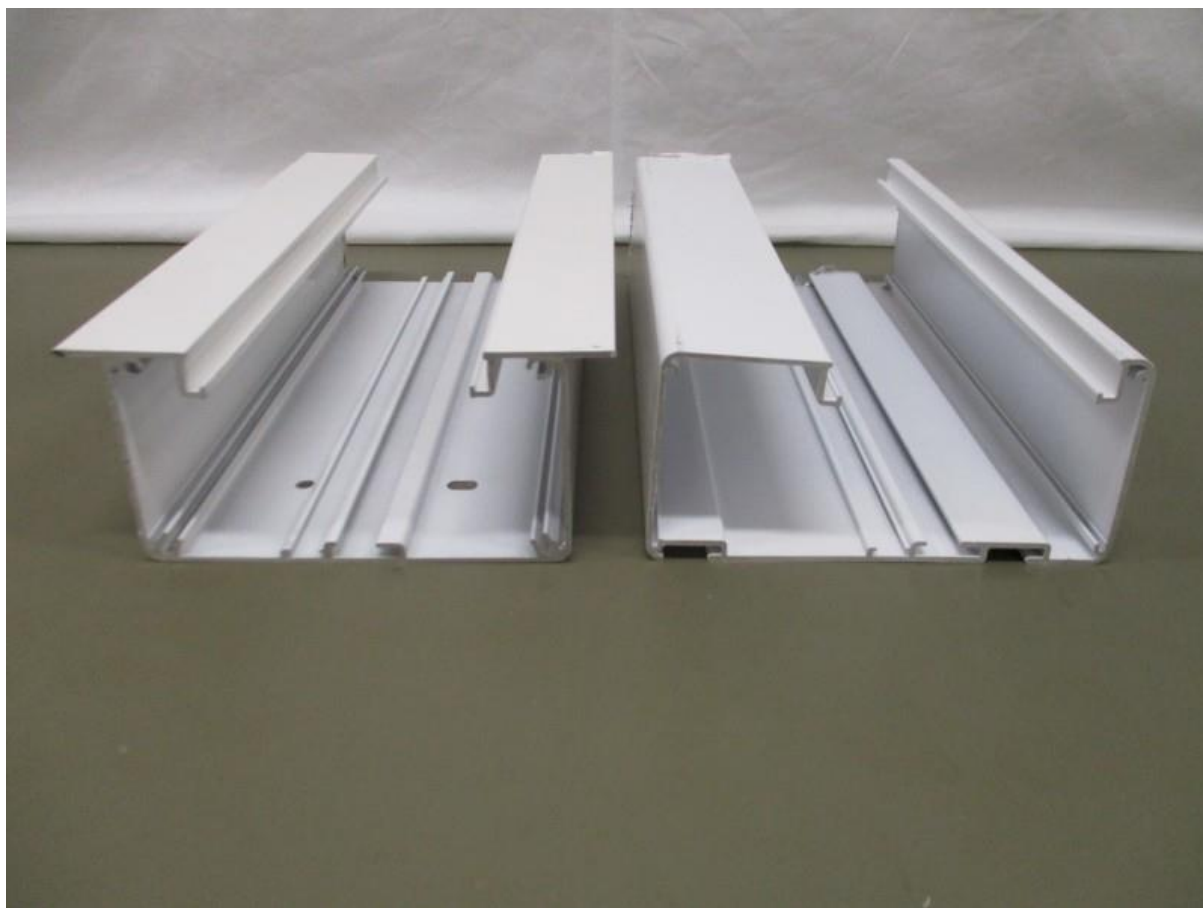
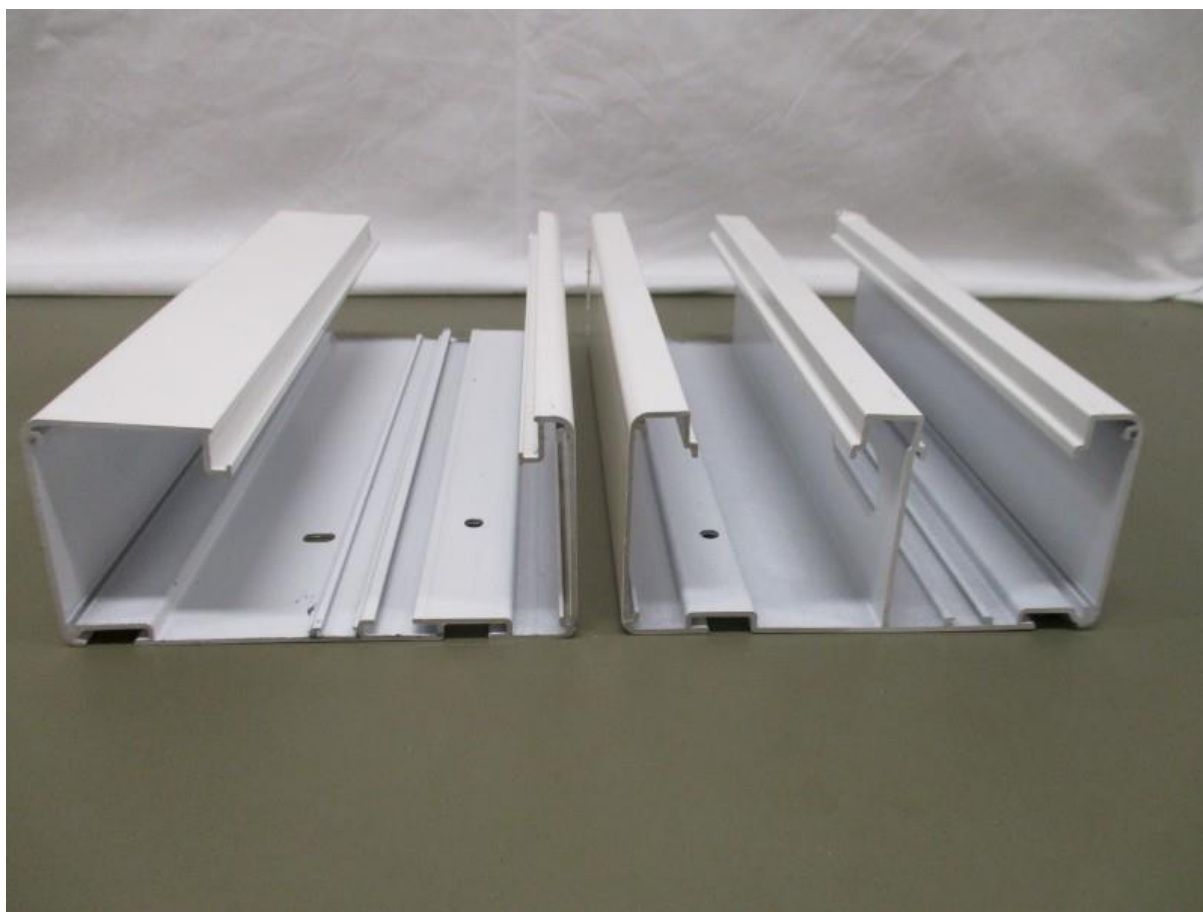
	Parts, which have already been tested at 650 °C or 850 °C, are not tested again at this temperature		N/A
13.1.3	Spread of fire		
	Non-flame propagating CTS/CDS shall either not ignite or if ignited, shall not continue to burn when the source of ignition is removed		
	Non-metallic or metallic system component coated in paint or any other substance, which is likely to affect its resistance to flame propagation, is to be considered as a composite component		N/A
	For trunking or ducting lengths of non-metallic or composite material by the following test:		
	Test carried out with a length of 675 mm ± 10 mm		N/A
	Sample is subjected to the exposure of the flame for 60 s ± 2 s		N/A
	Sample is regarded as having passed the test if:		
	- it does not ignite, or if		N/A
	- in the case of ignition, the following three conditions are fulfilled:		
	1) flame extinguishes within 30 s after removal of flame		N/A
	2) no ignition of wrapping paper or scorching of board		N/A
	3) after wiping of the sample, no evidence of burning or charring above 50 mm below the lower extremity of the upper clamp		N/A
13.1.4	Additional reaction to fire characteristics		
	Under consideration		N/A
13.2	Resistance to fire		
	Under consideration		N/A

14	EXTERNAL INFLUENCES		
14.1	Degree of protection provided by enclosure		
	CTS/CDS shall provide adequate protection according to the classification declared by the manufacturer with a minimum of IP 20	IP20	P
	Sample length 250 mm ± 5 mm		P
	Assemblies are placed in heating cabinet for (168 ± 4) h at the maximum application temperature as declared by the manufacturer according to table 3	+90 °C	P
14.1.1	Protection against ingress of solid foreign objects		
14.1.1.1	For numeral 5 category 2 applies		N/A
14.1.1.2	The assembly tested for numeral 5 or 6 passes the test if there is no ingress of dust		N/A
14.1.2	Protection against ingress of water		
14.1.2.1	For numeral 3 and 4 the oscillating tube is used unless the dimensions of the assembly imply using the spray nozzle apparatus		N/A
14.1.2.2	Assembly tested for numeral 1 and above passes the test if there is no ingress of water in hazardous quantity		N/A
14.1.3	Protection against access to hazardous parts		

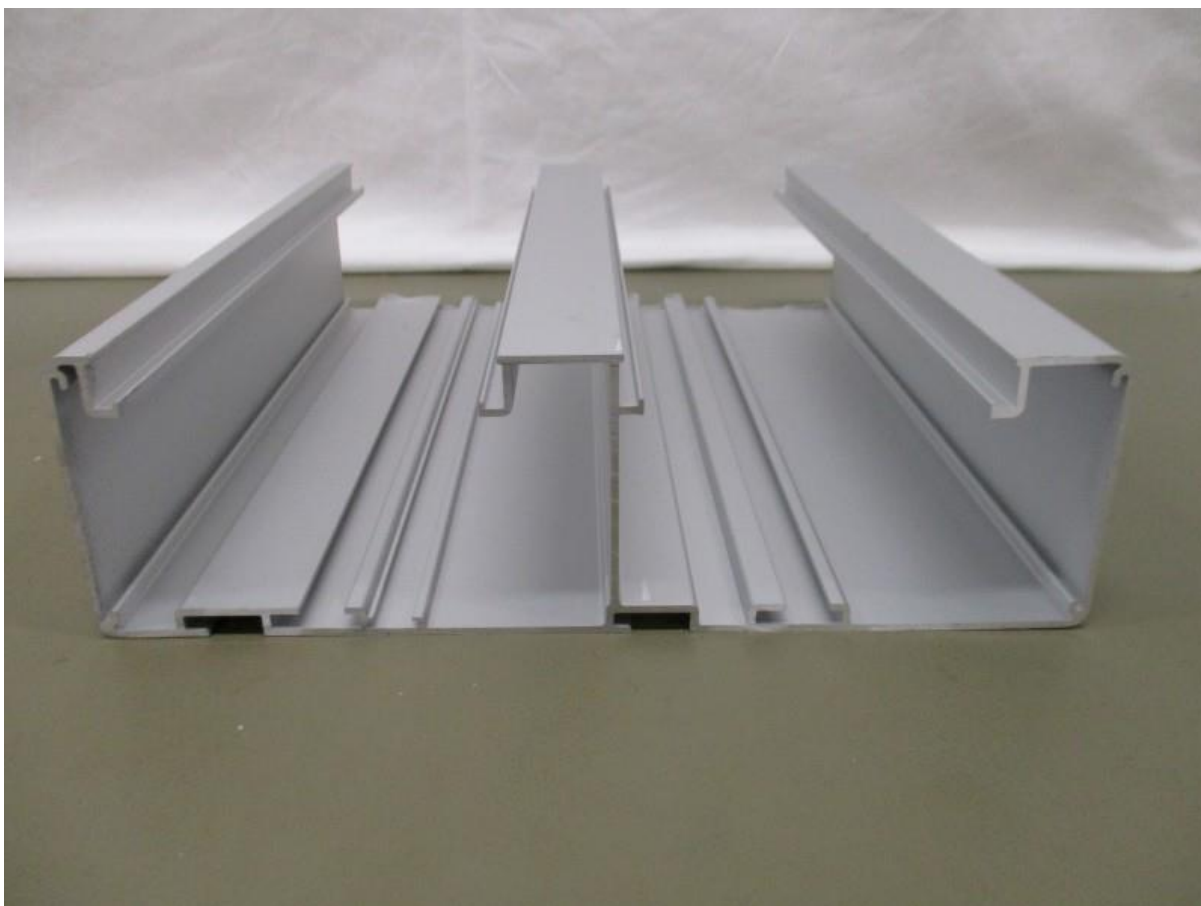
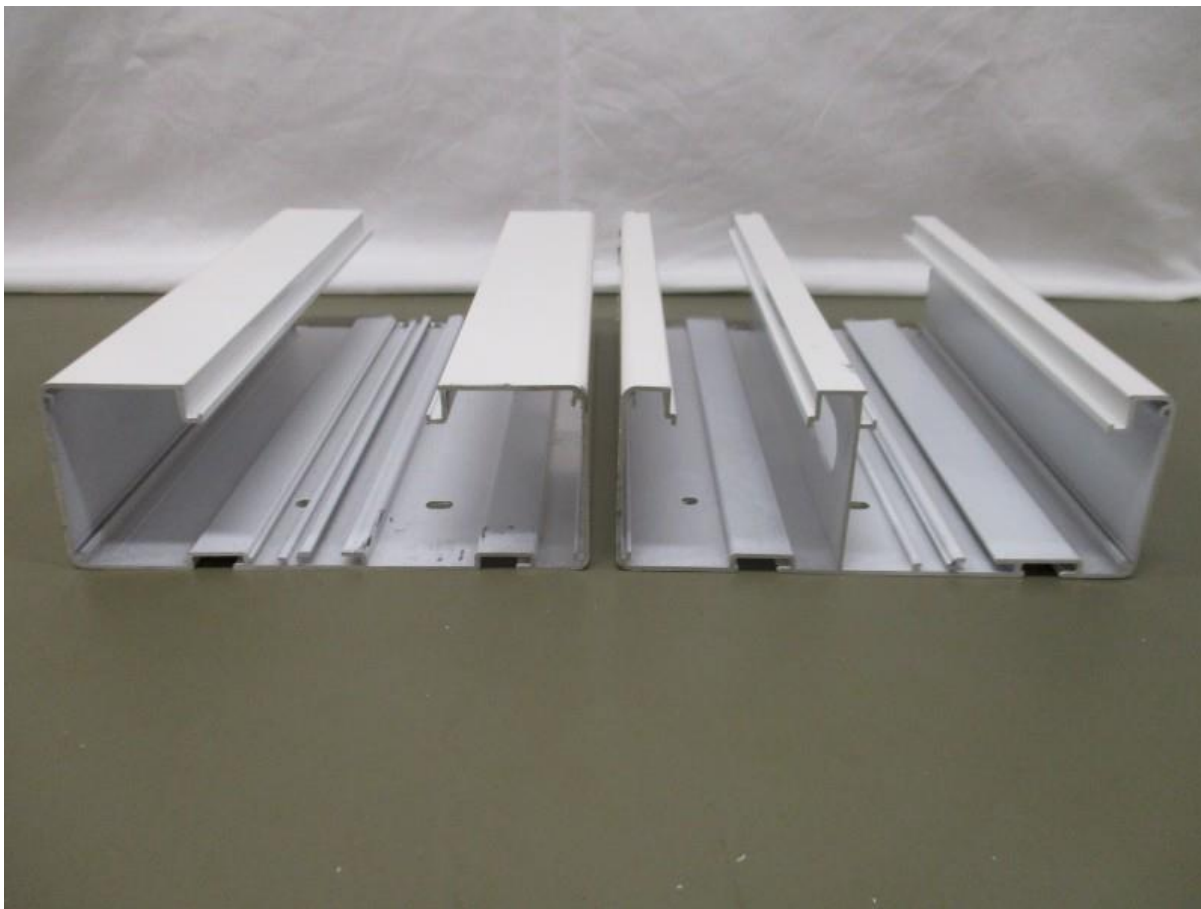
	The assembly is tested in accordance with the appropriate test of EN 60529:1991	IP2X	P
14.2	Protection against corrosive or polluting substances		
	Under consideration		N/A
15	ELECTROMAGNETIC COMPATIBILITY		
	Products covered by this standard are, in normal use, passive in respect of electromagnetic influences (emission and immunity)		



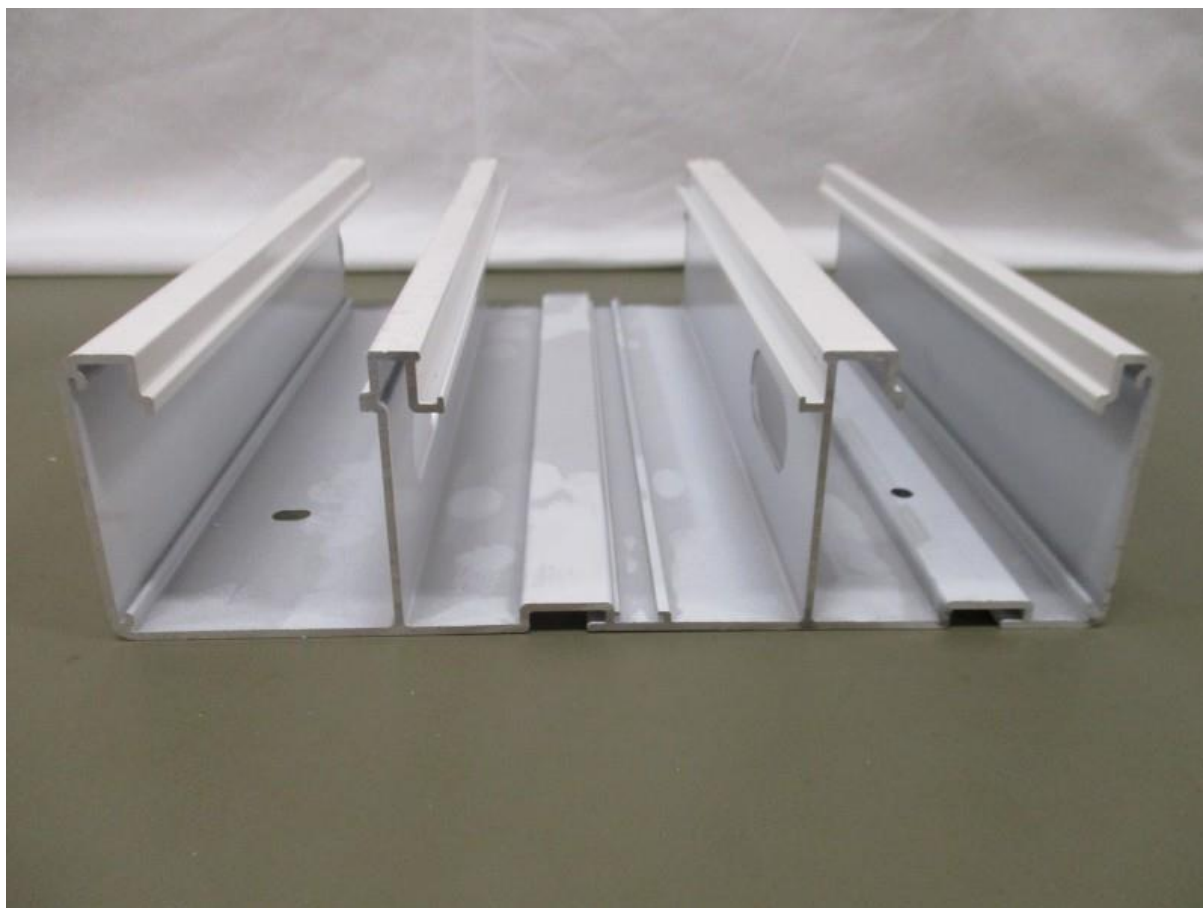
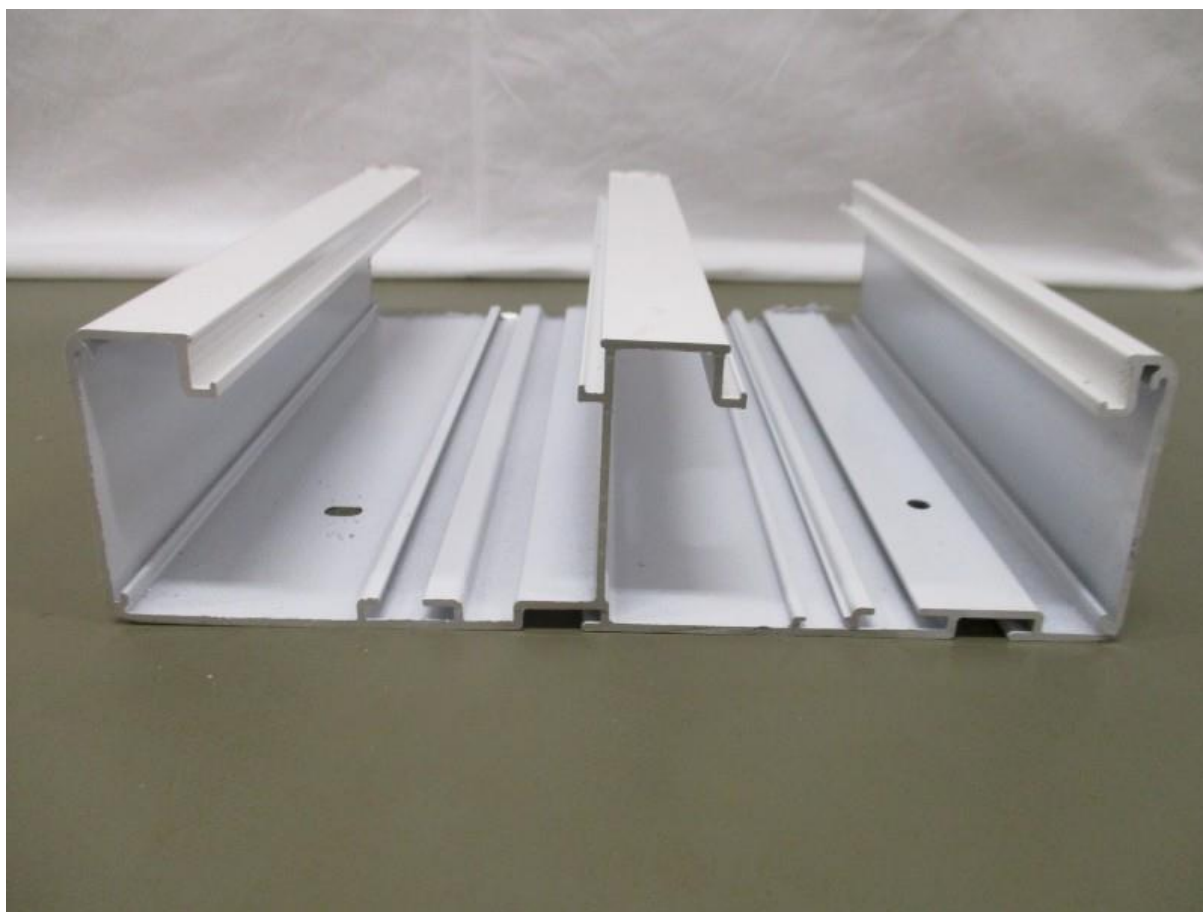
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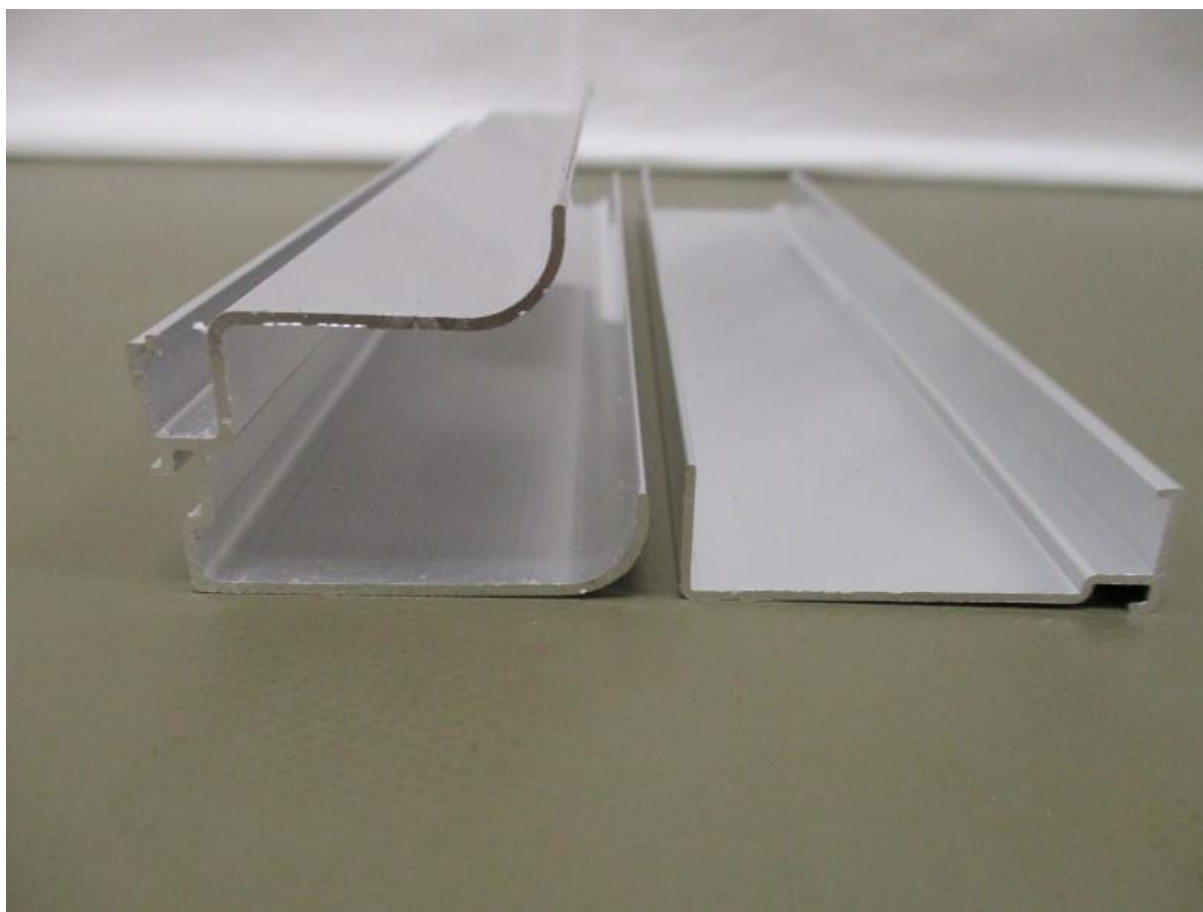
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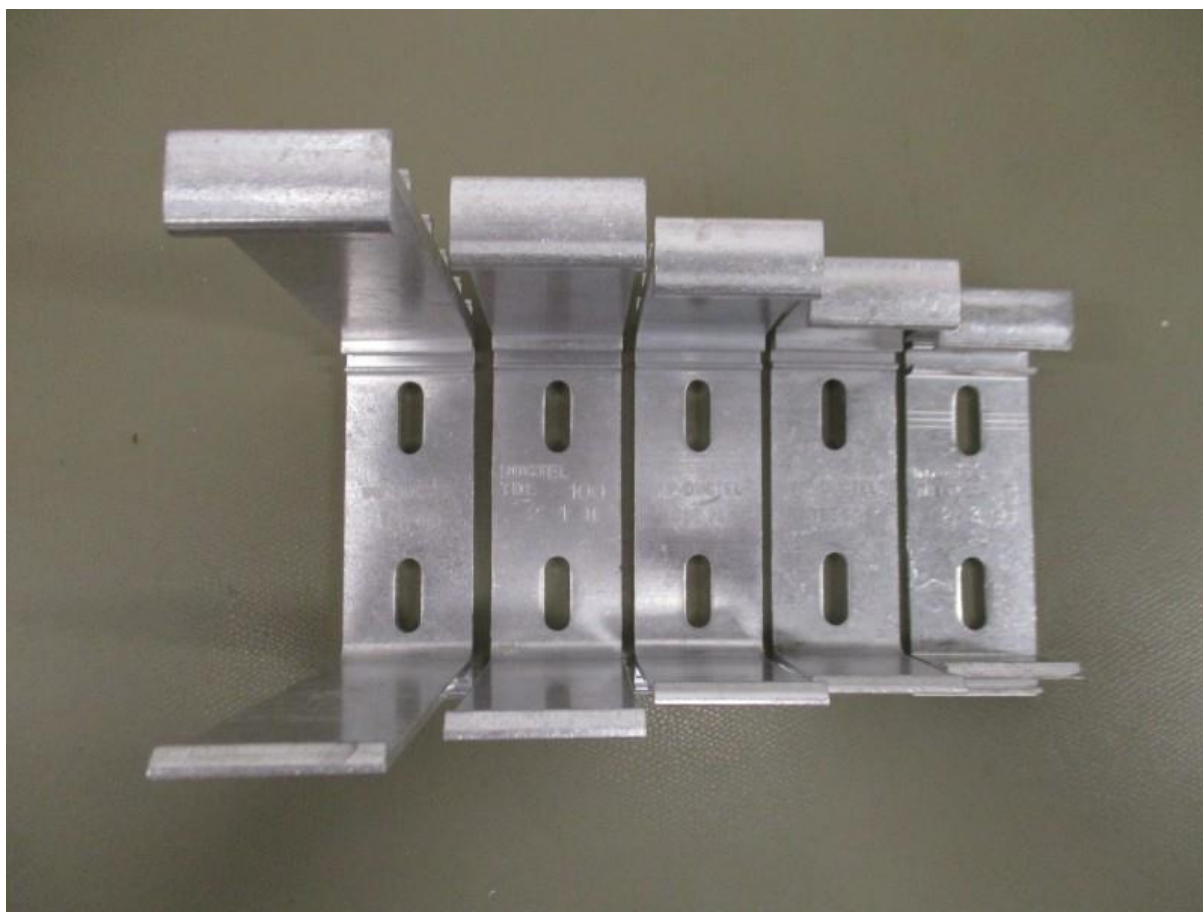
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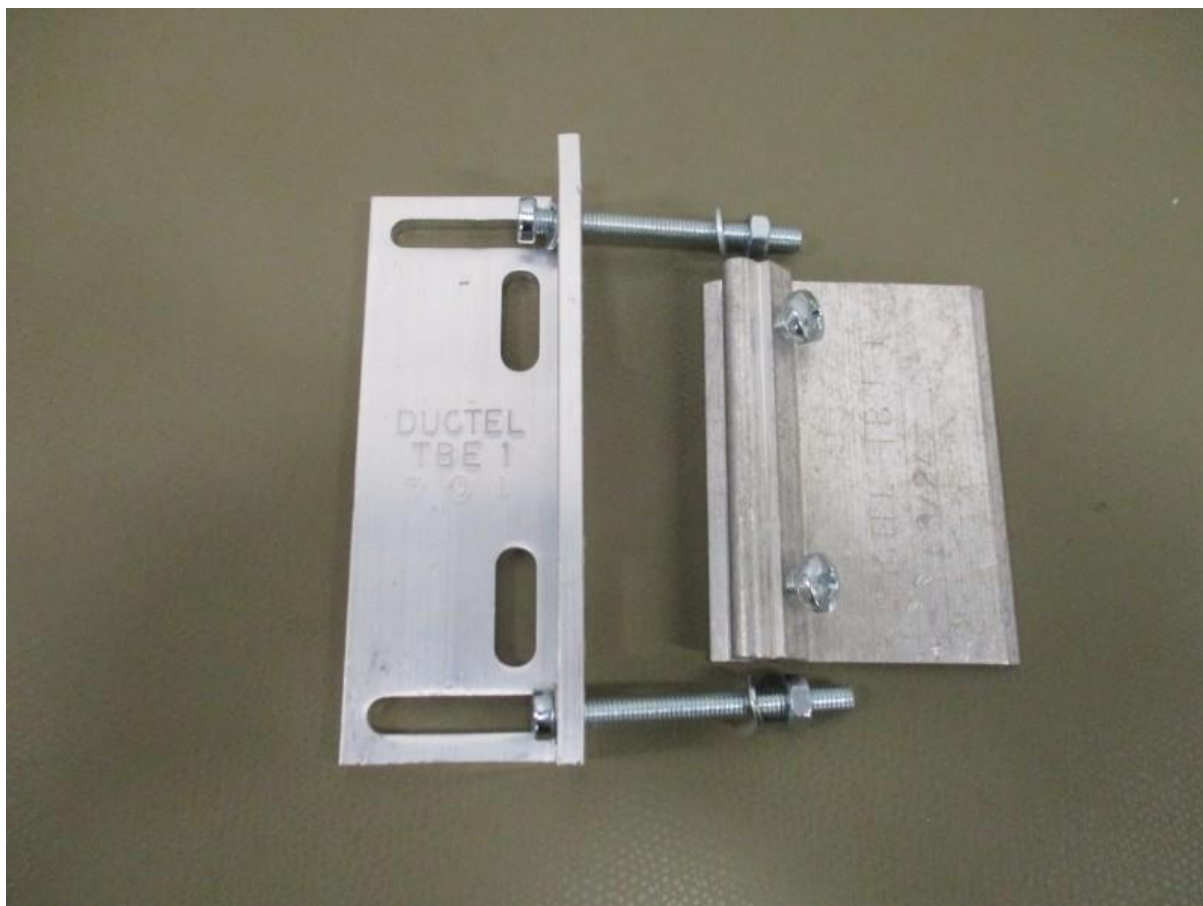
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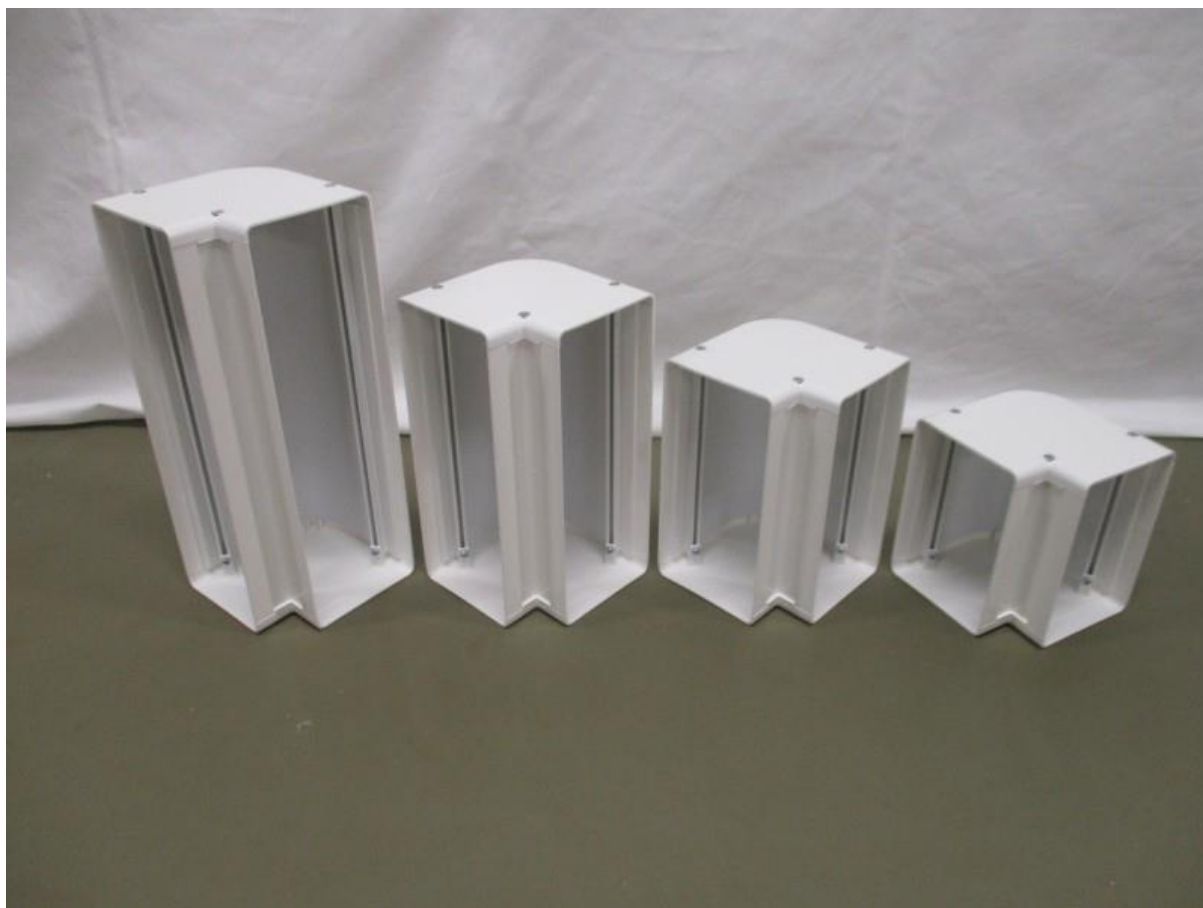
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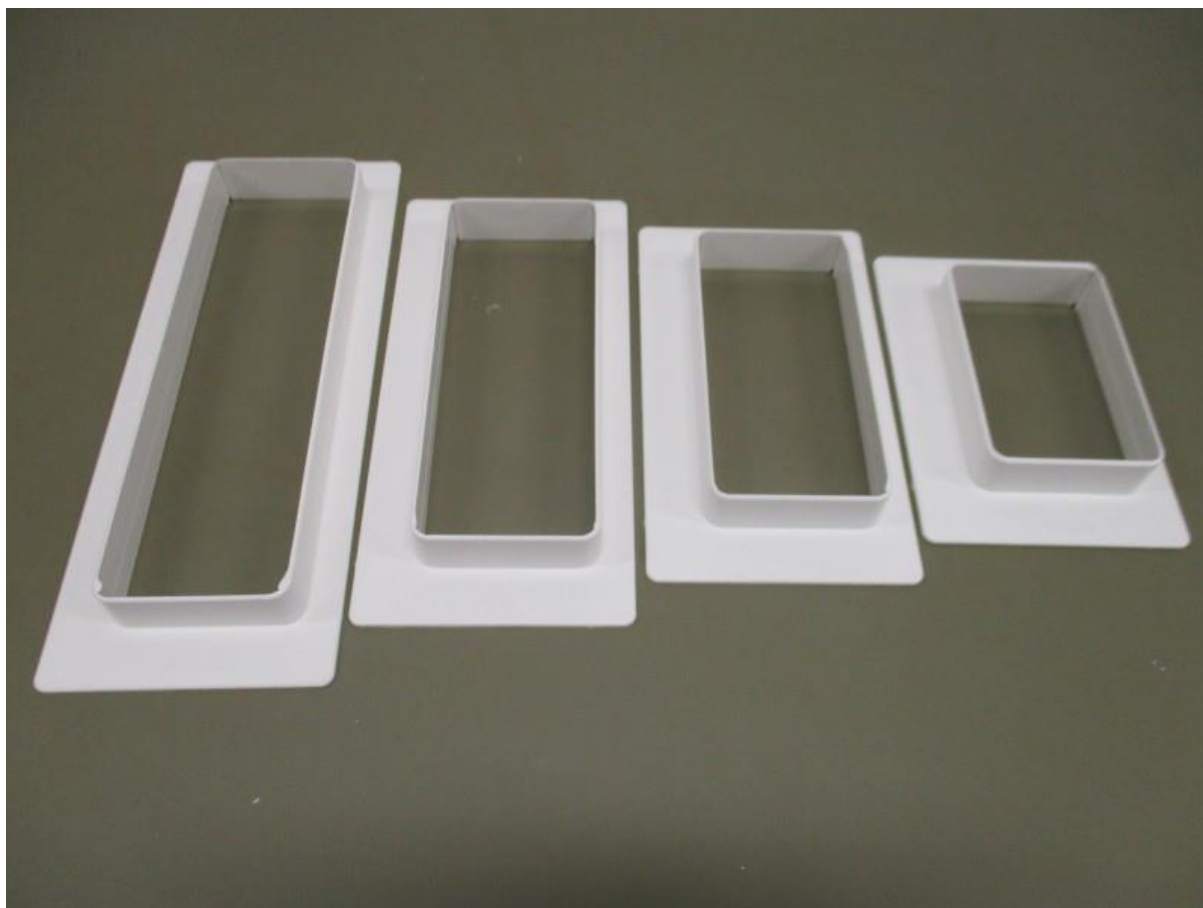
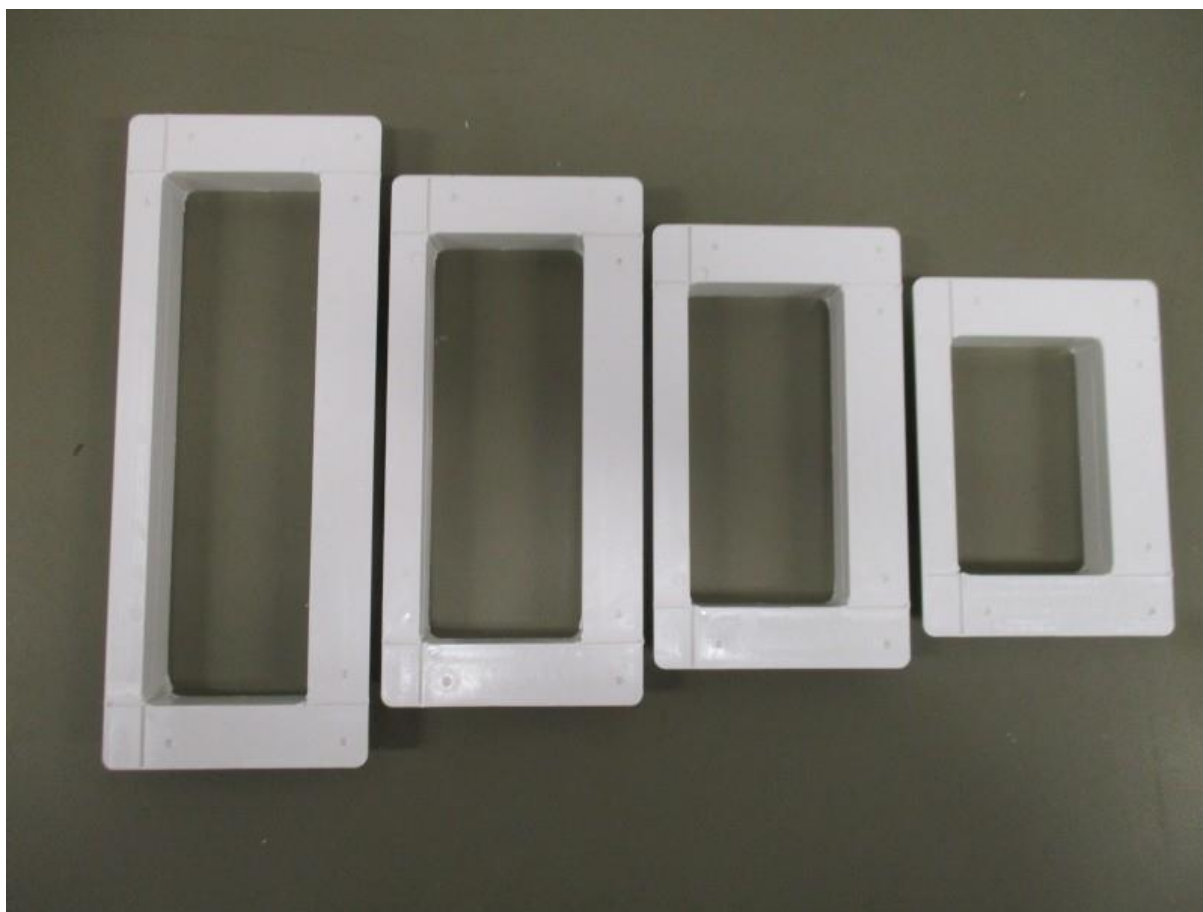
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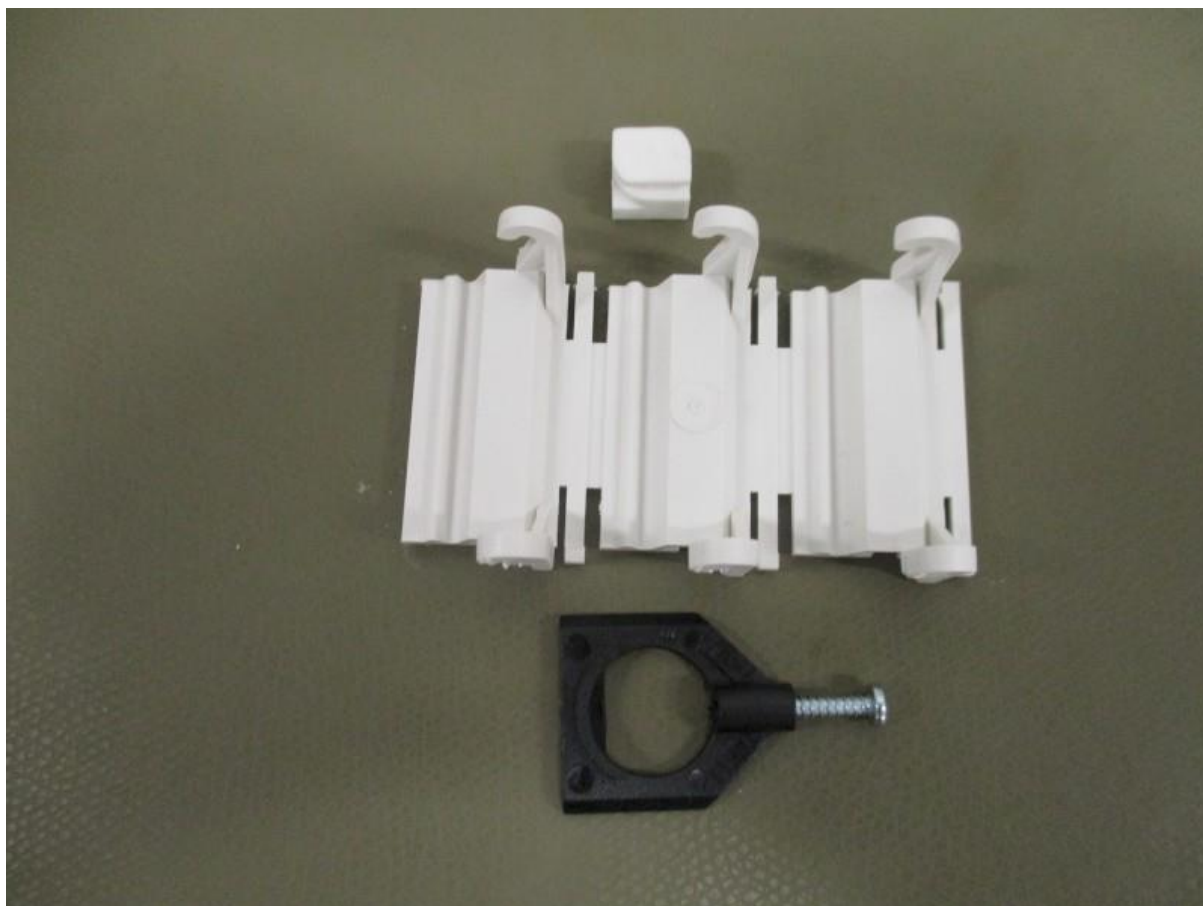
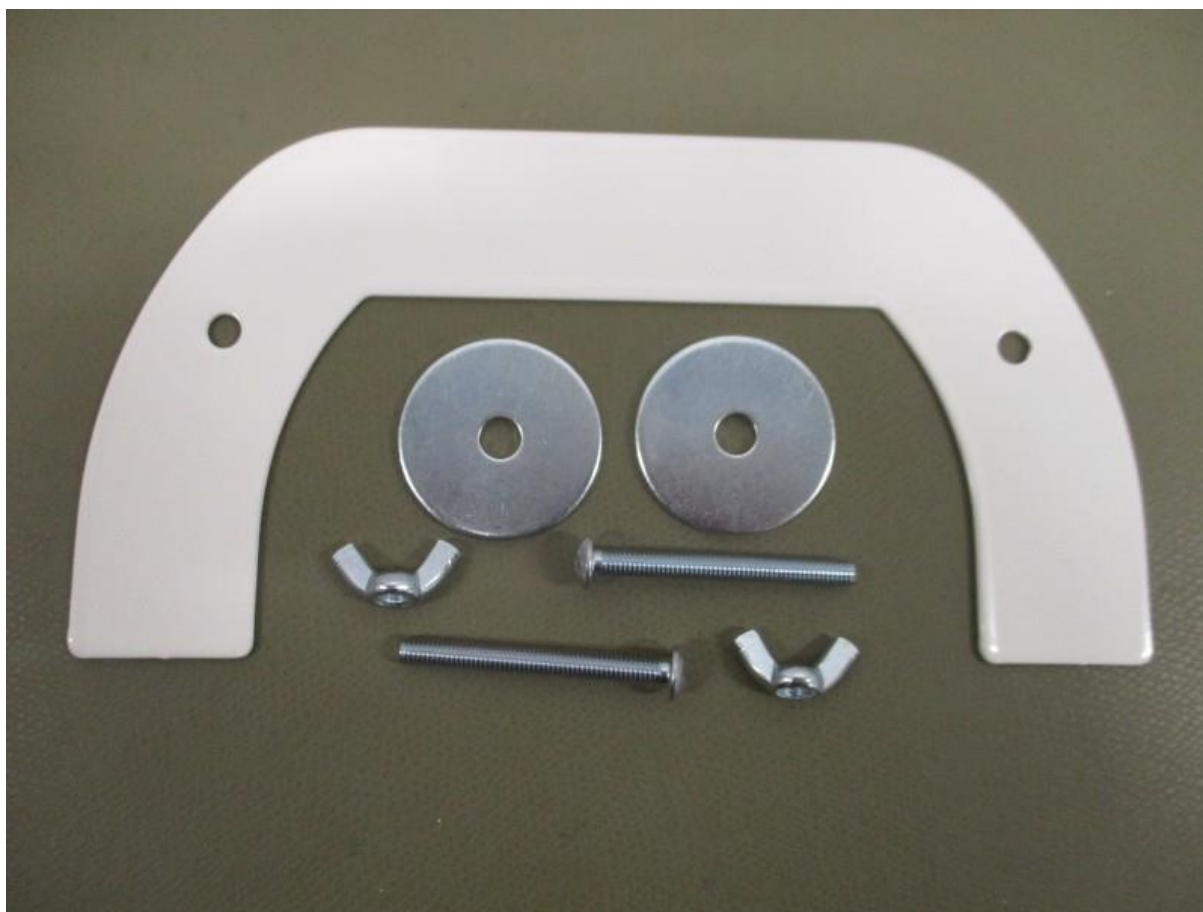
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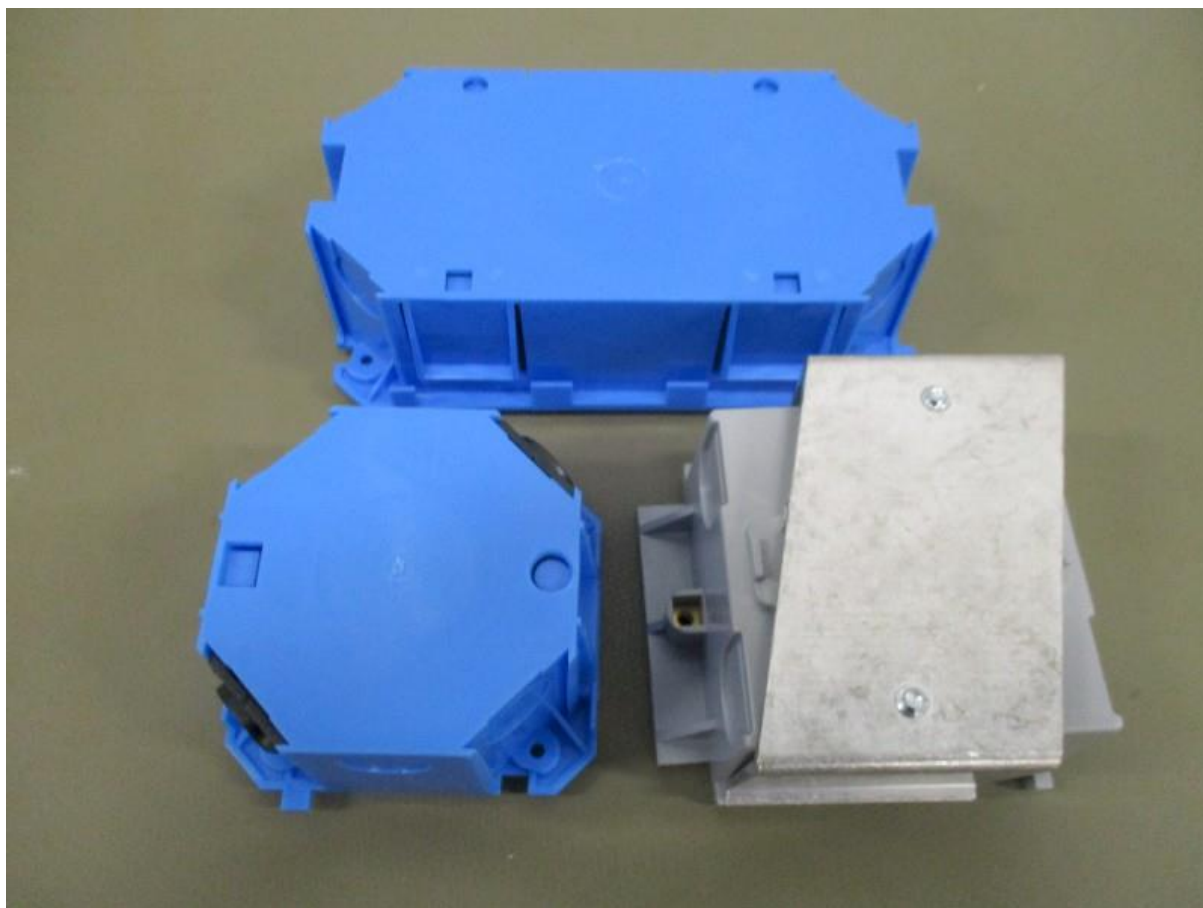
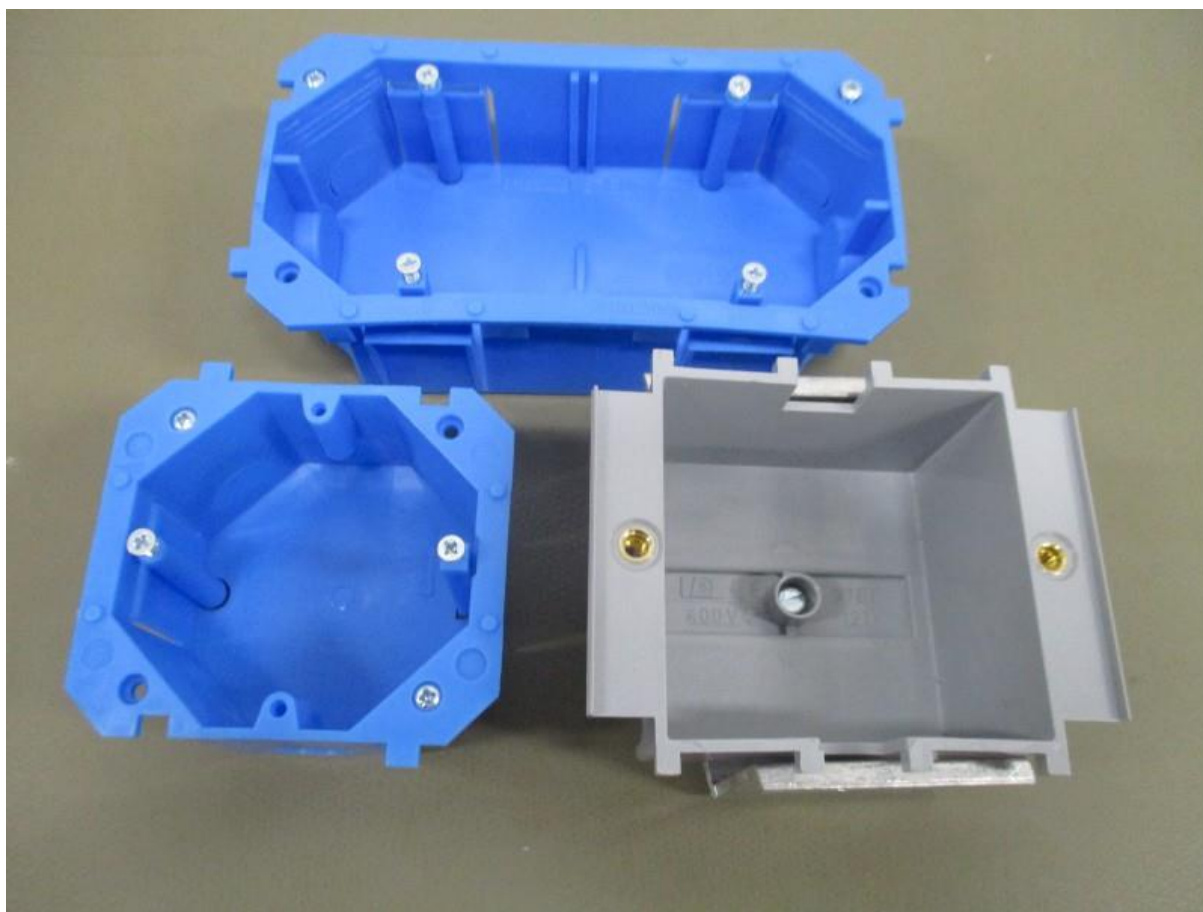
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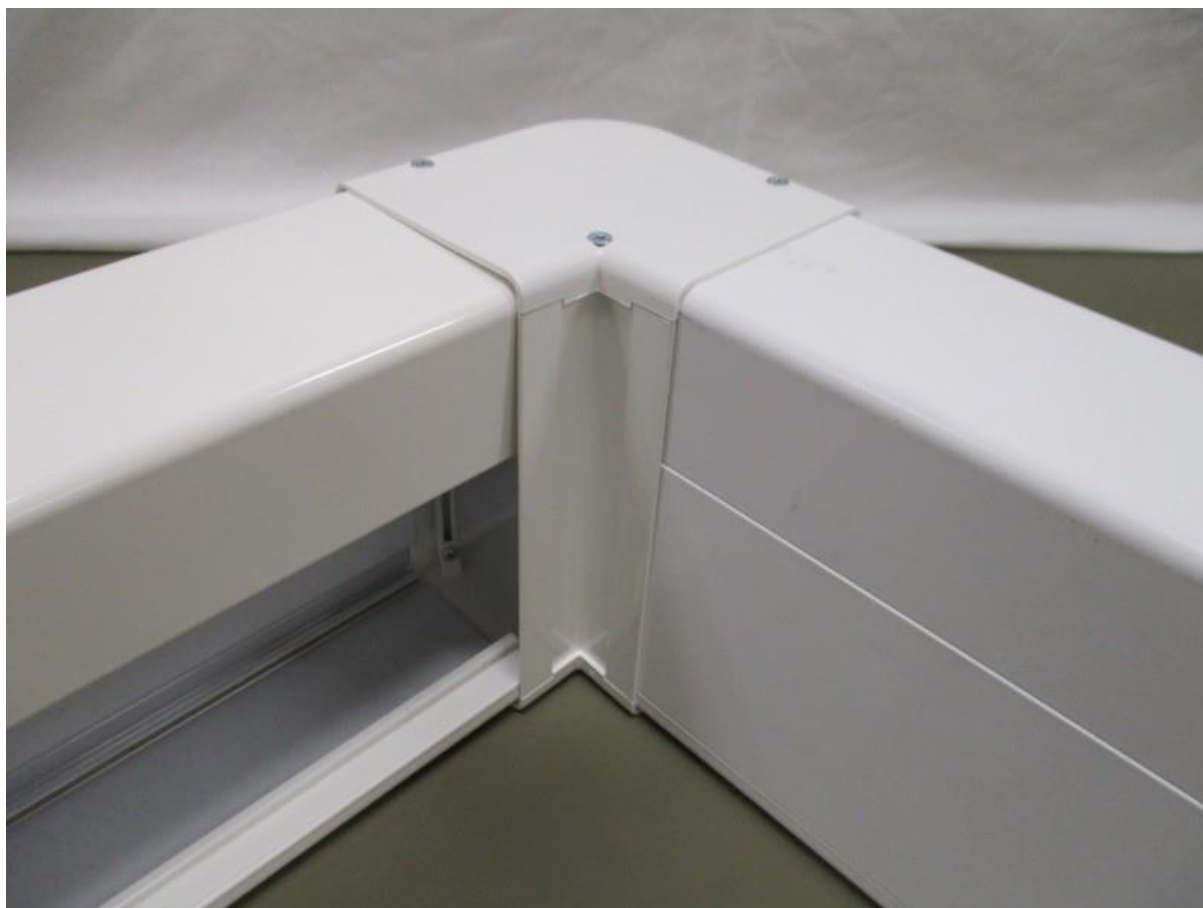
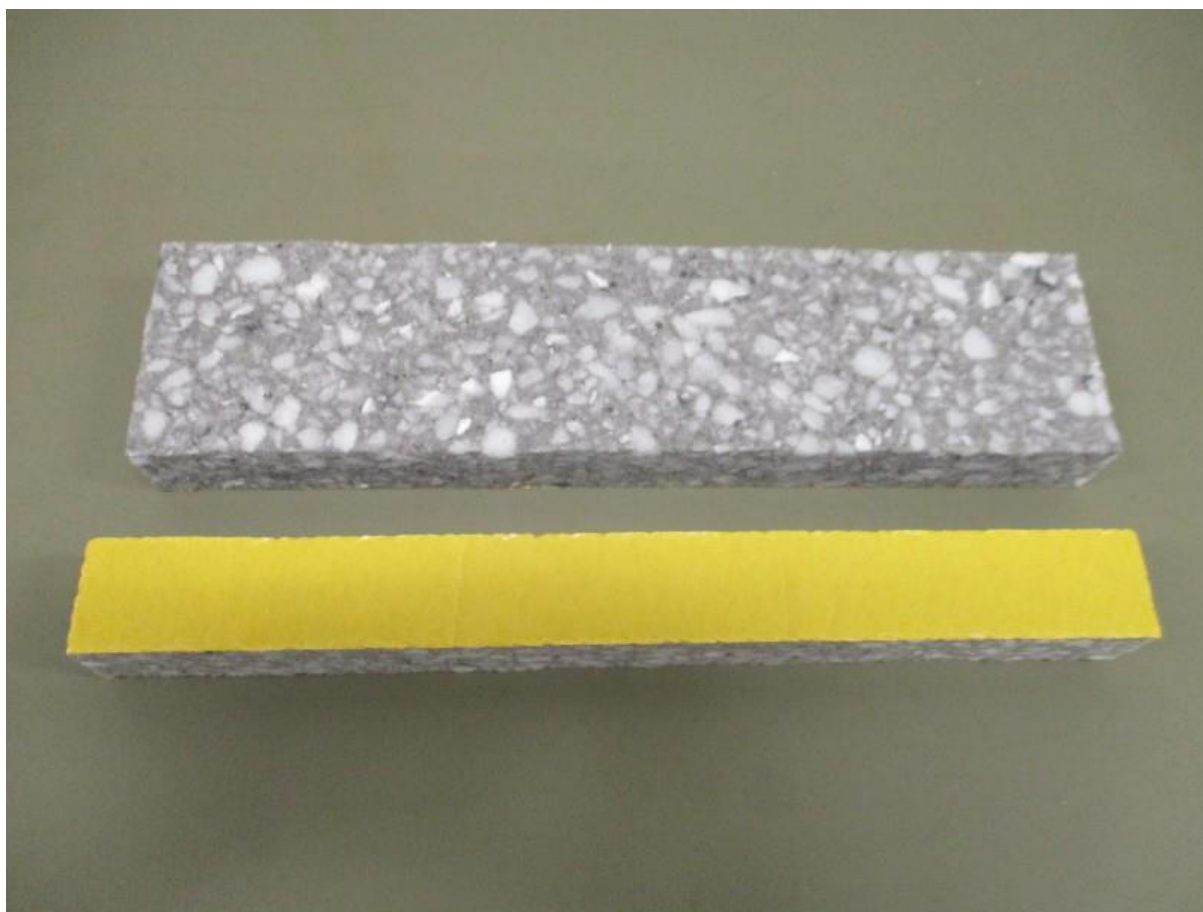
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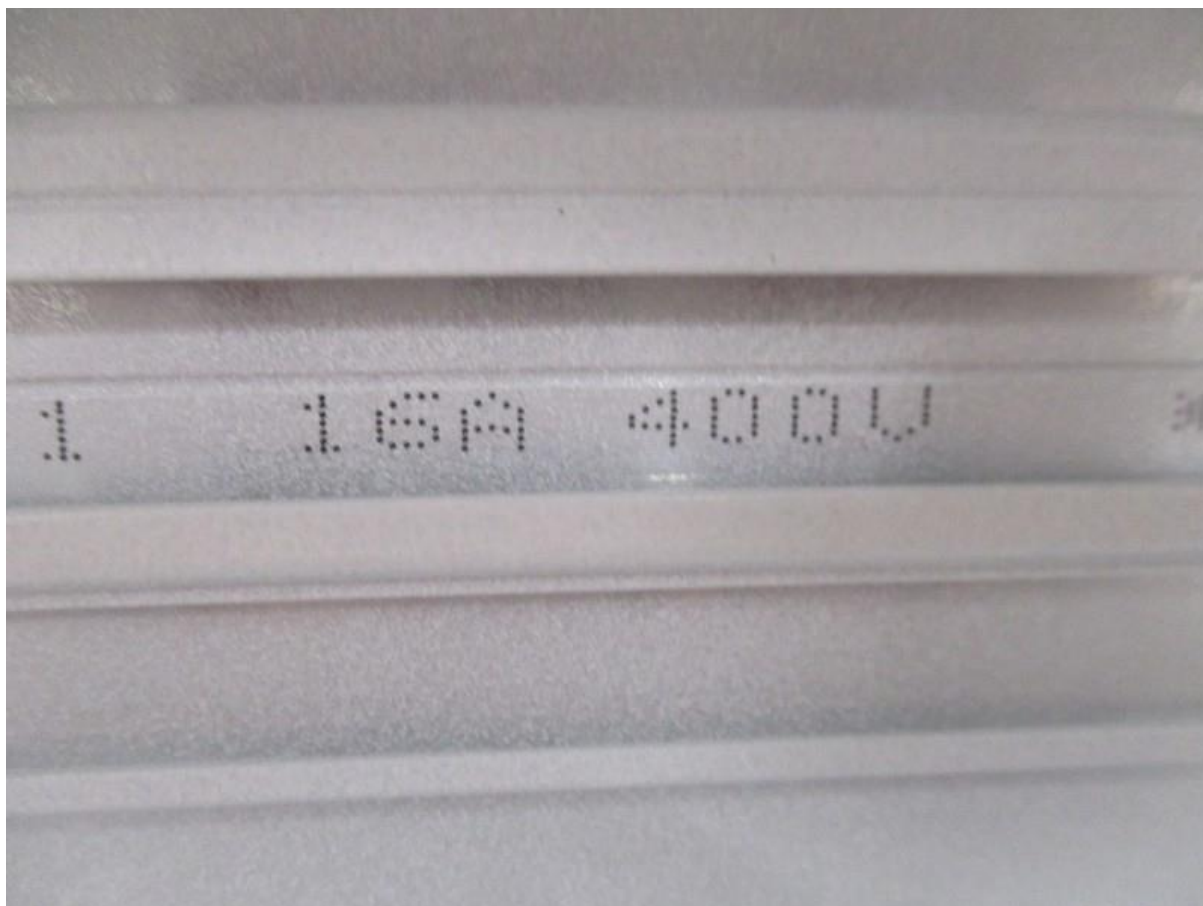
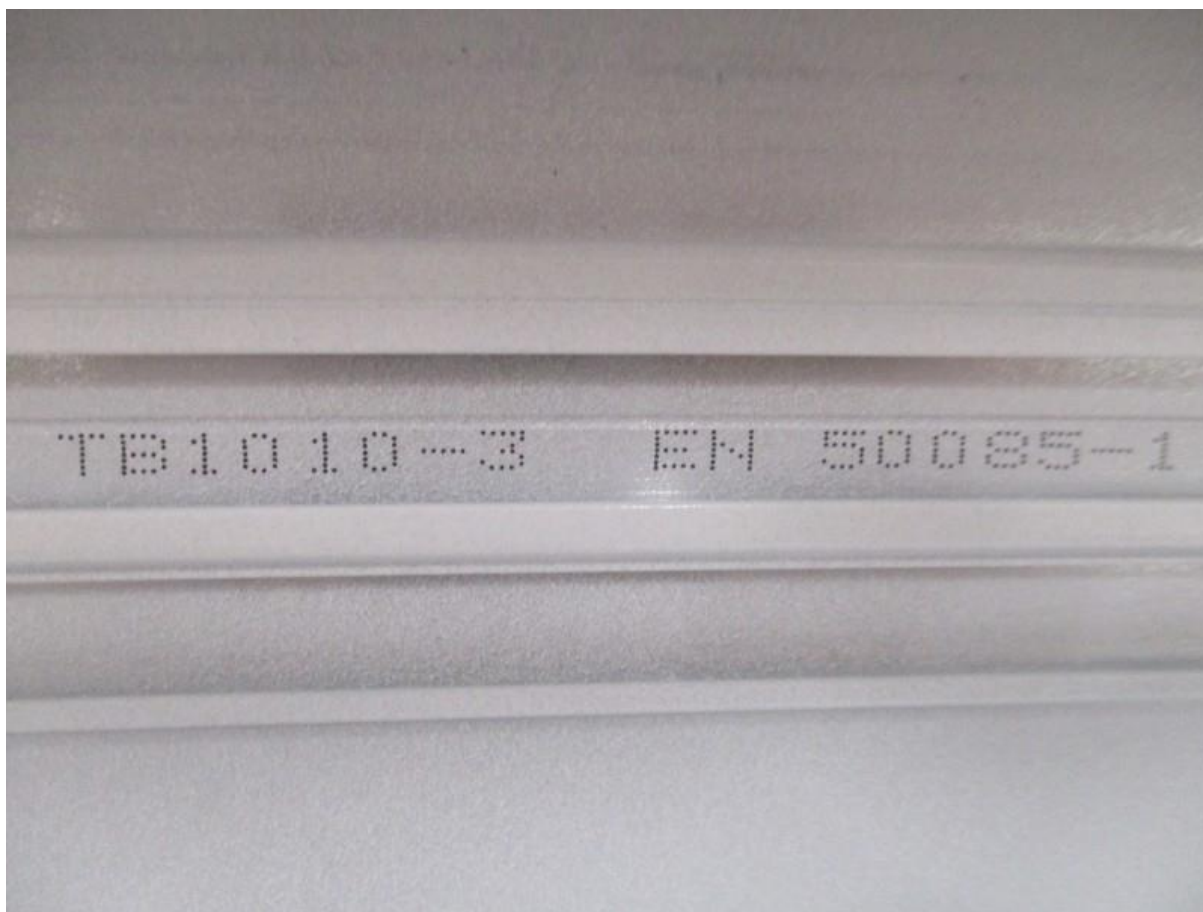
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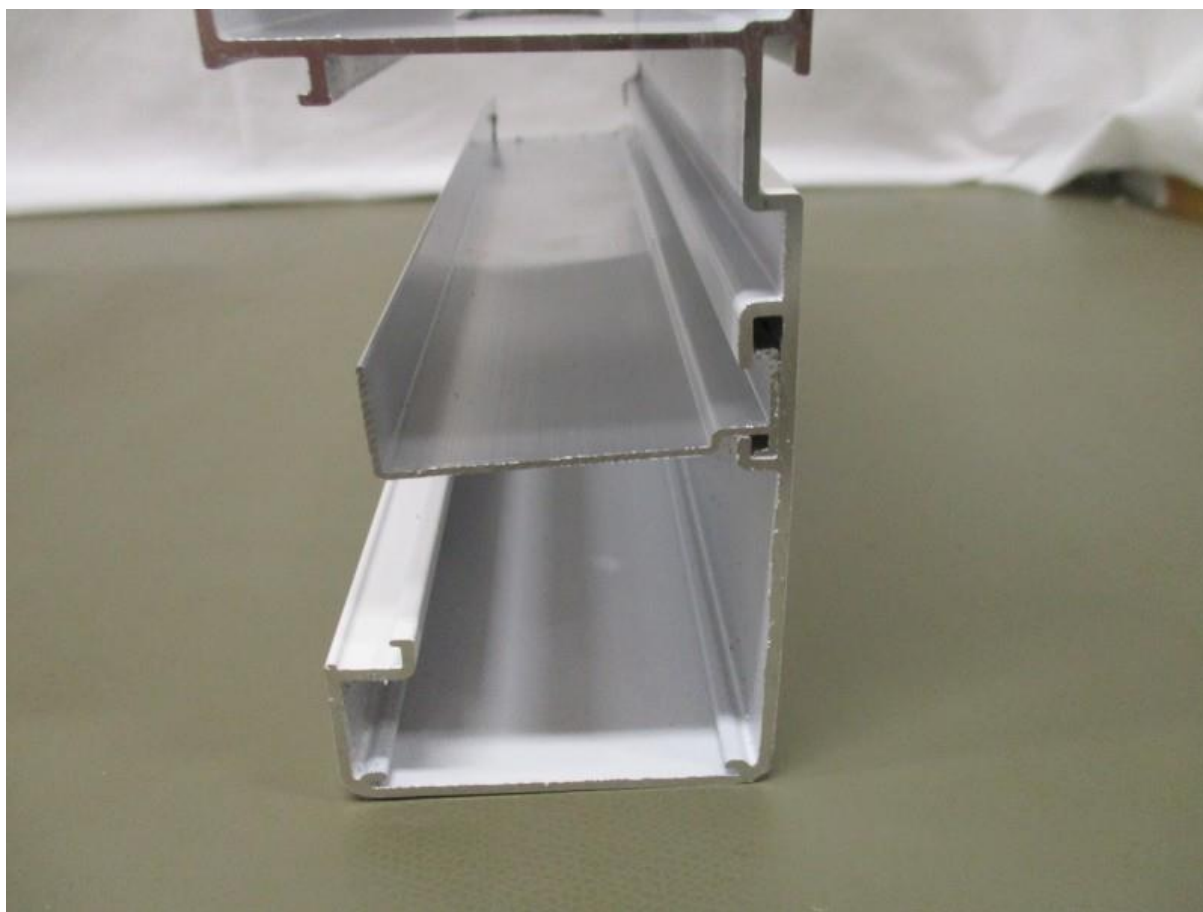
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10.2	Cable support test					
Tested type		Test load g	Usable sectional area mm ²	Requirement of F 10% dimension X (max 10 mm) mm	Result	Verdict
TB1010-1 TB1010-3 TB1040-3		1625	5917	6,5	< 1 mm	P
TB1210-3		1750	6728	6,5	< 1 mm	P
TB1310-3 TB1310-30		1965	7860	6,5	< 1 mm	P
TB1332-3		1815	7260	6,5	< 1 mm	P
TB1340-3		840 / 1101	3363 / 4402	6,5	< 1 mm	P
TB1710-3		2269	9075	6,5	< 1 mm	P
TB1740-3		1083 / 1175 g	4331 / 4700	6,5	< 1 mm	P
TB2210-1 TB2210-3		1571 / 1662	6283 / 6649	6,5	< 1 mm	P
TB2240-3		900 / 1327 / 991	3599 / 5307 / 3965	6,5	< 1 mm	P
TDH1 (+ TB1310-3)		1511	6045	6,5	< 1 mm	P
TDH2 (+ TB1310-3)		1008 / 290	4032 / 1161	6,5	< 1 mm	P
Supplementary information: -						
10.4	Linear deflection test					
Tested type	Test load (g)	Usable sectional area (mm ²)	Distance between supports (mm)	Max deflection between supports (<1%) (mm)	Result	Verdict
TB1010-1 TB1010-3 TB1040-3	5917	5917	1300	13	< 5 mm	P
TB1210-3	6728	6728	1300	13	< 5 mm	P
TB1310-3 TB1310-30	7860	7860	1300	13	< 5 mm	P
TB1332-3 TB1340-3	7260	7260	1300	13	< 5 mm	P
TB1710-3 TB1740-3	9075	9075	1300	13	< 5 mm	P
TB2210-1 TB2210-3 TB2240-3	12932	12932	1300	13	< 5 mm	P
Supplementary information: -						