



中国认可  
国际互认  
检测  
TESTING  
CNAS L0095

Page 1 of 20 Pages

No.: WTS2017-6983

## TEST REPORT

NAME OF SAMPLE: Straight coupler

CLIENT: Univolt Extrusions (Dongguan) Ltd.

CLASSIFICATION OF TEST: Commission test


Vkan Certification & Testing Co.,Ltd.



# TEST REPORT

No.: WTS2017-6983

Page 2 of 20 pages

Name of product: Straight coupler	Trade mark: UNIVOLT
Type/Model : SM 20; SM 25; SM 32	Sample status: —
Manufacturer: Univolt Extrusions (Dongguan) Ltd.	Commissioned by: Univolt Extrusions (Dongguan) Ltd.
Manufacturer address: Dongshan Yongfa Industrial Area, Qi Shi Town Dongguan City, Prov. Guangdong, China	Commissioner address: Dongshan Yongfa Industrial Area, Qi Shi Town Dongguan City, Prov. Guangdong, China
Quantity of sample: 21 pcs	Sampled by: —
Sample identification: 1#~21#	Sampling at (place): —
Means of receiving: Submitted by the client	Means of sampling: —
Classification of test: Commission test	Sampling date: —
Receiving date: 2017.05.18	Completing date: 2017.07.21
Tested according to: IEC 61386-1: 2008 IEC 61386-21: 2002	Test item: Full safety items
<p>Test conclusion:</p> <p>The conduits submitted by the client is tested according to the following standard:</p> <p><b>IEC 61386-1: 2008 Conduit systems for cable management - Part 1: General requirements</b></p> <p><b>IEC 61386-21: 2002 Conduit systems for cable management -- Part 21: Particular requirements - Rigid conduit systems</b></p> <p>Test result: Pass.</p> <div style="text-align: right; margin-top: 20px;">  <p>Seal of EVC Date of issue: 2017.07.21</p> </div>	

Approved by: Liu Bo

  
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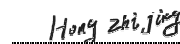
Reviewed by:


Lü Guowei


  
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Tested by:

Hong Zhijing

  
.....

<b>Test item particulars:</b>	(fittings)												
Conduit system classification coding.....: (according to Annex A)	N/A												
Type of conduit.....:	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-metallic <input type="checkbox"/> Composite												
Type of conduit.....:	<input type="checkbox"/> Plain <input type="checkbox"/> Corrugated												
Type of conduit fitting.....:	<input type="checkbox"/> Metallic <input checked="" type="checkbox"/> Non-metallic <input type="checkbox"/> Composite												
Conduit fitting –quantity	3												
Conduit fitting –type(s)	SM 20; SM 25; SM 32												
Conduit fitting –colour(s)	White												
Method for connection.....:	<input type="checkbox"/> Threadable <input checked="" type="checkbox"/> Non-threadable												
Resistance to compression.....:	<input type="checkbox"/> Light <input type="checkbox"/> Medium <input type="checkbox"/> Heavy <input type="checkbox"/> Very heavy												
Resistance to impact.....:	<input type="checkbox"/> Light <input type="checkbox"/> Medium <input type="checkbox"/> Heavy <input type="checkbox"/> Very heavy												
Lower / Upper temperature range.....:	-5/60°C												
Resistance to bending	N/A												
Electrical characteristics.....:	<input type="checkbox"/> With electrical continuity <input checked="" type="checkbox"/> With electrical insulating												
Resistance to external influences.....:	N/A (only for fittings)												
Resistance against corrosion.....:	<input checked="" type="checkbox"/> Without protection <input type="checkbox"/> With protection: High protection inside and outside												
Tensile strength.....:	<input type="checkbox"/> Light <input type="checkbox"/> Medium <input type="checkbox"/> Heavy <input type="checkbox"/> Very heavy <input checked="" type="checkbox"/> None declared												
Resistance to flame propagation.....:	<input checked="" type="checkbox"/> Non-flame propagating <input type="checkbox"/> Flame propagating												
Suspended load capacity.....:	<input type="checkbox"/> Light <input type="checkbox"/> Medium <input type="checkbox"/> Heavy <input type="checkbox"/> Very heavy <input checked="" type="checkbox"/> None declared												
Copy of marking plate: Straight coupler SM 32 for example:													
													
Summary of test results:													
1. This report is applicable to Straight coupler SM 20; SM 25; SM 32.													
2. Component list table:													
<table border="1"> <thead> <tr> <th>Object/ part no.</th> <th>Manufacturer/trademark</th> <th>Material</th> <th>Type/ model</th> <th>Technical data</th> <th>Standard /approval</th> </tr> </thead> <tbody> <tr> <td>Straight coupler</td> <td>Univolt Extrusions (Dongguan) Ltd.</td> <td>PVC</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table>		Object/ part no.	Manufacturer/trademark	Material	Type/ model	Technical data	Standard /approval	Straight coupler	Univolt Extrusions (Dongguan) Ltd.	PVC	—	—	—
Object/ part no.	Manufacturer/trademark	Material	Type/ model	Technical data	Standard /approval								
Straight coupler	Univolt Extrusions (Dongguan) Ltd.	PVC	—	—	—								

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
<b>7</b>	<b>MARKING AND DOCUMENTATION</b>		<b>P</b>
7.1	Conduit (conduit fitting) is marked on the product with a trade mark or a name identifying the manufacturer or responsible vendor .....		<b>P</b>
	Conduit (conduit fitting) is marked in addition in such a way that it can be identified in the manufacturer's, or responsible vendor's, literature .....	SM 20; SM 25; SM 32	<b>P</b>
7.1.1	Conduit is also marked with the classification code, in accordance with annex A, and includes at least the first four digits (optional) .....		<b>N/A</b>
7.1.2	Manufacturer indicates the compatibility of parts within a conduit system		<b>N/A</b>
7.1.101	Conduit is marked in accordance with 7.1 along its entire length at regular intervals of preferably 1 m but not longer than 3 m (m) .....		<b>N/A</b>
	Each length is marked at least once		<b>N/A</b>
7.1.102	Minimum inside diameter and the classification for the system in accordance with clause 6 are documented by the manufacturer .....	See appended table 7.1.102	<b>N/A</b>
7.2	Conduit fitting is marked in accordance with 7.1, on		<b>P</b>
	- the product .....		<b>P</b>
	- a label attached to the product, or on the box or carton containing the fittings (if the marking on the product is impractical) .....		<b>P</b>
7.3	Flame propagating material is orange in colour		<b>N/A</b>
	Flame propagating material is not coloured orange by painting or other superficial means		<b>N/A</b>
	Non-flame propagating material is of any colour except yellow, orange or red, unless is clearly marked on the product to be of non-flame propagating material .....		<b>P</b>
7.4	Earthing facilities are indicated by the symbol for protective earth in accordance with IEC 60417, symbol 60417-IEC-5019-a .....		<b>N/A</b>
	This marking is not placed on easily removable parts, for example screws		<b>N/A</b>
7.5	Compliance with 7.1 to 7.4 checked by inspection		<b>P</b>
7.6	Marking is durable and clearly legible		<b>P</b>
	Compliance checked by inspection and by rubbing the marking by hand for 15 s with a piece of cloth soaked with water, and again for 15 s with a piece of cloth soaked with petroleum spirit		<b>P</b>
<b>8</b>	<b>DIMENSIONS</b>		<b>P</b>
8.1	Outside diameters comply with IEC 60423 .....	See appended table 8.1A	<b>N/A</b>

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
	Threads comply with IEC 60423 .....	See appended table 8.1B	N/A
8.2	Threadable conduits and threadable conduit fittings comply with table 101 (except terminating conduit fittings) .....	See appended table 8.2A	N/A
	Non-threadable conduit fittings comply with table 102 (except fittings which are part of a conduit system declaring tensile strength) .....	See appended table 8.2B	P
	Minimum inside diameter of the conduit system is as declared by the manufacturer	See appended table 8.2C	N/A
<b>9</b>	<b>CONSTRUCTION</b>		P
9.1	There are no sharp edges, burrs or surface projections within the conduit system		P
	The manufacturer provides guidelines to assist the safe installation of the conduit system		P
9.2	Screws, if any, used for attaching components or covers to conduit fittings, or in joints to conduits, do not cause damage to cable insulation when correctly inserted		N/A
	Screws have ISO metric threads		N/A
	Thread-cutting screws are not used		N/A
	Fixing screws and small clips for use with non-metallic or composite conduit fittings, of non-metallic material, are isolated from insulated conductors or cables		N/A
9.3	Test for screw fixing using preformed threads	See appended table 9.3	N/A
	After the test: no damage sustained by the screw or nut, such as breakage of the screw or damage to the head or thread		N/A
9.4	Test for screw fixing using thread-forming screws	See appended table 9.4	N/A
	After the test: no damage, such as breakage of the screw or damage to the head or thread		N/A
9.5	Any material within the joint have at least the same level of resistance to the external influence as either the conduit or the conduit fitting .....		N/A
9.6	Indications whether the conduit system that are assembled by means other than threads can be disassembled and if so, how this can be achieved, are provided by the manufacturer		N/A
<b>10</b>	<b>MECHANICAL PROPERTIES</b>		P
<b>10.1</b>	<b>Mechanical strength</b>		P
10.1.1	Conduit systems have adequate mechanical strength		P
10.1.2	Conduits do not crack and are not deformed when bent or compressed, or exposed to impact or extreme temperature, according to their classification		N/A

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
10.1.3	Conduit systems intended as a mounting for other equipment have adequate mechanical strength		N/A
10.1.4	Compliance of 10.1.1 to 10.1.3 checked by the tests specified in 10.2 to 10.8		P
<b>10.2</b>	<b>Compression test</b>		N/A
	3 samples of conduit, each (200 ± 5) mm long, subjected to a compression test at (23 ± 2) °C, using the apparatus shown in figure 1	See appended table 10.2	N/A
<b>10.3</b>	<b>Impact test</b>		P
	12 samples of conduit, each (200 ± 5) mm in length, or 12 samples of conduit fittings subjected to an impact test using the apparatus shown in figure 2	See appended table 10.3	P
10.3.3	At least 9 of the 12 samples passed the test		P
<b>10.4</b>	<b>Bending test</b>		N/A
	Conduits declared by the manufacturer as being bendable tested in accordance with 10.4.101, 10.4.102 or 10.4.103		N/A
10.4.101	Metallic conduits		N/A
	Conduit sizes 16, 20 and 25, having a length equal to 30 times the nominal diameter, subjected to a bending test using the apparatus shown in figure 101	See appended table 10.4.101	N/A
	Other sizes tested in accordance with the manufacturer's instructions		N/A
10.4.102	Non-metallic conduits		N/A
	Conduit sizes 16, 20 and 25, having a length of approximately 500 mm, subjected to a bending test using the apparatus shown in figure 103	See appended table 10.4.102	N/A
	Other sizes tested in accordance with the manufacturer's instructions		N/A
10.4.103	Composite conduits		N/A
	Composite conduits declared by the manufacturer as being bendable tested both in accordance with 10.4.101 and 10.4.102, using new samples for each test	See appended tables 10.4.101 and 10.4.102	N/A
	Other sizes tested in accordance with the manufacturer's instructions		N/A
<b>10.5</b>	<b>Flexing test</b>		N/A
	Sub-clause of part 1 not applicable		—
<b>10.6</b>	<b>Collapse test</b>		N/A
10.6.101	Metallic conduits		N/A
	Metallic conduits not subjected to a collapse test		N/A
10.6.102	Non-metallic and composite conduits		N/A

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
10.6.102.1	Conduits declared by the manufacturer as being bendable tested in accordance with 10.4.102 with the exception of 10.4.102.3		N/A
	Conduit sizes 16, 20 and 25, having a length of approximately 500 mm, subjected to a bending test using the apparatus shown in figure 103	See appended table 10.6.102	N/A
	Other sizes tested in accordance with the manufacturer's instructions		N/A
10.6.102.2	Samples tested after fixing to a rigid support by means of four straps as shown in figure 104	See appended table 10.6.102	N/A
<b>10.7</b>	<b>Tensile test</b>		N/A
	Conduit systems declaring tensile strength: test carried out on an assembly prepared in accordance with the manufacturer's instructions so that the overall length is approximately 200 mm	See appended table 10.7	N/A
<b>10.8</b>	<b>Suspended load test</b>		N/A
	Conduit fitting declared by the manufacturer to be suitable for suspended loads: test carried out with a load suspended by the means provided and installed in accordance with the manufacturer's instructions for a time duration given in table 7	See appended table 10.8	N/A
<b>11</b>	<b>ELECTRICAL PROPERTIES</b>		P
<b>11.1</b>	<b>Electrical requirements</b>		P
11.1.1	Conduit systems declaring electrical continuity characteristics are checked by the tests in 11.2 immediately after the tests in 14.2		N/A
11.1.2	Conduit systems of metal or composite materials are so constructed that accessible metal parts can be bonded to earth		N/A
11.1.3	Accessible conductive parts of the metal or composite conduit system, which may become live in the event of a fault, are be effectively earthed		N/A
11.1.4	Conduit systems of non-metallic or composite materials, where declared, have an adequate electrical insulating strength and insulating resistance		P
<b>11.2</b>	<b>Bonding test</b>		N/A
	Test carried out on an arrangement of conduits and conduit fittings prepared in accordance with the manufacturer's instructions and figure 3: resistance not exceed 0,1 $\Omega$	See appended table 11.2	N/A
<b>11.3</b>	<b>Electrical insulating strength and resistance</b>		P
11.3.1	Conduits		N/A

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Cl.	Requirement – Test	Result	Verdict
	3 samples of conduit tested in a salt water solution at $(23 \pm 2) ^\circ\text{C}$ , in accordance with figure 4, and submitted after $24 \text{ h} \pm 15 \text{ min}$ to a voltage of 2000 V maintained for a period of $15 \text{ min} +5/0 \text{ s}$ : trip device incorporated into the circuit not trip during the test	See appended table 11.3.1	N/A
	Same samples then subjected to an electrical insulation resistance test with a direct voltage of 500 V applied for $(60 \pm 2)\text{s}$ : measured insulation resistance greater than $100 \text{ M}\Omega$	See appended table 11.3.1	N/A
11.3.2	Conduit fittings		P
	3 samples of conduit fittings immersed for $24 \text{ h} \pm 15 \text{ min}$ in water at $(23 \pm 2) ^\circ\text{C}$ and then submitted by means of lead spheres to a voltage of 2000 V maintained for a period of $15 \text{ min} +5/0 \text{ s}$ : trip device incorporated into the circuit not trip during the test	See appended table 11.3.2	P
	Same samples then subjected to an electrical insulation resistance test with a direct voltage of 500 V applied for $(60 \pm 2)\text{s}$ : measured insulation resistance greater than $100 \text{ M}\Omega$	See appended table 11.3.2	P
<b>12</b>	<b>THERMAL PROPERTIES</b>		N/A
12.1	Non-metallic and composite conduits have adequate resistance to heat		N/A
12.2	Samples of conduit, each $(100 \pm 5) \text{ mm}$ long, together with the test apparatus as shown in figure 8, kept for $4 \text{ h} \pm 5 \text{ min}$ in a heating cabinet at the declared temperature given in table 2, with a tolerance of $\pm 2 ^\circ\text{C}$	See appended table 12	N/A
	Each sample then loaded for $24 \text{ h} \pm 15 \text{ min}$ in the apparatus of figure 8 with a total mass as shown in table 9	See appended table 12	N/A
12.3	It is possible to pass the appropriate gauge of figure 102 immediately after the removal of the load	See appended table 12	N/A
<b>13</b>	<b>FIRE HAZARD</b>		P
13.1	Reaction to fire		P
13.1.1	Initiation of fire (not applicable)		—
13.1.2	Contribution to fire (under consideration)		—
13.1.3	Spread of fire		P
	Non-flame propagating conduit systems have adequate resistance to flame propagation		P
13.1.3.1	Non-metallic and composite conduit fittings subjected to glow-wire test of IEC 60695-2-1/1 (IEC 60695-2-11) at $750 ^\circ\text{C}$		P
	No visible flame or sustained glowing,	See appended table 13.1.3.1	P
	Flames and glowing extinguished within 30 s of the removal of the glow-wire (s) .....	See appended table 13.1.3.1	N/A



IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
13.1.3.2	Non-metallic and composite conduits subjected to 1 kW flame of IEC 60695-2-4/1 (IEC 60695-11-2), according to the arrangement of figure 7, applied for the period given in table 11		N/A
	▪ Sample does not ignite, or	See appended table 13.1.3.2	N/A
	▪ In case of ignition:		N/A
	a) Flame extinguishes within 30 s .....	See appended table 13.1.3.2	N/A
	b) No ignition of the tissue paper	See appended table 13.1.3.2	N/A
	c) No evidence of burning or charring within 50 mm of the lower extremity of the upper clamp	See appended table 13.1.3.2	N/A
13.1.4	Additional reaction to fire characteristics (under consideration)		—
13.2	Resistance to fire (not applicable)		—
<b>14</b>	<b>EXTERNAL INFLUENCES</b>		N/A
14.1	Degree of protection provided by enclosure		N/A
	Conduit systems, when assembled in accordance with the manufacturer's instructions, have adequate resistance to external influences according to the classification declared by the manufacturer, with a minimum requirement of IP30 .....	IP30	N/A
14.1.1	Degree of protection – Ingress of foreign solid objects	See appended table 14.1.1	N/A
14.1.2	Degree of protection – Ingress of water	See appended table 14.1.2	N/A
14.2	Resistance against corrosion		N/A
14.2.1	Resistance to corrosion classification for painted and zinc coated steel and steel composite conduits and conduit fittings (table 10).....	1/2/3/4	—
	For non-ferrous metallic and composite conduit systems, the manufacturer provided information about its protection against corrosion		N/A
14.2.2	Tests for resistance to corrosion for painted and zinc coated steel and steel composite conduits systems		N/A
14.2.2.1	Low protection conduit and conduit fittings inspected for completeness of covering by the protective coating, both inside and outside		N/A
14.2.2.2	Test for medium protection conduit and conduit fittings: after completion of the test, the samples showed no more than two blue coloured spots on each square centimetre of the surface, and no blue spot had a dimension larger than 1,5 mm		N/A
14.2.2.3	Test for high protection conduit and conduit fittings: after the test, the sample showed no precipitation of copper which cannot be scrubbed off in running water, if necessary after immersion for 15 s in a 10% solution of hydrochloric acid in water		N/A
<b>15</b>	<b>ELECTROMAGNETIC COMPATIBILITY</b>		N/A

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict
	Products covered by this standards are, in normal use, passive in respect of electromagnetic influences (emission and immunity)		N/A

## IEC 61386-21

Cl.	Requirement – Test	Result	Verdict
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7.1.102	<b>TABLE: Minimum inside diameter declared by manufacturer for the system</b>		N/A
	Size	Minimum inside diameter declared by manufacturer for the system (mm)	Verdict
	20		N/A
	25		N/A
	32		N/A
	38		N/A
	50		N/A
Supplementary information:			

8.1A	<b>TABLE: Checking of dimensions of conduits</b>						N/A
Size		Maximum outside diameter (all type of conduits)		Minimum outside diameter (metallic conduits)		Minimum outside diameter (non-metallic conduits)	
Outside diameters (mm)	Metric threads	Gauge fig.2 d <sub>g</sub> (mm)	Comply (P-F-N/A)	Gauge fig.3A c (mm)	Comply (P-F-N/A)	Gauge fig.3b d <sub>g</sub> (mm)	Comply (P-F-N/A)
20 +0/-0,3	M20	20,04	N/A	19,700	N/A	19,70	N/A
25 +0/-0,4	M25	25,04	N/A	24,600	N/A	24,60	N/A
32 +0/-0,4	M32	32,04	N/A	31,600	N/A	31,60	N/A
40 +0/-0,4	M40	40,04	N/A	39,600	N/A	39,60	N/A
50 +0/-0,5	M50	50,04	N/A	49,500	N/A	49,50	N/A
Supplementary information:							

8.1B	<b>TABLE: Checking of dimensions of threads</b>					N/A
Size		External threads of conduits and fittings		Internal threads of fittings		
Outside diameters (mm)	Metric threads	Go gauge fig. 4 (threaded) Comply (P-F-N/A)	No go gauge fig. 4 (plain) Comply (P-F-N/A)	Go gauge fig. 5 (threaded) Comply (P-F-N/A)	No go gauge fig. 5 (plain) Comply (P-F-N/A)	
20 +0/-0,3	M20					
25 +0/-0,4	M25					
32 +0/-0,4	M32					
40 +0/-0,4	M40					
50 +0/-0,5	M50					
Supplementary information:						

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict

8.2A	<b>TABLE: Checking of thread lengths according to table 101 (threadable conduits and threadable conduit fittings)</b>						N/A
Size	External thread			Internal thread			
	Minimum length allowed (mm)	Length measured (mm)	Comply (P-F-N/A)	Minimum length allowed (mm)	Length measured (mm)	Comply (P-F-N/A)	
20	14,0			15,0			
25	17,0			18,0			
32	19,0			20,0			
40	19,0			20,0			
50	19,0			20,0			
Supplementary information:							

8.2B	<b>TABLE: Checking of maximum entry diameter and minimum entry length details according to table 102 (non-threadable conduits and non-threadable conduit fittings)</b>						P
Size	Maximum entry diameter allowed (mm)	Entry diameter measured (mm)	Comply (P-F-N/A)	Minimum entry length allowed (mm)	Entry length measured (mm)	Comply (P-F-N/A)	
20	20.5	20.24	P	20.0	N/A	N/A	
25	25.5	25.18	P	25.0	N/A	N/A	
32	32.6	32.14	P	30.0	N/A	N/A	
38	—	—	—	—	—	—	
40	—	—	—	—	—	—	
50	—	—	—	—	—	—	
Supplementary information:							

8.2C	<b>TABLE: Checking of minimum inside diameter of the conduit system</b>			N/A
Size	Minimum inside diameter of the conduit system declared by manufacturer (mm)	Inside diameter of the conduit system measured (mm)	Comply (P-F-N/A)	
20			N/A	
25			N/A	
32			N/A	
38			N/A	
50			N/A	
Supplementary information:				

## IEC 61386-21

Cl.	Requirement – Test	Result	Verdict
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9.3	TABLE: Screw test (screw fixing using preformed threads)					N/A
Threaded part identification	Nominal diameter of thread (mm)	Column number of table 3 (I or II)	Applied torque (Nm)	Times (5/10)	Verdict	
					N/A	
Supplementary information:						

9.4	TABLE: Screw test (screw fixing using thread-forming screws)					N/A
Threaded part identification	Nominal diameter of thread (mm)	Column number of table 3 (I or II)	Applied torque (Nm)	Times (5/10)	Verdict	
					N/A	
Supplementary information:						

10.2	TABLE: Compression test								N/A
	Classification (first digit) .....						2/3/4/5		—
Size	N° of sample	$\varnothing_{bt}$ (mm)	F (N)	$\varnothing_{at1}$ (mm)	$[\varnothing_{bt} - \varnothing_{at1} / \varnothing_{bt}]100 \leq 25 \% (%)$	$\varnothing_{at2}$ (mm)	$[\varnothing_{bt} - \varnothing_{at2} / \varnothing_{bt}]100 \leq 10 \% (%)$	No visible cracks (P/F)	Verdict
Supplementary information:									
F = Compression force, reaching the value shown in table 4 within (30 ± 3) s									
$\varnothing_{bt}$ = Outside diameter measured before the test									
$\varnothing_{at1}$ = Outside diameter measured after the force given in table 4 has been applied for (60 ± 2) s where flattening has taken place, without removing the force									
$\varnothing_{at2}$ = Outside diameter measured after the test where flattening has taken place, (60 ± 2) s after removal of the force given in table 4 and the intermediate piece									

10.3	TABLE: Impact test						P
	Classification (second digit) .....					2	—
	Test temperature (table 1) (°C) .....					-5	—
	Mass of hammer (table 5) (kg) .....					1.0	—
	Fall height (table 5) (mm) .....					100	—
Size	N° of sample	Check of possibility to pass the gauge of figure 102 through the sample		No sign of disintegration / No visible cracks		Total n° of samples which passed the test	Verdict
		N° of samples which passed the test	N° of samples which failed the test	N° of samples which passed the test	N° of samples which failed the test		
—	1-12	12	—	12	—	12	P
Supplementary information:							

IEC 61386-21			
Cl.	Requirement – Test	Result	Verdict

10.4.101	<b>TABLE: Bending test (metallic or composite conduits)</b>							N/A
Size	N° of sample	Length of sample (mm)	Inside bending radius R (mm)	Welded seam, if any (outside of the bend/on the side)	No visible cracks (P/F)	Seam not opened, if any (P/F)	Section not distorted unduly: test with gauge of figure 102 (P/F)	Verdict
16	1							
20	1							
25	1							
Supplementary information:								

10.4.102	<b>TABLE: Bending test (non-metallic or composite conduits)</b>					N/A
	Type of bending aid .....		Coiled spring			—
	Classification (third digit) .....					—
	Samples conditioned at least 2 h at test temperature (table 1) (°C) .....					—
Size	N° of sample	Possibility to remove the bending aid without damage (P/F)	No visible cracks (P/F)	Possibility to pass the gauge of figure 102 (P/F)	Verdict	
20					N/A	
Supplementary information:						

10.6.102	<b>TABLE: Collapse test (non-metallic and composite conduits)</b>						N/A
	Type of bending aid .....						—
	Classification (fourth digit) .....						—
	Test temperature of the heating cabinet at which the support with the sample in position was kept for 24 h ± 15 min (table 2) (°C) .....						—
Size	N° of sample	Possibility to remove the bending aid without damage (P/F)	No visible cracks (P/F)	Possibility to pass the gauge of figure 102 (P/F)	Possibility to pass the gauge of figure 102 after the heating period of 24 h (P/F)	Verdict	
						N/A	
Supplementary information:							

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Cl.	Requirement – Test	Result	Verdict

10.7	<b>TABLE: Tensile test</b>					N/A
	Classification (tenth digit) .....		2/3/4/5			—
	Increasing tensile force value reached in (30 ± 3)s and then applied for (120 ± 10)s (table 6) (N) .....					—
Size	N° of assembly sample	Art./Type Ref. of the conduit fittings assembled to the conduit	Elongation occurred (Y/N)	After the test the conduit fittings or terminating conduit fittings remained properly assembled (P/F)	No visible cracks (P/F)	Verdict
Supplementary information:						

10.8	<b>TABLE: Suspended load test (conduit fittings)</b>					N/A	
	Classification (twelfth digit) .....		2/3/4/5			—	
	Test temperature of the heating cabinet at which the non-metallic and composite conduit fitting was kept during the test (table 2) (°C) .....					—	
Size	N° of sample	Art./Type Ref. of the conduit fitting	Load (N)	Duration (h)	No visible cracks (P/F)	No deformation (P/F)	Verdict
	1						
	2						
	3						
Supplementary information:							

11.2	<b>TABLE: Bonding test</b>				N/A
	Classification (sixth digit) .....		1/3		—
Size	N° of arrangement sample	Number and Art./Type Ref. of the conduit fittings coupled together the 10 pieces of conduit	Voltage drop measured (V)	Resistance (Ω)	Verdict
Supplementary information:					

11.3.1	<b>TABLE: Electrical insulating strength and resistance test (conduits)</b>			N/A
Size	N° of sample	Device incorporated into the circuit not trip during the insulating strength test (P/F)	Insulation resistance measured (MΩ)	Verdict
				N/A
Supplementary information:				

11.3.2	<b>TABLE: Electrical insulating strength and resistance test (conduit fittings)</b>			P
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Cl.	Requirement – Test	Result	Verdict
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Size	N° of sample	Art./Type Ref. of the conduit fitting	Device incorporated into the circuit not trip during the insulating strength test (P/F)	Insulation resistance measured (MΩ)	Verdict
32mm	1	SM 32	P	500	P
	2	SM 32	P	500	P
	3	SM 32	P	500	P

Supplementary information:

12	<b>TABLE: Heating test (conduits)</b>			N/A
	Classification (fourth digit) .....			—
	Test temperature of the heating cabinet at which the non-metallic and composite conduit fitting was kept for 4 h ± 5 min (table 2) (°C) .....			—
	Classification (first digit) .....			—
	Total mass applied for 24 h ± 5 min in an apparatus as shown in figure 8 (table 9) (kg) .....			—
Size	N° of sample	Sample after the period of 24 h ± 5 min and then cool to room temperature under load: no visible cracks (P/F)	Possibility to pass the gauge of figure 102 immediately after the removal of the load (P/F)	Verdict
				N/A

Supplementary information:

13.1.3.1	<b>TABLE: Glow-wire test (non-metallic and composite conduit fittings)</b>			P	
	Material designation .....			PVC	—
	Test temperature (°C) .....			750	—
Size	N° of sample	Art./Type Ref. of the conduit fitting	Visible flame or sustained glowing (Y/N)	Time of extinguishment of flames and glowing, if any, after removal of the glow-wire (s)	Verdict
20mm	1	SM 32	N	—	P
	2	SM 32	N	—	P
	3	SM 32	N	—	P

Supplementary information:



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Cl.	Requirement – Test	Result	Verdict
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13.1.3.2		<b>TABLE: Flame-propagation resistance test (non-metallic and composite conduits)</b>						N/A
		Material designation .....						—
Size	N° of sample	Highest mean material thickness (mm)	Flame application time (+1/0) (s)	Sample did not ignite (P/F)	Time of extinguishment of flaming or glowing, if any, after removal of the test flame (s)	No ignition of the tissue paper (P/F)	No evidence of burning or charring (P/F)	Verdict
								N/A
Supplementary information:								

14.1.1		<b>TABLE: Verification of protection against ingress of solid objects</b>					N/A	
		Classification - Protection against ingress of solid objects (seventh digit) .....: 3					—	
		For IP5X, category 2 applied					—	—
Size	N° of assembly sample	Art./Type Ref. of the conduit fitting with a short length of conduit assembled in each conduit entry	Assembly tested in accordance with the appropriate test of IEC 60529 (P/F)	No ingress of dust visible to normal or corrected vision without magnification in the assembly tested for IP5X or IP6X (P/F/NA)			Verdict	
							N/A	
Supplementary information:								

14.1.2		<b>TABLE: Verification of protection against ingress of water</b>					N/A
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**ANNEX 1**  
**PHOTOGRAPH**  
Straight coupler  
SM 20



Straight coupler  
SM 25



**ANNEX 1**  
**PHOTOGRAPH**  
Straight coupler  
SM 32



# Important

1. The test report is invalid without the official stamp of CVC;
2. Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;
3. The test report is invalid without the signatures of Approval and Reviewer;
4. The test report is invalid if altered;
5. Objections to the test report must be submitted to CVC within 15 days;
6. Generally, commission test is responsible for the tested samples only;
7. "P" means "pass", "F" means "fail", "N/A" means "not applicable" and " / " means "not test".

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