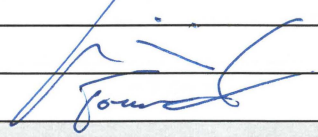
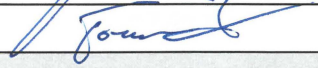


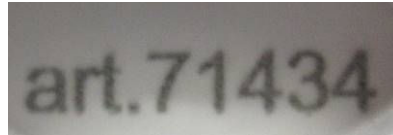


TEST REPORT IEC 60884-1 Plugs and socket-outlets for household and similar purposes Part 1: General requirements	
Report Number.	T211-0399/19
Date of issue	2019-05-21
Total number of pages	32
Name of Testing Laboratory preparing the Report	SIQ Ljubljana, Tržaška cesta 2, SI-1000 Ljubljana, Slovenia SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing
Applicant's name	ALING – CONEL d.o.o.
Address	Železnička 10, RS-21432 Gajdobra, Serbia
Test specification:	
Standard	IEC 60884-1:2002, AMD1:2006, AMD2:2013
Test procedure	Partial type test
Non-standard test method	N/A
Test Report Form No	IEC60884_1G
Test Report Form(s) Originator	IMQ S.p.A.
Master TRF	Dated 2019-05-07
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General disclaimer:	
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Test item description	IP55 cover plate for flush mounted switches and socket-outlets	
Trade Mark	ALING – CONEL	
Manufacturer	ALING – CONEL d.o.o., Železnička 10, RS-21432 Gajdobra, Serbia	
Model/Type reference	art.71442.x; art.71432.x; art.71434.x "See general product information for details"	
Ratings	IP55	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/> CB Testing Laboratory:	SIQ Ljubljana	
Testing location/ address	Tržaška cesta 2, SI-1000 Ljubljana, Slovenia SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing	
Tested by (name, function, signature)	Tibor Kokelj	
Approved by (name, function, signature) ...	Tomaž Knez	
Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ...		
Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) .:		
Approved by (name, function, signature) ...		
Testing procedure: CTF Stage 3:		
Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) .:		
Approved by (name, function, signature) ...		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment): - Attachment No.1: Technical documentation (4 pages) - Attachment No.2: Photos (3 pages)	
Summary of testing:	
Tests performed (name of test and test clause): Test related to IP55 requirements, construction, protection against electric shock and test of materials have been performed.	Testing location: SIQ Ljubljana Mašera – Spasičeva ulica 10 SI-1000 Ljubljana Slovenia
Summary of compliance with National Differences (List of countries addressed): /	

Copy of marking plate:



Test item particulars	: IP55 cover plate
Standard Sheet	: N/A
Rated current (A) / Rated voltage (V)	: N/A
Degree of protection against access to hazardous parts and against harmful ingress of solid foreign objects	: IP5X
Degree of protection against harmful ingress of water	: IPX5
Provision for earthing	: N/A
Method of connecting the cable	: N/A
Type of cable	: N/A
Nominal cross-sectional areas (mm²)	: N/A
Type of terminals	: N/A
Type of connections	: N/A
Socket-outlets:	
Degree of protection against electric shock :	N/A
Existence of shutters	: N/A
Method of application / mounting of the socket-outlet	: N/A
Method of installation	: N/A
Intended for circuits where	: N/A
Plugs:	/
Class of equipment	: 0 / I / II
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	: 2019-03-26
Date (s) of performance of tests	: (2019-04-02) – (2019-05-16)
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60068-2-1:	

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)..... : ALING – CONEL d.o.o.,
Železnička 10, RS-21432 Gajdobra,
Serbia

General product information and other remarks:

art.71442.x; art.71432.x; art.71434.x are separate cover plates, which are sold separately and can be used together with ALING-CONEL; EXPERIENCE family of products (switches/socket-outlets).

IP55 test was performed on smooth wall, as product is intended for mounting on such type of wall.

Differences between types:

Type	Size	Mounting means
art.71442.x	2M	Claws
art.71432.x	2M	Direct mounting
art.71434.x	4M	Direct mounting

x – color code:

0 = white

1 = grey

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING		P
8.1	Accessories marked as follows:		-
	- rated current (A)		N/A
	- rated voltage (V)		N/A
	- symbol for nature of supply		N/A
	- manufacturer's or responsible vendor's name	Aling - Conel symbol	P
	- type reference	art.71442; art.71432; art.71434	P
	- degree of protection (first characteristic numeral) if higher than 2.....	IP55	P
	- degree of protection (second characteristic numeral) if higher than 0.....	IP55	P
	- degree of protection (first characteristic numeral) higher than 4 for fixed socket outlet in which case the second characteristic numeral shall also be marked		P
	- degree of protection (second characteristic numeral) higher than 2 for fixed socket outlet in which case the first characteristic numeral shall also be marked.....		P
	Socket-outlets with screwless terminals marked with the following:		-
	- the length of insulation to be removed		N/A
	- an indication of the suitability to accept rigid conductors only (if any)		N/A
8.2	Symbols used: as required in the standard		P
	Marking for the nature of supply placed next to the marking for rated current and rated voltage		N/A
8.3	Marking of fixed socket-outlets placed on the main part:		-
	- rated current, rated voltage and nature of supply		N/A
	- identification mark of the manufacturer or of the responsible vendor		P
	- length of insulation to be removed, if any		N/A
	- indication of the suitability to accept rigid conductors only for screwless terminals for those socket-outlets having this restriction		N/A
	- type reference	art.71442; art.71432; art.71434	P
	Cover plates necessary for safety purposes and intended to be sold separately: marked with the manufacturer's or responsible vendor's name and type reference		P

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	IP code, if applicable: marked so as to be easily discernible	IP55	P
	Fixed socket-outlets classified according to item b) of 7.2.5: identified by a triangle visible after installation unless they have an interface configuration different from that used in normal circuits		N/A
8.4	Plugs and portable socket-outlets: marking specified in 8.1, other than the type reference, easily discernible		N/A
	Plugs and portable socket-outlets for equipment of class II not marked with the symbol for class II construction		N/A
8.5	Neutral terminals: N		N/A
	Earthing terminals: [earth symbol]		N/A
	Markings not placed on screws or other easily removable parts		N/A
	Terminals for conductors not forming part of the main function of the socket-outlet:		-
	- clearly identified unless their purpose is self-evident, or		N/A
	- indicated in a wiring diagram fixed to the accessory		N/A
	Identification of such terminals may be achieved by:		-
	- their being marked with graphical symbols according to IEC 60417-2 or colours and/or alphanumeric system, or		N/A
	- their being marked with their physical dimensions or relative location		N/A
8.6	Surface-type mounting boxes forming an integral part of socket-outlets having an IP code higher than IP4X, or higher than IPX2, the IP code marked on the outside of its associated enclosure so as to be easily discernible		N/A
8.7	Indication of which position or with which special provision the declared IP of flush-type and semi-flush-type fixed socket-outlets having IP>X0 is ensured		N/A
8.8	Marking durable and clearly legible with normal or corrected vision, without additional magnification. Test: 15 s with water and 15 s with petroleum spirit		P
10	PROTECTION AGAINST ELECTRIC SHOCK		P
10.1	Live parts not accessible, even after removal of parts which can be removed without the use of a tool for:		-
	Fixed socket-outlets		P

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Plugs when the plug is in partial or complete engagement with a socket-outlet		N/A
	Test with test probe B of IEC 61032		P
	Accessories with elastomeric or thermoplastic material: additional test carried out at $(35 \pm 2) ^\circ\text{C}$ with test probe 11 of IEC 61032 (75 N for 1 min)		P
	During the test: accessories not deform and no live parts accessible		P
	Plugs and portable socket-outlets pressed with a force of 150 N for 5 min as shown in figure 8: specimens not show deformation		N/A
10.2	Accessible parts (with exception of small screws and the like for fixing main parts and covers or cover plates): made of insulating material		P
	Cover or cover plates of fixed socket-outlets and accessible parts of portable socket-outlets: made of metal if the requirements of 10.2.1 or 10.2.2 are fulfilled		N/A
10.2.1	Accessible metal parts or accessible metal parts protected by supplementary insulation made by insulating linings or insulating barriers		N/A
	Insulating linings or insulating barriers cannot be removed without being permanently damaged		N/A
	Insulating linings or insulating barriers cannot be replaced in an incorrect position and, if they are omitted, accessories are rendered inoperable or manifestly incomplete		N/A
	There is no risk of accidental contact between live parts and metal covers or cover plates		N/A
10.2.2	Accessible metal parts are reliably connected, through a low-resistance connection, to the earth during fixing		N/A
10.3	Contact between a pin of a plug and a live socket-contact of a socket-outlet not possible while any other pin is accessible		N/A
	Compliance checked by manual test and by means of gauges with tolerances as specified in table 2		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		N/A
	Socket-outlets with enclosure or bodies of rubber or polyvinyl chloride: test carried out with a force of 75 N for 1 min		N/A

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Fixed socket-outlets provided with metal covers or cover plates: clearance of at least 2 mm required between a pin and a socket-contact when another pin(s) is(are) in contact with the metal covers or cover plates (mm)		N/A
10.4	External parts of plugs made of insulating material		N/A
	Overall dimensions of rings around pins not exceed 8 mm concentric with respect to the pin		N/A
10.5	Shuttered socket-outlets: live parts not accessible, without a plug in engagement, with the gauges shown in figure 9 and 10		N/A
	Live contacts automatically screened when the plug is withdrawn		N/A
	Shutters so designed that a plug is inserted with the same movement in a socket outlet with shutters as in a socket-outlet without shutters		N/A
	Means cannot easily be operated by anything other than a plug and not depend upon parts which are liable to be lost		N/A
	Gauge of figure 9, applied to the entry holes corresponding to live contacts with a force of 20 N, for approximately 5 s, successively in three directions, does not touch live parts		N/A
	Steel gauge of figure 10, applied to the entry holes corresponding to live contacts with a force of 1 N for approximately 5 s, in three directions, does not touch live parts		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		N/A
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		N/A
	Test plug inserted into the socket-outlet with a force of 150 N for 1 min		-
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		N/A
	After this test: socket-outlet still comply with the requirements of clause 9		N/A
10.7	Socket-outlet with or without lid with increased protection: live parts not accessible		N/A
	Test wire of 1 mm diameter (figure 10) applied with a force of 1 N on all accessible surfaces does not touch live parts		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		N/A

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Socket-outlet tested without a plug inserted with the lid, if any, open		N/A
13	CONSTRUCTION OF FIXED SOCKET-OUTLETS		P
13.1	Socket-contact assembly have sufficient resilience to ensure adequate contact pressure on plug pins		N/A
	Part of socket-contact assembly ensure metallic opposing contacts at least on two sides of each pins		N/A
13.2	Socket-contact and pin(s) of socket-outlet which are made of copper or copper alloy, as specified in 26.5, are considered as complying with this requirement		N/A
	The pin(s) of socket-outlets so constructed in such a way that the mechanical strength of the pin(s) does not depend on the plastic material	No pin	N/A
	Compliance is checked by inspection and in case of doubt by the tests of 14.2 and Clause 21 on a new set of specimens without plastic		N/A
13.3	Insulating linings, barriers and the like: adequate mechanical strength		P
13.4	Socket-outlets constructed as to permit		-
	- easy introduction into the terminal and reliable connection of the conductors in the terminals, except for lead wires of pilot lights		N/A
	- easy fixing of the main part to a wall or in a mounting box		N/A
	- correct positioning of the conductors		N/A
	- adequate space between the underside of the main part and the surface on which the main part is mounted;		N/A
	- adequate space between the sides of the main part and the enclosure (cover or box);		N/A
	Socket-outlets having screwless terminals, constructed that the connecting and/or disconnecting means of the screwless terminals cannot be activated by the conductors during and after installation		N/A
	Compliance is checked by inspection and in case of doubt by the following test		N/A
	The test is carried out with a solid copper conductor having the smallest cross-sectional area, as specified in 12.3.2. (mm ²).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If it is not possible to exert a force onto the connecting/disconnecting device, the product is deemed to comply with the requirements without further tests.		N/A
	During the application of the pull, the conductor do not come out of the screwless terminal		N/A
	In addition socket-outlets classified as design A: permit easy positioning and removal of the cover or cover plate, without displacing the conductors or activating the connecting and/or disconnecting means of screwless terminals.		N/A
	Compliance is checked by inspection and by an installation test with conductors of the largest nominal cross-sectional area specified in Table 3 (mm ²).....:		N/A
13.5	Socket-outlets designed that full engagement of associated plugs is not prevented by any projection from their engagement face		N/A
	Gap between the engagement face of the socket-outlet and the plug: not exceed 1 mm		N/A
13.6	Covers provided with bushings for the entry holes for the pins: not possible to remove them from the outside or for them to become detached inadvertently from the inside when the cover is removed		N/A
13.7	Covers, cover-plates or parts of them intended to ensure protection against electric shock:		-
	- held in place at two or more points by effective fixings		N/A
	- fixed by means of a single fixing, for example, by a screw, provided that they are located by another means (for example, by a shoulder)		N/A
	Fixings of covers or cover-plates of socket-outlets of design A serve to fix the main parts: there are means to maintain the base in position, even after removal of the covers or cover-plates		N/A
13.7.1	Covers or cover-plates whose fixings are of the screw-type:		N/A
	Compliance checked by inspection only		N/A
13.7.2	Covers or cover-plates whose fixing is not dependent on screws and whose removal is obtained by applying a force in a direction approximately perpendicular to the mounting/supporting surface:		N/A
	Compliance checked, when their removal may give access, with the standard test finger:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	to live parts: by the test of 24.14 (verification of the non-removal and the removal)		N/A
	to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in table 23: by the test of 24.15 (verification of the non-removal and the removal)		N/A
	only to parts of insulating material, or earthed metal parts, or metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in table 23, or live parts of SEL V circuits not greater than 25 V a.c.: by the test of 24.16 (verification of the non-removal and the removal)		N/A
13.7.3	Covers or cover-plates the fixing of which is not dependent on screws and whose removal is obtained by using a tool, in accordance with the manufacturer's instructions given in an instruction sheet or in other documentation:		N/A
	Compliance checked, when their removal may give access, with the standard test finger:		N/A
	to live parts: by the test of 24.14 (verification of the non-removal only)		N/A
	to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in table 23: by the test of 24.15 (verification of the non-removal only)		N/A
	only to parts of insulating material, or earthed metal parts, or metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in table 23, or live parts of SEL V circuits not greater than 25 V a.c.: by the test of 24.16 (verification of the non-removal only)		N/A
13.8	Cover-plate intended for a socket-outlet with earthing contact: not interchangeable with a cover-plate intended for a socket-outlet without earthing contact		N/A
13.9	Surface-type socket-outlets: no free openings in their enclosures		N/A
13.10	Screws or other means for mounting the socket-outlet on a surface in a box or enclosure: easily accessible from the front	Claws / direct fixing into box via screws	P
	Fixing means not serve any other fixing purpose		P
13.11	Multiple socket-outlets with a common base: provided with fixed links for the interconnection of the contacts in parallel		N/A

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Fixing of the links independent from the connection of the supply wires		N/A
13.12	Multiple socket-outlets, comprising separate bases: correct position of each base ensured		N/A
	Fixing of each base independent of the fixing of the combination to the mounting surface		N/A
13.13	Mounting plate of surface-type socket-outlets: adequate mechanical strength		N/A
13.14	Socket-outlets withstand the lateral strain imposed by equipment likely to be introduced into them		N/A
	Socket-outlets 16A 250V: test made 4 times with the socket-outlet turned through 90°, 5 N for 1 min (device shown in fig. 13)		N/A
	During the test: device not become disengaged from the socket-outlet		N/A
	After the test:		-
	- no damage		N/A
	- socket-outlets comply with clause 22		N/A
13.15	Socket-outlets are not an integral part of lampholders		N/A
13.16	Surface-type socket-outlets having IP>20 are according to their IP classification when fitted with conduits or with sheathed cables and without a plug in engagement		N/A
	Surface-type socket-outlets having IPX4 and IPX6 have provision for opening a drain hole		N/A
	Socket-outlets with a drain hole: drain hole is not less than 5 mm in diameter, or 20 mm ² in area with a width and a length of not less than 3 mm		N/A
	Drain hole: effective		N/A
	Lid springs (if any): of corrosion-resistant material (bronze or stainless steel)		P
13.17	Earthing pins: adequate mechanical strength		N/A
	Not solid pins: compliance checked by inspection and by the test of 14.2 made after the tests of clause 21		N/A
13.18	Earthing contacts, phase contacts and neutral contacts :		-
	- locked against rotation;		N/A
	- when the product is ready for the wiring do not possible to be removed without the use of a tool		N/A

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
13.19	Metal strips of the earthing circuit: no burrs which might damage the insulation of the supply conductors		N/A
13.20	Socket-outlets to be installed in a box: designed that the conductor ends can be prepared after the box is mounted in position, but before the socket-outlet is fitted in the box		N/A
13.21	Inlet openings: allow the introduction of the conduit or the sheath of the cable	No inlets	N/A
	Surface-type socket-outlets:		-
	the conduit or sheath of the cable can enter at least 1 mm into the enclosure		N/A
	inlet opening for conduit entries, or at least two of them if there are more than one, capable of accepting conduit sizes of 16, 20, 25 or 32 according to IEC 60423 or a combination of at least two of any of these sizes		N/A
	inlet opening for cable entries capable of accepting cables having the dimensions specified in table 14 or be as specified by the manufacturer: rated current (A); Limits of external dimensions of cable min/max (mm)		N/A
13.22	Membranes (grommets) in inlet openings: reliably fixed and not displaced by the mechanical and thermal stresses occurring in normal use		N/A
	Test on membranes subjected to the ageing treatment specified in 16.1 and assembled in the accessories		-
	Accessories placed at $(40 \pm 2) ^\circ\text{C}$ for 2 h. Force of 30 N applied for 5 s by test probe 11 of IEC 61032. During the test: no deformation		N/A
	Membranes likely to be subjected to an axial pull: axial pull of 30 N applied for 5 s. During the test: membranes not become detached		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
	Test repeated with membranes not subjected to any treatment		N/A
13.23	Membranes in inlet openings: introduction of the cables into the accessory permitted when the ambient temperature is low		N/A
	Test on membranes not subjected to the ageing treatment specified in 16.1 and assembled in the accessories		-

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Accessories kept at $(-15 \pm 2) ^\circ\text{C}$ for 2 h: possibility to introduce cables of the largest diameter through membranes		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
16	RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY		P
16.1	Resistance to ageing		-
	Accessories are resistant to ageing		P
	For accessories having a lid, the lid is closed during the test		P
	Portable socket-outlets: the plug of the same system having the same rated current as the socket-outlet inserted into the socket-outlet during the test		N/A
	Accessories subjected to a test in a heating cabinet at $(70 \pm 2) ^\circ\text{C}$ for seven days (168 h)		P
	After the tests, the specimens show:		-
	- no crack visible with normal or corrected vision without additional magnification		P
	- no sticky or greasy material		P
	- no trace of cloth (forefinger pressed with 5 N)		P
	- no damage		P
	Portable socket-outlets: contact pressure of the contact assembly checked as specified in subclause 22.2 with the single-pin gauge		N/A
16.2	Protection provided by enclosures		-
	Enclosures provide a degree of protection in accordance with the IP designation of the accessory	IP55	P
16.2.1	Protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects		-
	Accessories and their enclosures provide a degree of protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects		P
	Fixed socket-outlets: mounted as in normal use on a vertical surface		P
	Flush-type and semi-flush type socket-outlets: mounted in an appropriate box according to the manufacturer's instructions		P

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Accessories with screwed glands or membranes fitted with flexible cables within the range specified in table 3:		-
	- largest cross-sectional area (mm ²); type of cable (table 17)	/	—
	- smallest cross-sectional area (mm ²); type of cable (table 17)	/	—
	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm)	/	—
	Screws of the enclosure tightened with a torque equal to 2/3 of the torque given in table 6 (Nm)	/	—
16.2.1.1	Protection against access to hazardous parts		-
	Appropriate test performed as specified in IEC 60529 (see also clause 10)	IP55	P
16.2.1.2	Protection against harmful effects due to ingress of solid foreign objects		-
	Appropriate test performed as specified in IEC 60529	IP55	P
	Test on accessories with IP5X (considered to be of category 2): dust not penetrated in a quantity to interfere with satisfactory operation or to impair safety	No dust inside the enclosure	P
	Test on accessories with IP6X (considered to be of category 1): dust do not penetrate		N/A
16.2.2	Protection against harmful effects due to ingress of water		-
	Accessories and their enclosures provide a degree of protection against harmful effects due to ingress of water in accordance with their IP classification	IP55	P
	Appropriate test performed as specified in IEC 60529 under the following conditions:		-
	Flush-type and semi-flush type socket-outlets: fixed in a vertical test wall using an appropriate box according to the manufacturer's instructions		P
	Accessory suitable to be installed on a rough wall: test wall according to figure 15 is used	Only smooth wall	N/A
	Surface-type socket-outlets mounted as for normal use in a vertical position and fitted with cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) or conduits or both in accordance with the manufacturer's instructions:		-
	- largest cross-sectional area (mm ²); type of cable (table 17)		—
	- smallest cross-sectional area (mm ²); type of cable (table 17)		—

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Portable socket-outlets tested on a plain, horizontal surface in a position as in normal use and fitted with flexible cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) according to table 17:		-
	- largest cross-sectional area (mm ²); type of cable (table 17)		—
	- smallest cross-sectional area (mm ²); type of cable (table 17)		—
	Screws of enclosure tightened with a torque equal to 2/3 of the torque given in table 6 (Nm)		—
	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm)		—
	Accessory with drain holes opened during the test: any accumulation of water proved by inspection		N/A
	Socket-outlets tested without a plug in engagement		N/A
	Plugs tested when in full engagement with:		-
	- a fixed socket-outlets		N/A
	- a portable socket-outlets		N/A
	of the same system and with the same degree of protection against harmful effects due to ingress of water		—
	Specimens withstand an electric strength test specified in 17.2 which is started within 5 min of completion of the IP test		N/A
16.3	Resistance to humidity		-
	Accessories proof against humidity which may occur in normal use		P
	Compliance checked by a humidity treatment carried out in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 %		P
	Specimens kept in the cabinet for:		-
	- two days (48 h) for accessories having IPX0		N/A
	- seven days (168 h) for accessories having IP>X0		P
	After this treatment the specimens show no damage		P
17	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
17.1	Insulation resistance measured 1 min after application of 500 V d.c.	See appended table 17.1	P
17.2	Electric strength: a.c. test voltage applied for 1 min	See appended table 17.2	P
24	MECHANICAL STRENGTH		P

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Accessories, surface mounting boxes, screwed glands and shrouds have adequate mechanical strength		P
24.1	Fixed socket-outlets, portable multiple socket-outlets and surface-type mounting boxes: hammer test described in IEC 60068-2-75 (test EHA), equivalent mass of 250 g	See appended table 24.1	P
	After the test: no damage, live parts no become accessible		P
24.2	Portable single socket-outlets and plugs: subjected to test Ec: Rough handling shocks, primarily for equipment-type specimens, procedure 2 of IEC 60068-2-31 (tumbling barrel); number of falls.....:		N/A
	After the test:		-
	- no part become detached or loosened;		N/A
	- pins no become so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.3;		N/A
	- pins no turn when a torque of 0,4 Nm is applied for 1 min in each direction		N/A
	The shutters of socket-outlets tested again according to Clause 21, from paragraph 19 up to paragraph 24 (only the tests of shutters)		N/A
24.3	Main parts of surface-type socket-outlets: first fixed to a cylinder of rigid steel sheet and then fixed to a flat steel sheet		-
	During and after the tests: no damage		N/A
24.4	Portable single socket-outlets, multiple socket-outlets and plugs (elastomeric or thermoplastic material): impact test, weight (1000 ± 2) g, height 100 mm (apparatus shown in fig. 27)		-
	Specimens placed in a freezer at (-15 °C ± 2) °C for at least 16 h. After the test: no damage		N/A
24.5	Portable single socket-outlets and plugs (elastomeric or thermoplastic material): compression test, 300 N for 1 min, position a) and b) (apparatus shown in fig. 8)		-
	After the test: no damage		N/A
24.6	Screwed glands of accessories having IP>20: torque test (1 min)		-
	- diameter of test rod (mm)		—
	- type of material (metal / moulded)		—
	- torque (Nm)		—
	After the test: no damage of glands and enclosures of the specimens		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.7	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in fig. 28)		-
	After the test: no damage of pins, insulating sleeve not have punctured or rucked up		N/A
24.8	Shuttered socket-outlets: mechanical test carried out on specimens submitted to the normal operation test according to clause 21		-
	Force (40 N / 75 N) applied for 1 min against the shutter of an entry hole by means of one pin (N) :		—
	Pin did not come in contact with live parts		N/A
	After the test: no damage		N/A
24.9	Mechanical test for multiple portable socket-outlet: 8 falls on concrete floor with the specimens arranged as shown in figure 29		-
	Rewirable multiple socket-outlets: flexible cable of the smallest cross-sectional area specified in table 3 :		—
	After the test: no damage, no part have become detached or loosened		N/A
	Accessories having IP>X0 submitted again to the tests as specified in 16.2		N/A
	The shutters of multiple socket-outlets tested again according to Clause 21, from paragraph 19 up to paragraph 24 (only the tests of shutters)		N/A
24.10	Plugs: pull test to verify the fixation of pins in the body of the plug (new specimens)		-
	Maximum withdrawal force (table 16) applied for 1 min on each pin in turn, after the specimen has been placed at $(70 \pm 2) ^\circ\text{C}$ for 1 h (N) :		—
	After the test: displacement of pins in the body of the plug $\leq 1 \text{ mm}$ (mm) :		N/A
24.11	Barriers of portable socket-outlets having means for suspension on a mounting surface:		-
	Force applied for 10 s against the barrier by means of a cylindrical steel rod (1,5 times the maximum plug withdrawal force in 22.1, table 16) (N) :		—
	Rod did not pierce the barrier		N/A
24.12	Portable socket-outlets having means for suspension on a mounting surface (pull test):		-
	Pull applied to the supply flexible cable for 10 s (force prescribed in 23.2 for checking the flexible cable anchorage) (N) :		—
	During the test: no break of the means for suspension on a mounting surface		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.13	Portable socket-outlets having means for suspension on a mounting surface (pull test):		-
	Pull applied to the engagement face of the socket-outlet for 10 s (maximum withdrawal force specified, for the corresponding plug, in table 16) (N) :		—
	During the test: no break of the means for suspension on a mounting surface		N/A
24.14	Forces necessary to retain or remove covers, cover-plates or parts of them (accessibility with the test finger to live parts)		-
24.14.1	Verification of the retention of covers or cover-plates (fixed socket-outlets)		-
	Force (40 N / 80 N) applied for 1 min perpendicular to the mounting surface (N) :		—
	Covers or cover-plates did not come off		N/A
	Test repeated on new specimens with a sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates did not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates (fixed socket-outlets)		-
	Force not exceeding 120 N applied 10 times perpendicular to the mounting / supporting surface: covers or cover-plates came off		N/A
	Test repeated on new specimens with a sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates came off		N/A
	After the test: no damage		N/A
24.14.3	Verification of the retention of covers or cover-plates (plugs and portable socket-outlets)		-
	Force 80 N applied for 1 min perpendicular to the mounting surface: covers, cover-plates or parts of them did not come off		N/A
	Test repeated with a force of 120 N:		-
	Rewirable plugs and rewirable portable socket-outlets: covers, cover-plates or parts of them came off but the specimen showed no damage		N/A
	Non-rewirable, non-moulded-on accessories: covers, cover-plates or parts of them came off but the accessories were permanently useless according to 14.1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.15	Force necessary for covers or cover-plates to come off or not to come off (accessibility with the test finger to non-earthed metal parts separated from live parts by creepage distances and clearances according to table 23)		-
24.14.1	Verification of the non-removal of covers or cover-plates		-
	Force (10 N / 20 N) applied for 1 min in direction perpendicular to the mounting surface (N) :		—
	Covers or cover-plates did not come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates did not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates		-
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers or cover-plates came off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates came off		N/A
	After the test: no damage		N/A
24.16	Force necessary for covers or cover-plates to come off or not to come off (accessibility to insulating parts, earthed metal parts, live parts of SELV ≤ 25 V a.c. or metal parts separated from live parts by creepage distances twice those according to table 23)		-
24.14.1	Verification of the non-removal of covers or cover-plates		-
	Force 10 N applied for 1 min in direction perpendicular to the mounting surface: covers or cover-plates did not come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates did not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates		-
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers or cover-plates came off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates came off		N/A
	After the test: no damage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.17	Test with gauge of figure 7 applied according to figure 9 for verification of the outline of covers or cover-plates: distances between face C of gauge and outline of side under test, not decrease :	<u>complying</u> / not complying	—
24.18	Test with gauge according to figure 5 applied as shown in figure 11 (1 N): gauge not enter more than 1mm :	<u>complying</u> / not complying	—
24.19	Shroud of portable socket-outlets: compression test (20 ± 2) N at (25 ± 5) °C by means of the apparatus shown in figure 38		-
	After 1 min and while the shrouds are still under pressure the dimensions did comply with the appropriate standard sheet		N/A
	Test repeated with the specimen rotated 90 °		N/A
25	RESISTANCE TO HEAT		P
25.1	Specimens kept for 1 h in a heating cabinet at (100 ± 2) °C for 1 h		-
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
	After the test:		-
	- no access to live parts with probe B of IEC 61032 applied with a force not exceeding 5 N		P
	- markings still legible		P
25.2	Parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position, as well as parts of the front surface zone, 2 mm wide, surrounding the phase and neutral pin entry holes: ball-pressure test at (125 ± 2)°C for 1 h	See appended table 25.2	N/A
25.3	Parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)	See appended table 25.3	P
25.4	Portable accessories: compression test (20 N) at (80 ± 2)°C for 1 h by means of the apparatus shown in figure 38		-
	After the test: no damage		N/A
28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		
28.1	Resistance to abnormal heat and to fire		P
28.1.1	Glow-wire test according to IEC 60695-2-10 and IEC 60695-2-11	See appended table 28.1.1	P
28.1.2	Plugs with pins provided with insulating sleeves:		-

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test temperature maintained for 3 h by means of the apparatus shown in figure 40 at $(120 \pm 5) ^\circ\text{C}$ / $(180 \pm 5) ^\circ\text{C}$		—
	Impact test according to sub-clause 30.4 (mass 100 g, height 100 mm, 4 impacts): no cracks of the insulating sleeves		N/A
28.2	Resistance to tracking		-
	Parts of insulating material retaining live parts in position of accessories having IP>X0: of material resistant to tracking	No current carrying parts	N/A
	Tracking test at 175 V with solution A of IEC 60112	See appended table 28.2	N/A

17.1	TABLE: insulation resistance			P
Item per 17.1	test voltage applied between:	measured (MΩ)	required (MΩ)	
a	All poles together – outside of enclosure	> 100	> 5	
supplementary information: For this test general purpose socket-outlet was inserted in enclosure and appropriate test was performed				

17.2	TABLE: electric strength			P
	rated voltage (V)	250 V		—
item per 17.1	test voltage applied between:	test voltage (V)	flashover / breakdown (Yes/No)	
a	All poles together – outside of enclosure	2000 V	No	
supplementary information: For this test general purpose socket-outlet was inserted in enclosure and appropriate test was performed				

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict

24.1	TABLE: impact test			P
part of enclosure tested per table 21 (A, B, C, D)	blows per part	height of fall (mm)	comments	
A	5	100 mm	No damage	
supplementary information:				

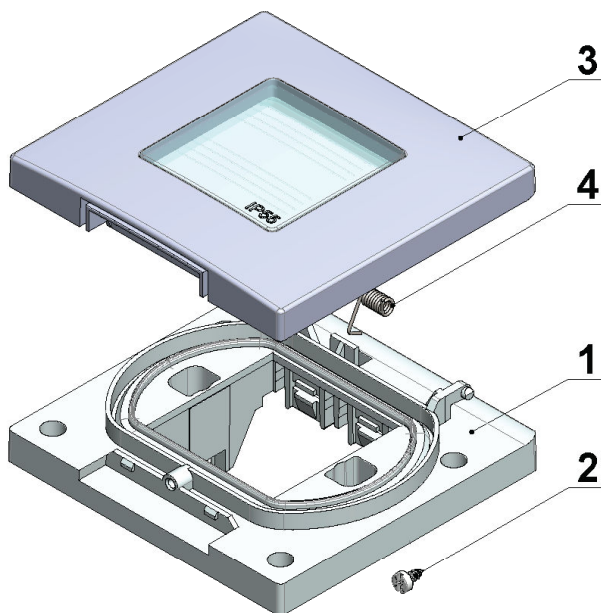
25.2	TABLE: ball pressure test of insulating materials			P
	allowed impression diameter (mm)	≤ 2 mm		—
part under test		test temperature (°C)	impression diameter (mm)	
supplementary information:				


25.3	TABLE: ball pressure test of insulating materials			P
	allowed impression diameter (mm):	≤ 2 mm		—
part under test		test temperature (°C) ⁽¹⁾	impression diameter (mm)	
Enclosure material (ELIX ABS P2H--AT)		70°C	< 1,0 mm	
supplementary information:				

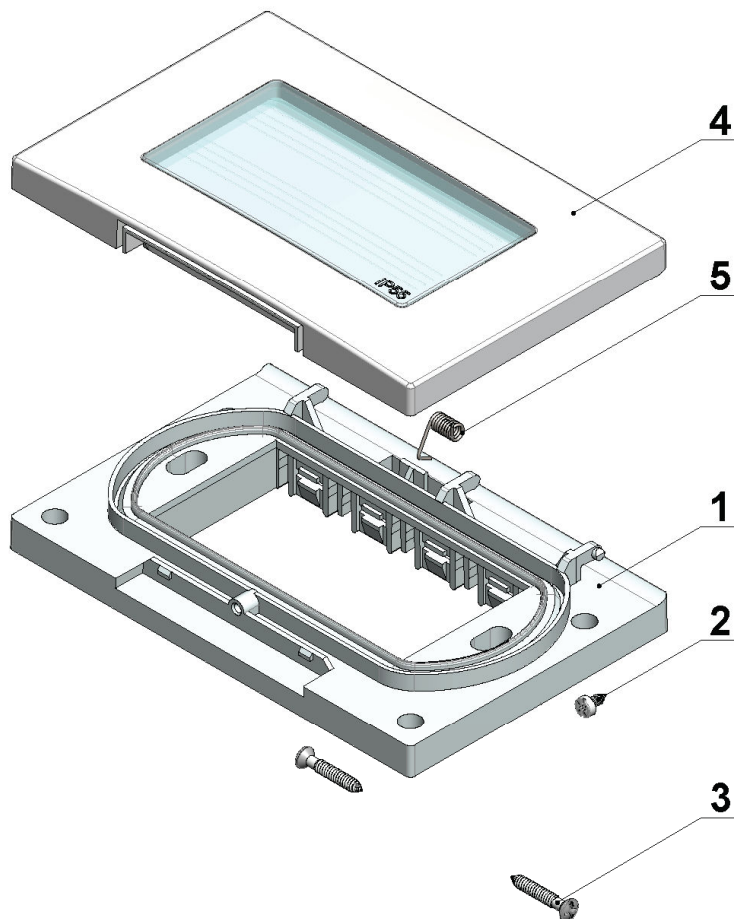
28.1.1	TABLE: glow-wire test					P
part under test	material designation	test temperature (°C)	visible flame and sustained glowing (Y/N)	flame and glowing extinction time	ignition of the tissue paper (Y/N)	
Enclosure	ELIX ABS P2H--AT	650°C	N	/*	N	
Transparent cover	PVC T6001	650°C	N	/*	N	
supplementary information: *No fire. No drops						

28.2	TABLE: resistance to tracking			N/A
	number of drops	50	—	
part under test	material designation		test voltage (V)	flashover / breakdown (Yes/No)
			175	
supplementary information:				

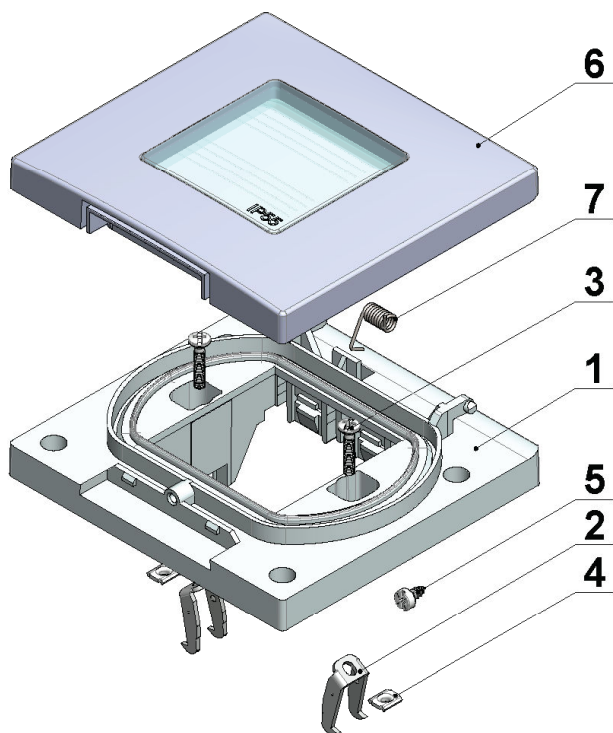
Attachment No.1 (Technical documentation)



4	Opruga poklopca kućišta IP55		art.71422.05	1	1.1200		gal Zn 5
3	Poklopac kućišta IP55 EXP 2M sklop		PSK.71422.2	1			
2	Vijak za lim A2,9x6,5		1000191	1	5.8	1000191	gal Zn 5
1	Blok kućišta u zid sa vijcima IP55 EXP 2M sklop		PSK.71432.1	1			
Poz.	Naziv		Oznaka	Kom.	Materijal	Dim./ Šifra za nabavku	Napomena
		Materijal			Površinska zaštita	Termička obrada	
					ID Broj	Masa	Razmera
	Sklop	Kom.			008500	80.508	1:1.5
Pripadnost					Naziv		
71000-Prirubnice i nosaci_EXPERIENCE					KUĆIŠTE MODULA EXP ZA U ZID IP55 SA VIJCIMA 2M		
			Tolerancije slobodnih mera				
	Datum	Ime					
Konstruisao	18.10.17.	Ognjen Samardžić					
Crtao	18.10.17.	Ognjen Samardžić					
Pregledao	15.01.19	Jovica Ristić					
Odobrio	15.01.19	Jovica Ristić					
							
			ALING-CONEL GAJDOBRA				
					Oznaka	Revizija	
					art.71432	02	



5	Opruga poklopca kućišta IP55		art.71422.05	1	1.1200		gal Zn 5
4	Poklopac kućišta IP55 EXP 4M sklop		PSK.71424.2	1			
3	Vijak 3,5x20 za prirubnicu		art.6513.02	2	5.8	1000147	gal Zn 5 žuto
2	Vijak za lim A2,9x6,5		1000191	1	5.8	1000191	gal Zn 5
1	Blok kućišta u zid sa vijcima IP55 EXP 4M sklop		PSK.71434.1	1			
Poz.	Naziv		Oznaka	Kom.	Materijal	Dim./Šifra za nabavku	Napomena
		Materijal	Površinska zaštita			Termička obrada	
		Dim./Šifra za nabavku	ID Broj			Masa	Razmera
	Sklop	Kom.	008477			106.421	1:1.5
Pripadnost					Naziv		
71000-Prirubnice i nosaci_EXPERIENCE					KUĆIŠTE MODULA EXP ZA U ZID IP55 SA VIJCIMA 4M		
			Tolerancije slobodnih mera		<div>Oznaka</div> <div>art.71434</div> <div>Revizija</div> <div>02</div>		
	Datum	Ime					
Konstruisao	18.10.17.	Ognjen Samardžić	<div></div> <div>ALING-CONEL GAJDOBRA</div>				
Crtao	18.10.17.	Ognjen Samardžić					
Pregledao	15.01.19	Jovica Ristić					
Odobrio	15.01.19	Jovica Ristić					



7	Opruga poklopca kućišta IP55		art.71422.05	1	1.1200		gal Zn 5	
6	Poklopac kućišta IP55 EXP 2M sklop		PSK.71422.2	1				
5	Vijak za lim A2,9x6,5		1000191	1	5.8	1000191	gal Zn 5	
4	Navrtka stegača		art.605.23	2	1.0330 (DC01)	605.23	Cinkovanje	
3	Vijak M3x14 ISO 7047 modifikovan		1000197	2	5.8	1000197	gal Zn 5	
2	Stegač uža		art.605.22	2	1.0330 (DC01)	605.22	Cinkovanje	
1	Blok kućišta u zid sa stegačima IP55 EXP 2M sklop		PSK.71442.1	1				
Poz.	Naziv		Oznaka	Kom.	Materijal	Dim./Šifra za nabavku	Napomena	
		Materijal			Površinska zaštita	Termička obrada		
		Dim./Šifra za nabavku			ID Broj	Masa	Razmera	
Sklop	Kom.				008500	86.457	1:1.5	
Pripadnost					Naziv			
71000-Prirubnice i nosaci_EXPERIENCE					KUĆIŠTE MODULA EXP ZA U ZID IP55 SA STEGAČIMA 2M			
			Tolerancije slobodnih mera					
	Datum	Ime	 ALING-CONEL GAJDOBRA		Oznaka art.71442		Revizija 02	
Konstruisao	19.10.17	Ognjen Samardžić						
Crtao	18.10.17.	Ognjen Samardžić						
Pregledao	15.01.19	Jovica Ristić						
Odobrio	15.01.19	Jovica Ristić						

Attachment No.2 (Photos)



