

NATIONAL TECHNICAL ASSESSMENT
ITB-KOT-2019/0715 Rev. 1

This National Technical Assessment has been issued pursuant to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 regarding national technical assessments (Dz. U. of 2016, Item 1968) by the Building Research Institute in Warsaw, upon application by:

CONECTO Sp. z o.o.
Florentyna 25, 62-817 Żelazków

National Technical Assessment ITB-KOT-2019/0715, Rev. 1, is a proof of positive assessment of the performance of the following construction products in their intended use:

CONECTO PARK SL and GA
waterproof expansion joint profiles for floor systems

This National Technical Assessment is valid until: **27 March 2024**

DIRECTOR
pp. Deputy Director for Technical Assessment and
European Harmonisation
Anna Panek, MSc Eng.

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1. TECHNICAL DESCRIPTION OF THE PRODUCT

The object of this National Technical Assessment is CONECTO PARK SL and GA waterproof expansion joint profiles manufactured by CONECTO Sp. z o.o., Florentyna 25, 62-817 Żelazków, in a production facility at Beznatka.

The waterproof expansion joints comprise aluminium or stainless steel profiles (Fig. A1 + A4) and EPDM sealing inserts.

This National Technical Assessment applies to the following types of waterproof expansion joint profiles:

- CONECTO PARK SL 190.30.N (Fig. A5),
- CONECTO PARK SL 190.30.N (Fig. A6),
- CONECTO PARK SL 190.30.CV (Fig. A7),
- CONECTO PARK SL 210.50.N (Fig. A8),
- CONECTO PARK SL 210.50.W (Fig. A9),
- CONECTO PARK SL 210.50.CV (Fig. A10),
- CONECTO PARK SL 230.70.N (Fig. A11),
- CONECTO PARK SL 230.70.W (Fig. A12),
- CONECTO PARK SL 230.70.CV (Fig. A13),
- CONECTO PARK GA 43.10.15÷100 S (Fig. A14),
- CONECTO PARK GA 43.10.100÷200 S (Fig. A15),
- CONECTO PARK GA 43.10.CV S (Fig. A16),
- CONECTO PARK GA 43.10.90& S (Fig. A17),
- CONECTO PARK GA 50.20.15÷100 S (Fig. A18),
- CONECTO PARK GA 50.20.100÷200 S (Fig. A19),
- CONECTO PARK GA 50.20.CV S (Fig. A20),
- CONECTO PARK GA 50.20.90& S (Fig. A21),
- CONECTO PARK GA 63.30.15÷100 S (Fig. A22),
- CONECTO PARK GA 63.30.100÷200 S (Fig. A23),
- CONECTO PARK GA 63.30.CV S (Fig. A24),
- CONECTO PARK GA 63.30.90& S (Fig. A25),
- CONECTO PARK GA 88.45.15÷100 S (Fig. A26),
- CONECTO PARK GA 88.45.100÷200 S (Fig. A27),
- CONECTO PARK GA 88.45.CV S (Fig. A28),
- CONECTO PARK GA 88.45.90& S (Fig. A29).

CONECTO PARK SL waterproof expansion joint profiles with a flexible sealing insert made of EPDM, clamped with aluminium or stainless steel profiles are designed for surface or recessed installation.

CONECTO PARK GA waterproof expansion joint profiles with a flexible sealing insert made of EPDM placed in aluminium carrier profiles and clamped with aluminium or stainless steel angle are designed for recessed installation. CONECTO PARK GA profiles may be used with an extended elastomeric cover element (L type) or an additional stainless steel cover (T type) (see Fig. A14 b and c). The shapes and dimensions of CONECTO PARK SL and GA waterproof expansion joint profiles are shown in Annex A.

The materials used for the production of CONECTO PARK SL and GA waterproof expansion joint profiles are listed in Annex B.

2. INTENDED USE OF THE PRODUCT

CONECTO PARK SL and GA expansion joint profiles are designed to provide water-tight cover of expansion gaps in floors and flooring systems indoors and outdoors within a temperature range of -30°C to +80°C.

CONECTO PARK SL and GA waterproof expansion joint profiles can be used for the protection of expansion gaps from penetrating runoff water, use-related water (wet rooms) and surface water occurring on floors and flooring systems during cleaning and maintenance activities on the floor surfaces.

CONECTO PARK SL and GA waterproof expansion joint profiles can be used to protect expansion gaps between horizontal floor surfaces or corner gaps between the floor and a wall.

CONECTO PARK SL and GA expansion joint profiles are designed for gaps with a width of 50-150 mm and can compensate for changes in the width (movement of floor components) within the range specified in Annex A, Fig. A5 + A29, where H designates horizontal displacement and V designates vertical displacement.

CONECTO PARK SL and GA waterproof expansion joint profiles can be used to protect floors with appropriately located expansion gaps from cracking outside the expansion gaps.

The expansion joint profiles are capable of withstanding loads from foot and vehicular traffic specific for G-category surfaces according to PN-EN 1991-1-1:2004. The specific use of G-category traffic and parking areas is specified in Table 1.

Table 1

Category of traffic area	Specific use	Examples
G	Traffic and parking areas for medium vehicles (≤30 kN and ≤160 kN gross vehicle weight on two axles)	Access routes: delivery zones, zones accessible to fire engines (≤ 160 kN gross vehicle weight)
Note: Category G areas should be marked with appropriate warning signs.		

The influence of temperature and concrete shrinkage on structural deformation and resulting changes in the size of expansion gaps should be determined according to PN-EN 1992-1-1:2008.

In the case of expansion joint profiles whose installation requires the provision of suitable recesses (expansion grooves), the recesses should be appropriately dimensioned and the squareness and flatness of their mounting surfaces should be maintained.

CONECTO PARK SL and GA expansion joint profiles should be fixed by means of expansion anchor bolts or other mechanical fasteners approved for sale according to the applicable regulations and designed for the specific mounting surface. The spacing of anchoring points should be provided in the installation manual by the manufacturer.

The waterproof expansion joint profiles covered by this National Technical Assessment should be used in compliance with:

- The basic design developed for a specific application, Polish standards and technical and building regulations, in particular with the Regulation of the Minister of Infrastructure of 12 April 2002 regarding technical requirements for buildings and their location (Dz. U. of 2015, Item 1422, as amended), the provisions of this National Technical Assessment,
- The guidelines provided in the instructions for use of the products, developed by the manufacturer and supplied to customers.

3. PERFORMANCE OF THE PRODUCT AND THE METHODS USED FOR ITS ASSESSMENT

3.1. Performance characteristics of the product

3.1.1. Durability. CONECTO PARK SL and GA waterproof expansion joint profiles withstand a test of 100,000 cycles of transverse passage of a rubberised wheel exerting a vertical load of 20 kN on a square test area with a side length of 200 mm.

3.1.2. Durability under repeated changes of the expansion gap width. CONECTO PARK SL and GA waterproof expansion joint profiles withstand a test of 5,000 cycles of opening and closing of the joint within the displacement limits defining the movement capacity specified in Annex A, Figs A5 to A29.

3.1.3. Durability in extreme temperatures. CONECTO PARK SL and GA waterproof expansion joint profiles withstand a test of 2,000 cycles of transverse passage of a rubberised wheel exerting a vertical load of 20 kN on the sample with a specific contact area, at a temperature of -30°C and +80°C.

3.1.4. Durability under repeated changes of the expansion gap width in extreme temperatures. CONECTO PARK SL and GA waterproof expansion joint profiles withstand a test of 5,000 cycles of opening and closing of the joint within the displacement limits defining the movement capacity specified in Annex A, Figs A5 to A29 at a temperature of -30°C and +80°C.

3.1.5. Watertightness. CONECTO PARK SL and GA waterproof expansion joint profiles, before and after each of the durability tests described in Sections 3.1.1, 3.1.2, 3.1.3 and 3.1.4, prevent penetration of runoff water (unpressurised) while sprayed on with water for at least 10 minutes at a rate of 10 l per minute.

3.2. Methods used for performance assessment

3.2.1. Durability test. The durability of waterproof expansion joint profiles is assessed on a test stand whose schematic view is shown in Figure 1. The rubberised wheel should exert a required load. Required force is applied to the sample via a 200 mm-wide wheel and the pressure adjusted so that the required length of contact area with the sample surface is obtained. Then a pneumatic cylinder induces reciprocating movement of the sample with a stroke of 400 mm, so that the loaded wheel can roll on the expansion joint, the forward and the return movement of the sample making a single test cycle. Once the required number of wheel roll cycles is completed the waterproof expansion joint profile should not reveal any damage. The test should be performed for the maximum width of the expansion joint and the maximum permissible difference of levels.

Figure 1. Schematic view of the durability test stand.

3.2.2. Testing durability under repeated changes of the expansion gap width. The durability under repeated changes of the expansion gap width is tested on a test sample mounted on a testing machine and subject to cyclic loads making the expansion joint profile open and close according to the declared movement capacity.

3.2.3. Testing durability in extreme temperatures. The durability of waterproof expansion joint profiles is tested on a test stand whose schematic view is shown in Figure 1. The test stand with the sample is placed in an environmental chamber with a temperature of -30°C. The rubberised wheel

should exert a required load. Required force is applied to the sample via a 200 mm-wide wheel and the pressure adjusted so that the required length of contact area with the sample surface is obtained. Then a pneumatic cylinder induces reciprocating movement of the sample with a stroke of 400 mm, so that the loaded wheel can roll on the expansion joint, the forward and the return movement of the sample making a single test cycle. Once the required number of wheel roll cycles is completed the waterproof expansion joint profile should not reveal any damage. The test should be performed for the maximum width of the expansion joint and the maximum permissible difference of levels. The test described above is also performed at a temperature of +80°C.

3.2.4. Testing durability under repeated changes of the expansion gap width in extreme temperatures. The durability under repeated changes of the expansion gap width in extreme temperatures is tested on a test sample mounted on a testing machine placed in an environmental chamber with a temperature of -30°C and subject to cyclic loads making the expansion joint profile open and close according to the declared movement capacity. The test described above is also performed at a temperature of +80°C.

3.2.5. Testing watertightness. Water-tightness is assessed on the same test sample which has previously been subject to the durability tests described in Sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4. The watertightness test consists in spraying water on the surface of the test sample where an expansion joint is protected with a waterproof expansion joint profile. Water should be sprayed at a rate of 10 l per minute. The test should continue for 10 minutes. Upon completion of the test the sample should be visually inspected to check that no water penetrated into the expansion joint (the joint should remain dry).

4. PACKAGING, TRANSPORT, STORAGE AND MARKING OF THE PRODUCT

Products covered by this National Technical Assessment should be supplied in the original manufacturer's packaging and stored and transported in a manner that ensures maintenance of their technical properties.

The marking of the products with the construction mark should be compliant with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with a construction mark (Dz. U. of 2016, Item 1966, as amended).

The marking of the product with a construction mark should include the following information:

- Two last digits of the year in which the construction mark was first affixed on the construction product,
- Manufacturer's name and address or an identification mark allowing unambiguous identification of the manufacturer's name and address,
- Construction product name and type,
- Number and year of issue of the national technical assessment in compliance of which the performance is declared (ITB-KOT-2019/0715 Rev. 1),
- Number of the national declaration of performance,
- Level or class of declared performance,
- Manufacturer's website address, if the national declaration of performance is available there.

In relevant cases the national declaration of performance should be provided or made available with a safety data sheet and/or information on hazardous substances in the construction product, as referred in Art. 31 or 33 of the Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.

Furthermore, the marking of a construction product which is a mixture regarded as dangerous in REACH, should be compliant with the requirements of the Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006.

5. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

5.1. National system of assessment and verification of constancy of performance

According to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with a construction mark (Dz. U. of 2016, Item 1966, as amended), AVCP System 3 applies.

5.2. Type testing

The performance characteristics assessed in Section 3 is regarded as type testing of the product until any changes in the raw materials, components, production line or manufacturing facility occur.

5.3. Factory production control

The manufacturer should have a factory production control system implemented in the manufacturing facility. All elements of the system, the manufacturer's requirements and provisions adopted by the manufacturer should be documented in a systematic manner in the form of policies and procedures, including test records. The factory production control should be compatible with the production technology and should ensure maintenance of the declared performance of the product in series production.

The factory production control comprises specification and control of raw materials and components, inspection and testing in the manufacturing process and control tests (as per 5.4), carried out by the manufacturer according to an established test plan and the policies and procedures specified in the documents of the factory production control.

The results of factory production control should be recorded on a regular basis. Records should demonstrate that the products comply with the criteria of assessment and verification of consistency of performance. Individual products or product batches and related production details should be fully identifiable and traceable.

5.4. Control tests

5.4.1. Test plan The test plan comprises:

- a) Continuous testing,
- b) Periodic testing.

5.4.2. Continuous testing Continuous (on-going) tests consist in the verification of:

- a) Appearance,
- b) Shape and dimensions.

5.4.3 Periodic testing. Periodic tests consist in the verification of:

- a) Durability,
- b) Durability/stability in extreme temperatures,
- c) Durability under repeated changes of the expansion gap width,
- d) Durability under repeated changes of the expansion gap width in extreme temperatures,
- e) Watertightness.

5.5. Testing frequency

Continuous tests should be carried out according to the prescribed Test Plan, however at least for each batch of the products. The size of such a batch should be specified in the documents of the factory production control.

Periodic tests should be carried out at least every 3 years.

6. DISCLAIMER

6.1. National Technical Assessment ITB-KOT-2019/0715, Rev. 1 is a positive assessment of the performance of the essential characteristics of CONECTO PARK SL and GA waterproof expansion joint profiles which – according to the intended use resulting from the provisions of this Assessment – affect the satisfaction of basic requirements by civil structures which will incorporate the product.

6.2. National Technical Assessment ITB-KOT-2019/0715, Rev. 1 is not a document that authorises marking of the construction product with a construction mark.

According to the law on construction products of 16 April 2004 and its further amendments (Dz. U. of 2016, Item 1570, as amended), the products to which this National Technical Assessment applies can be marketed or made available on the domestic market provided that the manufacturer has assessed and verified the constancy of their performance, drawn up a national declaration of performance as per National Technical Assessment ITB-KOT-2019/0715, Rev. 1, and marked the products with a construction mark in compliance with applicable regulations.

6.3. National Technical Assessment ITB-KOT-2019/0715, Rev. 1 does not infringe any rights under the regulations concerning the protection of industrial property, including in particular the Industrial Property Law of 30 June 2000 (consolidated text: Dz. U. of 2017, Item 776). It is a responsibility of the users of the BRI National Technical Assessment to ensure such rights.

6.4. By issuing this National Technical Assessment, the BRI assumes no liability for any violation of exclusive or acquired rights.

6.5. This National Technical Assessment does not release the manufacturer of the products from any liability for their adequate quality, nor does it release building contractors from their liability for proper application of the products.

6.6. The validity of this National Technical Assessment may be extended for subsequent terms of up to 5 years.

7. LIST OF REFERENCE DOCUMENTS

7.1 Reports, test reports, assessments and classifications

1. LZE01-03505/18/Z00NZE. Test Report. BRI Department of Construction Elements Engineering, Poznań, January 2019.
2. LZE01-01716/18/Z00NZE. Test Report. BRI Department of Construction Elements Engineering, Poznań, October 2018.
3. LOW01 -6022/11/R01OWN. Test Report. BRI Construction Hardware Laboratory (LOW), Poznań.
4. LOW02-6022/11/R010WN. Test Report. BRI Construction Hardware Laboratory (LOW), Poznań.
5. OWN-OT-027/2012. Expert opinion. BRI Construction Hardware Laboratory (LOW), Poznań.
6. LOW01-6022/13/R05OWN. Test Report. BRI Construction Hardware Laboratory (LOW), Poznań.

7.2. Reference standards and documents

PN-EN 573-3:2014	<i>Aluminium and aluminium alloys. Chemical composition and form of wrought products. Part 3: Chemical composition and form of products.</i>
PN-EN 755-2:2016	<i>Aluminium and aluminium alloys. Extruded rod/bar, tubes and profiles. Part 2: Mechanical properties</i>
PN-EN 755-9:2016	<i>Aluminium and aluminium alloys. Extruded rod/bar, tubes and profiles. Part 9: Tolerances on dimensions and form of profiles</i>
PN-EN 515:2017	<i>Aluminium and aluminium alloys. Wrought products. Temper designations</i>
PN-EN 1991-1-1:2004	<i>Eurocode 1: Actions on structures. Part 1-1: General actions. Densities, self-weight, imposed loads for buildings.</i>
PN-EN 1992-1-1:2008	<i>Eurocode 2. Design of concrete structures. Part 1-1: General rules and rules for buildings.</i>
PN-EN 10088-1:2014	<i>Stainless steels. Part 1: Stainless steel grades</i>
PN-EN 10088-2:2014	<i>Stainless steels. Part 2: Technical delivery conditions for sheet/plate and strip of for general purposes</i>
PN-EN 22768-1:1999	<i>General tolerances. Tolerances for linear and angular dimensions without individual tolerance indications</i>
PN-EN ISO 868:2005	<i>Plastics and ebonite. Determination of indentation hardness by means of a durometer (Shore hardness)</i>
PN-EN ISO 2360:2017	<i>Non-conductive coatings on non-magnetic electrically conductive basis materials. Measurement of coating thickness. Amplitude-sensitive eddy-current method</i>
PN-ISO 34-1:2007	<i>Rubber, vulcanized or thermoplastic. Determination of tear strength. Part 1: Trouser, angle and crescent test pieces.</i>
PN-ISO 37:2007+AC1:2008	<i>Rubber, vulcanized or thermoplastic. Determination of tensile stress-strain properties</i>
PN-ISO 815:1998	<i>Rubber, vulcanized or thermoplastic. Determination of compression set at ambient, elevated or low temperatures</i>
PN-ISO 1817:2001	<i>Rubber. Determination of the effect of liquids</i>
AT-15-8735/2013	<i>CONNECTO PARK waterproof expansion joint profiles for floor systems</i>

Fig. A8. CONECTO PARK SL 210.50.N waterproof expansion joint profile – surface installation

Fig. A9. CONECTO PARK SL 210.50.N waterproof expansion joint profile – recessed installation

Fig. A10. CONECTO PARK SL 210.50.CV waterproof expansion joint profile – corner installation

Table A2. Properties of CONECTO PARK SL 210.50 expansion joint profiles

Item	Profile type	Movement capacity [mm]	Dimensions [mm]		
			a	b	h
1	CONECTO PARK SL 210.50.N	H±30 V±20	235	max. 70	11
2	CONECTO PARK SL 210.50.W	H±30 V±20	210	max. 70	11
3	CONECTO PARK SL 210.50.CV	H±30 V±20	145	max. 70	11

H – horizontal displacement, V – vertical displacement

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Fig. A11. CONECTO PARK SL 230.70.N waterproof expansion joint profile – surface installation

Fig. A12. CONECTO PARK SL 230.70.N waterproof expansion joint profile – recessed installation

Fig. A13. CONECTO PARK SL 230.70.CV waterproof expansion joint profile – corner installation

Table A3. Properties of CONECTO PARK SL 230.70 expansion joint profiles

Item	Profile type	Movement capacity [mm]	Dimensions [mm]		
			a	b	h
1	CONECTO PARK SL 230.70.N	H±45 V±30	257	max. 85	11
2	CONECTO PARK SL 230.70.W	H±45 V±30	231	max. 85	11
3	CONECTO PARK SL 230.70.CV	H±45 V±30	155	max. 85	11

H – horizontal displacement, V – vertical displacement

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- a) standard version
- b) L version
- c) T version

Fig. A14. CONECTO PARK SL 43.10.15÷100 S waterproof expansion joint profile

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Fig. A15. CONECTO PARK GA 43.10.100÷200 S waterproof expansion joint profile

Fig. A16. CONECTO PARK GA 43.10.CV S waterproof expansion joint profile

Fig. A17. CONECTO PARK GA 43.10.90& S waterproof expansion joint profile

Item	Profile type*	Movement capacity [mm]	Dimensions [mm]			
			a	b	c	h
1	CONECTO PARK GA 43.10.15÷100 S	H±10 V±10	89	max. 60	212	15-100
2	CONECTO PARK GA 43.10.100÷200 S	H±10 V±10	89	max. 60	212	100 -200
3	CONECTO PARK GA 43.10.CV S	H±10 V±10	60	max. 50	123	-
4	CONECTO PARK GA 43.10.90& S	H±10 V±10	60	max. 30	249	90

H – horizontal displacement, V – vertical displacement
*all profile types available in standard, L and T versions

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a) standard version

b) L version

c) T version

Fig. A18. CONECTO PARK GA 50.20.15÷200 S waterproof expansion joint profile

Fig. A19. CONECTO PARK GA 50.20.100÷200 S waterproof expansion joint profile

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Fig. A20. CONECTO PARK GA 50.20.CV S waterproof expansion joint profile

Fig. A21. CONECTO PARK GA 50.20.90& S waterproof expansion joint profile

Table A5. Properties of CONECTO PARK GA 50.20 expansion joint profiles

Item	Profile type*	Movement capacity [mm]	Dimensions [mm]			
			a	b	c	h
1	CONECTO PARK GA 50.20.15÷100 S	H±20 V±15	99	max. 80	222	15-100
2	CONECTO PARK GA 50.20.100÷200 S	H±20 V±15	99	max. 80	222	100-200
3	CONECTO PARK GA 50.20.CV S	H±20 V±15	99	max. 60	133	-
4	CONECTO PARK GA 50.20.90& S	H±20 V±15	99	max. 40	222	90

H – horizontal displacement, V – vertical displacement
*all profile types available in standard, L and T versions

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- a) standard version
- b) L version
- c) T version

Fig. A22. CONECTO PARK GA 63.30.15÷100 S waterproof expansion joint profile

Fig. A23. CONECTO PARK GA 63.30.100÷200 S waterproof expansion joint profile

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Fig. A24. CONECTO PARK GA 63.30.CV S waterproof expansion joint profile

Fig. A25. CONECTO PARK GA 63.30.90& S waterproof expansion joint profile

Table A6. Properties of CONECTO GA 63.30 expansion joint profiles

Item	Profile type*	Movement capacity [mm]	Dimensions [mm]			
			a	b	c	h
1	CONECTO PARK GA 63.30.15÷100 S	H±30 V±20	109	max. 90	232	15 + 100
2	CONECTO PARK GA 63.30.100÷200 S	H±30 V±20	109	max. 90	232	100 + 200
3	CONECTO PARK GA 63.30.CV S	H±30 V±20	80	max. 70	143	-
4	CONECTO PARK GA 63.30.90& S	H±30 V±20	109	max. 50	269	90

H – horizontal displacement, V – vertical displacement
 *all profile types available in standard, L and T versions

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- a) standard version
- b) L version
- c) T version

Fig. A26. CONECTO PARK GA 88.45.15÷100 S waterproof expansion joint profile

Fig. A27. CONECTO PARK GA 88.45.100÷200 S waterproof expansion joint profile

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Fig. A28. CONECTO PARK GA 88.45.CV S waterproof expansion joint profile

Fig. A29. CONECTO PARK GA 88.45.90& S waterproof expansion joint profile

Table A7. Properties of CONECTO PARK GA 88.45 expansion joint profiles

Item	Profile type*	Movement capacity [mm]	Dimensions [mm]			
			a	b	c	h
1	CONECTO PARK GA 88.45.15÷100 S	H±45 V±30	124	max. 110	257	15-100
2	CONECTO PARK GA 88.45.100÷200 S	H±45 V±30	124	max. 110	257	100-200
3	CONECTO PARK GA 88.45.CV S	H±45 V±30	105	max. 95	163	-
4	CONECTO PARK GA 88.45.90& S	H±45 V±30	124	max. 70	290	90

H – horizontal displacement, V – vertical displacement
*all profile types available in standard, L and T versions

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Annex B.**B.1 Materials****B.1.1 Flexible sealing inserts**

The sealing inserts should be made of EPDM with the properties specified in Table B1.

Table B1

Item	Property	Requirement	Testing method
1	2	3	4
1	Shore hardness, °Sh	70 ± 5	PN-EN ISO 868:2005
2	Tear strength, MPa	≥ 10	PN-ISO 37:2007 + AC1:2008
3	Elongation at break, %	≥ 400	PN-ISO 37:2007 + AC1:2008
4	Permanent deformation after 24h at a temperature of +70°C, %	≤ 60	PN-ISO 815:1998
5	Tear strength, N/mm	≥ 40	PN-ISO 34-1:2007
6	Resistance to liquids: - Water - Salt brine (saturated water solution of NaCl) - Methanol (solvent) - Engine oil (Shell Helix Ultra 5W-40)	change in mass: ≤ 12% change in thickness: ≤ 5%	PN-ISO 1817:2001

B.1.2. Aluminium profiles

The structural aluminium profiles (Fig. A1 + A2) should be made of EN AW-6063 aluminium alloy according to PN-EN 573-3:2010, Temper T6 as per PN-EN 515:2017, or another grade of aluminium alloy of at least equivalent mechanical properties, and should meet the requirements of PN-EN 755-2:2016 and PN-EN 755-9:2016. The cross-sectional tolerance of aluminium profiles should be compliant with PN-EN 755-9:2016. Other dimensional tolerances should meet C-class accuracy (coarse) as per PN-EN 22768-1:1999.

B.1.3. Stainless steel profiles

The clamping profiles (Fig. A3 + A4) should be made of stainless steel plate of at least 2 mm in 1.4301 grade according to PN-EN 10088-1:2014, or another corrosion-resistant steel of at least equivalent properties according to PN-EN 10088-1:2014.

B.2. Appearance

Non-machined surfaces of the structural profiles should not have any visible damages (cracks, dents, delamination or blisters) or compromised appearance. Dents, scratches and other defects are acceptable if they are not visible to the naked eye at daylight from a distance of 1 m. The connecting surfaces of the profiles should be smooth, free from gaps or differences in level. Flexible sealing inserts should adhere to the relevant surface of the profile and the sealed surface without gaps or folding. Separable joints should be well fitted and easy to install and should not come loose when in use