

**National Declaration of Performance**


Revision No:	2
Revision carried out by:	Tomasz Golon
Revision date:	27.02.2020

No: TSA/02/20170101

**1. Unique identification code of product-type:**

Steel expansion anchors TSA

**2. Construction product type designation:**

TSA – threaded expansion sleeve only

TSA-P – threaded expansion sleeve with threaded rod, washer and nut

TSA-L – threaded expansion sleeve with hexagon threaded bolt and washer

TSA-E – threaded expansion sleeve with washer, nut and eye-ended threaded stud

TSA-H – threaded expansion sleeve with washer, nut and hook-ended threaded stud

**3. Intended use/es:**

TSA expansion fasteners are used for fastening construction elements with static loading in regular non-cracked or cracked concrete or in hollow-core concrete slabs, in both cases the class of concrete ranging from C20/25 to C50/60 according to the PN-EN 206:2014 standard.

**4. Manufacturer:**

Name: Trutek Fasteners Limited

 Address: Trutek House, Brooklands Business Park  
Leigh Street, Sheffield S9 2PR, United Kingdom,

**5. Authorised representative company**

Name: Trutek Fasteners Polska Sp. z o.o.

 Address: Al. Krakowska 38, Janki  
05-090 Raszyn, Polska

**6. National system(-s) used for verification of constancy of performance:**

System: 1

**7. National technical specification:**

Technical Approval: No AT-15-7851/2015

Issued by: ITB - Building Research Institute in Warsaw

Address: ul. Filtrowa 1; 00-611 Warszawa, Polska

**8. Accredited laboratory:**

Name: Construction Product and Fastener Laboratory (LOK)

Address: 40-153 Katowice, Al. W. Korfantego 191,

Accreditation No: AB 023

Test report and assessment No: LOK-906/A/07, LOK-02844/14/R12OSK, LOK00-2844/15/R14OSK

**9. Declared performance/es:**
**Purpose, range and conditions of use**

Substrates:	<ul style="list-style-type: none"> <li>ordinary or reinforced concrete, non-cracked or cracked, of the C20/25 to C50/60 class according to the PN-EN 206:2014 standard.</li> <li>hollow-core concrete slabs class of concrete ranging from C20/25 to C50/60 according to the PN-EN 206:2014 standard.</li> </ul>
-------------	--

Anchors:	Expansion anchors made from carbon steel class min. 5.8 zinc plated min. 5µm
----------	--

Loads:	Static loads
--------	--------------

**Anchors dimensions**
**Table No in Technical Approval**

Dimensions of expansion anchors TSA-P

Table No 1

Dimensions of expansion anchors TSA-L

Table No 2

Dimensions of expansion anchors TSA-E

Table No 3

Dimensions of expansion anchors TSA-H

Table No 4

**Protective layer thickness**
**Table No in Technical Approval**

**National Declaration of Performance**



Revision No:	2
Revision carried out by:	Tomasz Golon
Revision date:	27.02.2020

No: TSA/02/20170101

Anchor carbon steel class min. 5.8 zinc plated	min 5 µm,
<b>Characteristic tensile load capacities</b>	<b>Table No in Technical Approval</b>
in non-cracked concrete TSA, TSA-P and TSA-L	Table No 15
in cracked concrete TSA, TSA-P and TSA-L	Table No 16
in hollow-core concrete-slabs TSA, TSA-P and TSA-L	Table No 17
in non-cracked concrete TSA-E and TSA-H	Table No 18
in cracked concrete TSA-E and TSA-H	Table No 19
in hollow-core concrete-slabs TSA-E and TSA-H	Table No 20
<b>Calculated load capacities of fastenings for any direction of load under the influence of fire</b>	<b>Table No in Technical Approval</b>
Calculated load capacities of expansion fasteners TSA, TSA-P and TSA-L in ordinary non-cracked concrete R30/60/90/120	Table No 11
Calculated load capacities of expansion fasteners TSA, TSA-P and TSA-L in ordinary cracked concrete R30/60/90/120	Table No 12
Calculated load capacities of expansion fasteners TSA, TSA-P and TSA-L in hollow-core concrete-slabs R30/60/90/120	Table No 13
<b>Comments</b>	
Design	It is assumed that the anchoring design and specification of the anchors is carried out under the supervision of an engineer with experience in anchoring and concrete works.
Installation	Installation of anchors by trained employees is assumed after supervision of a construction engineer.

The performance of the product specified above is in conformity with the set of declared performance/es mentioned in point No 9. This national declaration of performance is issued, in accordance with the Act of 16 April 2004 on construction products, under the sole responsibility of the manufacturer identified above.

Janki, 27<sup>th</sup> of February 2020r

Signed for and on behalf of the manufacturer by:

**Tomasz Golon**



Kierownik Produktu / Product Manager



**Table 1**

Dimensions of TSA-P steel expansion fasteners

Ref.	Fastener symbol	d, mm	d <sub>1</sub> , mm	L <sup>(1)</sup> , mm	L <sub>1</sub> , mm
1	2	3	4	5	6
1	TSA-P 06 x 60	12	6	60	45
2	TSA-P 06 x 75	12	6	75	45
3	TSA-P 06 x 100	12	6	100	45
4	TSA-P 08 x 75	14	8	75	50
5	TSA-P 08 x 85	14	8	85	50
6	TSA-P 08 x 100	14	8	100	50
7	TSA-P 08 x 120	14	8	120	50
8	TSA-P 08 x 140	14	8	140	50
9	TSA-P 10 x 80	16	10	80	60
10	TSA-P 10 x 100	16	10	100	60
11	TSA-P 10 x 120	16	10	120	60
12	TSA-P 10 x 140	16	10	140	60
13	TSA-P 10 x 160	16	10	160	60
14	TSA-P 12 x 100	20	12	100	75
15	TSA-P 12 x 110	20	12	110	75
16	TSA-P 12 x 135	20	12	135	75
17	TSA-P 12 x 155	20	12	155	75
18	TSA-P 16 x 145	25	16	145	115
19	TSA-P 16 x 155	25	16	155	115
20	TSA-P 16 x 195	25	16	195	115
21	TSA-P 20 x 170	32	20	170	130
22	TSA-P 20 x 185	32	20	185	130
23	TSA-P 20 x 255	32	20	255	130

<sup>(1)</sup> Fasteners of other length L can be used on the condition that the anchoring parameters will remain unchanged.



**Table 2**

Dimensions of TSA-L steel expansion fasteners

Ref.	Fastener symbol	d, mm	d <sub>1</sub> , mm	L <sup>(1)</sup> , mm	L <sub>1</sub> , mm
1	2	3	4	5	6
1	TSA-L 06 x 55	12	6	55	45
2	TSA-L 06 x 70	12	6	70	45
3	TSA-L 06 x 85	12	6	85	45
4	TSA-L 08 x 65	14	8	65	50
5	TSA-L 08 x 80	14	8	80	50
6	TSA-L 08 x 95	14	8	95	50
7	TSA-L 10 x 75	16	10	75	60
8	TSA-L 10 x 90	16	10	90	60
9	TSA-L 10 x 115	16	10	115	60
10	TSA-L 10 x 140	16	10	140	60
11	TSA-L 12 x 90	20	12	90	75
12	TSA-L 12 x 105	20	12	105	75
13	TSA-L 12 x 120	20	12	120	75
14	TSA-L 12 x 140	20	12	140	75
15	TSA-L 16 x 130	25	16	130	115
16	TSA-L 16 x 155	25	16	155	115
17	TSA-L 16 x 175	25	16	175	115
18	TSA-L 20 x 195	32	20	195	130
19	TSA-L 20 x 235	32	20	235	130

<sup>(1)</sup> Fasteners of other length L can be used on the condition that the anchoring parameters will remain unchanged.



**Table 3**

Dimensions of TSA-E steel expansion fasteners

Ref.	Fastener symbol	d, mm	d <sub>1</sub> , mm	L <sup>(1)</sup> , mm	L <sub>1</sub> , mm
1	2	3	4	5	6
1	TSA-E 06 x 75	12	6	75	45
2	TSA-E 08 x 90	14	8	90	50
3	TSA-E 10 x 110	16	10	110	60
4	TSA-E 12 x 140	20	12	140	75

<sup>(1)</sup> Fasteners of other length L can be used on the condition that the anchoring parameters will remain unchanged.

**Table 4**

Dimensions of TSA-H steel expansion fasteners

Ref.	Fastener symbol	d, mm	d <sub>1</sub> , mm	L <sup>(1)</sup> , mm	L <sub>1</sub> , mm
1	2	3	4	5	6
1	TSA-H 06 x 80	12	6	80	45
2	TSA-H 08 x 95	14	8	95	50
3	TSA-H 10 x 115	16	10	115	60
4	TSA-H 12 x 145	20	12	145	75

<sup>(1)</sup> Fasteners of other length L can be used on the condition that the anchoring parameters will remain unchanged.

**Table 5**

Calculated tensile load capacities of fastenings made with use of TSA-P and TSA-L steel expansion fasteners in ordinary non-cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth h <sub>ef</sub> , mm	Calculated capacity N <sub>R,d</sub> , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , non cracked	35	3.0
2	TSA-P 08 TSA-L 08	M8		40	4.8
3	TSA-P 10 TSA-L 10	M10		50	7.9
4	TSA-P 12 TSA-L 12	M12		60	13.9
5	TSA-P 16 TSA-L 16	M16		95	23.8
6	TSA-P 20 TSA-L 20	M20		115	37.7

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 6**

Calculated tensile load capacities of fastenings made with use of TSA-P and TSA-L steel expansion fasteners in ordinary cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , cracked	35	2.4
2	TSA-P 08 TSA-L 08	M8		40	3.0
3	TSA-P 10 TSA-L 10	M10		50	3.6
4	TSA-P 12 TSA-L 12	M12		60	4.8
5	TSA-P 16 TSA-L 16	M16		95	11.9
6	TSA-P 20 TSA-L 20	M20		115	13.9

<sup>(1)</sup> According to the PN-EN 206:2014 standard

**Table 7**

Calculated tensile load capacities of fastenings made with use of TSA-P and TSA-L steel expansion fasteners in concrete hollow-core slabs

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Hollow-core 50 mm slabs of ordinary non-cracked concrete class C20/25 to C50/60 <sup>(1)</sup>	25	0.6
				35	1.2
2	TSA-P 08 TSA-L 08	M8		25	0.6
				40	1.2
3	TSA-P 10 TSA-L 10	M10		25	0.6
				50	1.2
4	TSA-P 12 TSA-L 12	M12		25	0.6
				60	1.2
5	TSA-P 16 TSA-L 16	M16		95	1.2
				6	TSA-P 20 TSA-L 20

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 8**

Calculated tensile load capacities of fastenings made with use of TSA-E and TSA-H steel expansion fasteners in ordinary non-cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , non cracked	35	3.0
2	TSA-E 08	M8		40	4.6
3	TSA-E 10	M10		50	7.9
4	TSA-E 12	M12		60	13.9
5	TSA-H 06	M6		35	0.6
6	TSA-H 08	M8		40	2.0
7	TSA-H 10	M10		50	2.4
8	TSA-H 12	M12		60	3.6

<sup>(1)</sup> According to the PN-EN 206:2014 standard

**Table 9**

Calculated tensile load capacities of fastenings made with use of TSA-E and TSA-H steel expansion fasteners in ordinary cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , cracked	35	2.4
2	TSA-E 08	M8		40	3.0
3	TSA-E 10	M10		50	3.6
4	TSA-E 12	M12		60	4.8
5	TSA-H 06	M6		35	0.6
6	TSA-H 08	M8		40	2.0
7	TSA-H 10	M10		50	2.4
8	TSA-H 12	M12		60	3.6

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 10**

Calculated tensile load capacities of fastenings made with use of TSA-P and TSA-L steel expansion fasteners in concrete hollow-core slabs

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Hollow-core 50 mm slabs of ordinary non-cracked concrete class C20/25 to C50/60 <sup>(1)</sup>	35	1.2
2	TSA-E 08	M8		40	1.2
3	TSA-E 10	M10		50	1.2
4	TSA-E 12	M12		60	1.2
5	TSA-H 06	M6		35	0.6
6	TSA-H 08	M8		40	1.2
7	TSA-H 10	M10		50	1.2
8	TSA-H 12	M12		60	1.2

<sup>(1)</sup> According to the PN-EN 206:2014 standard

**Table 11**

Calculated load capacities of fastenings with use of TSA-P and TSA-L expansion fasteners in ordinary non-cracked concrete for any direction of load under the influence of fire

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Max. fire influence time, min	Calculated capacity <sup>(1)</sup> $N_{R,d,fi}$ <sup>(1),(2),(3),(4),(5)</sup> , kN
1	2	3	4	5	6	7
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(6)</sup> , non cracked	35	30	0.1
					60	0.1
					90	0.1
					120	0.1
2	TSA-P 08 TSA-L 08	M8		40	30	0.6
					60	0.6
					90	0.6
					120	0.5
3	TSA-P 10 TSA-L 10	M10		50	30	0.9
					60	0.8
					90	0.6
					120	0.5
4	TSA-P 12 TSA-L 12	M12	60	30	1.7	
				60	1.3	
				90	1.1	
				120	0.8	

<sup>(1)</sup> Load capacity for the case of fire influencing from one side

<sup>(2)</sup> Anchor spacing  $s_{cr,fi}$  not less than  $4 \cdot h_{ef}$

<sup>(3)</sup> Anchor edge distance  $c_{cr,fi}$  not less than  $2 \cdot h_{ef}$

<sup>(4)</sup> With fire influencing from more than one side, the anchor edge distance  $c_{cr,fi}$  not less than 300 mm

<sup>(5)</sup> Calculated load capacity corresponding to the most adverse form of destruction

<sup>(6)</sup> According to the PN-EN 206:2014 standard





**Table 12**

Calculated load capacities of fastenings with use of TSA-P and TSA-L expansion fasteners in ordinary cracked concrete for any direction of load under the influence of fire

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Max. fire influence time, min	Calculated capacity <sup>(1)</sup> $N_{R,d,fi}$ <sup>(1).(2).(3).(4).(5)</sup> kN
1	2	3	4	5	6	7
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(6)</sup> , non cracked	35	30	0.1
					60	0.1
					90	0.1
					120	0.1
2	TSA-P 08 TSA-L 08	M8		40	30	0.4
					60	0.3
					90	0.3
					120	0.2
3	TSA-P 10 TSA-L 10	M10		50	30	0.9
					60	0.8
					90	0.6
					120	0.5
4	TSA-P 12 TSA-L 12	M12		60	30	1.7
					60	1.3
					90	1.1
					120	0.8

<sup>(1)</sup> Load capacity for the case of fire influencing from one side

<sup>(2)</sup> Anchor spacing  $s_{cr,fi}$  not less than  $4 \cdot h_{ef}$

<sup>(3)</sup> Anchor edge distance  $c_{cr,fi}$  not less than  $2 \cdot h_{ef}$

<sup>(4)</sup> With fire influencing from more than one side, the anchor edge distance  $c_{cr,fi}$  not less than 300 mm

<sup>(5)</sup> Calculated load capacity corresponding to the most adverse form of destruction

<sup>(6)</sup> According to the PN-EN 206:2014 standard



**Table 13**

Calculated load capacities of fastenings with use of TSA-P and TSA-L expansion fasteners in hollow-core concrete slabs for any direction of load under the influence of fire

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Max. fire influence time, min	Calculated capacity <sup>(1)</sup> $N_{R,d,fi}$ <sup>(1),(2),(3),(4),(5)</sup> kN
1	2	3	4	5	6	7
1	TSA-P 06 TSA-L 06	M6	Hollow-core 50 mm slabs of ordinary non-cracked concrete class C20/25 to C50/60 <sup>(6)</sup>	35	30	0.1
					60	0.1
					90	0.1
					120	0.1
2	TSA-P 08 TSA-L 08	M8		40	30	0.4
					60	0.3
					90	0.3
					120	0.2
3	TSA-P 10 TSA-L 10	M10		50	30	0.8
					60	0.8
					90	0.6
					120	0.5
4	TSA-P 12 TSA-L 12	M12		60	30	0.8
					60	0.8
					90	0.8
					120	0.6

(1) Load capacity for the case of fire influencing from one side  
(2) Anchor spacing  $s_{cr,fi}$  not less than  $4 \cdot h_{ef}$   
(3) Anchor edge distance  $c_{cr,fi}$  not less than  $2 \cdot h_{ef}$   
(4) With fire influencing from more than one side, the anchor edge distance  $c_{cr,fi}$  not less than 300 mm  
(5) Calculated load capacity corresponding to the most adverse form of destruction  
(6) According to the PN-EN 206:2014 standard



**Table 14**

Installation and spacing parameters of TSA expansion fasteners

Ref	Parameter	Stud thread size					
		M6	M8	M10	M12	M16	M20
1	2	3	4	5	6	8	9
1	Maximum hole diameter $d_o$ , mm	12	14	16	20	25	32
2	Minimum hole depth $h_o$ , mm	50	55	65	85	125	140
3	Minimum anchoring depth $h_{ef}$ , mm	35	40	50	60	95	115
4	Tightening moment $T_{ins}$ , Nm	6	14	27	46	110	230
5	Minimum thickness of base material $h_{min}$ , mm	2 $h_{ef}$ , $\geq 100$ mm					
6	Minimum fasteners spacing $s_{cr,cv}$ , mm	3 $h_{ef}$ , $\geq 100$ mm					
7	Minimum edge distance $c_{cr,cv}$ , mm	2 $h_{ef}$ , $\geq 100$ mm					

**Table 15**

Characteristic tensile load capacities of fastenings with use of TSA-P and TSA-L steel expansion fasteners in ordinary non-cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , non cracked	35	7.5
2	TSA-P 08 TSA-L 08	M8		40	12.0
3	TSA-P 10 TSA-L 10	M10		50	20.0
4	TSA-P 12 TSA-L 12	M12		60	35.0
5	TSA-P 16 TSA-L 16	M16		95	60.0
6	TSA-P 20 TSA-L 20	M20		115	95.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 16**

Characteristic tensile load capacities of fastenings with use of TSA-P and TSA-L steel expansion fasteners in ordinary cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , cracked	35	6.0
2	TSA-P 08 TSA-L 08	M8		40	7.5
3	TSA-P 10 TSA-L 10	M10		50	9.0
4	TSA-P 12 TSA-L 12	M12		60	12.0
5	TSA-P 16 TSA-L 16	M16		95	30.0
6	TSA-P 20 TSA-L 20	M20		115	35.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard

**Table 17**

Characteristic tensile load capacities of fastenings with use of TSA-P and TSA-L steel expansion fasteners in concrete hollow-core slabs

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-P 06 TSA-L 06	M6	Hollow-core 50 mm slabs of ordinary non-cracked concrete class C20/25 to C50/60 <sup>(1)</sup>	25	1.5
				35	3.0
2	TSA-P 08 TSA-L 08	M8		25	1.5
				40	3.0
3	TSA-P 10 TSA-L 10	M10		25	1.5
				50	3.0
4	TSA-P 12 TSA-L 12	M12		25	1.5
				60	3.0
5	TSA-P 16 TSA-L 16	M16		95	3.0
6	TSA-P 20 TSA-L 20	M20		115	3.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 18**

Characteristic tensile load capacities of fastenings with use of TSA-E and TSA-H steel expansion fasteners in ordinary non-cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , non cracked	35	7.5
2	TSA-E 08	M8		40	12.6
3	TSA-E 10	M10		50	20.0
4	TSA-E 12	M12		60	35.0
5	TSA-H 06	M6		35	1.5
6	TSA-H 08	M8		40	5.0
7	TSA-H 10	M10		50	6.0
8	TSA-H 12	M12		60	9.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard

**Table 19**

Characteristic tensile load capacities of fastenings with use of TSA-E and TSA-H steel expansion fasteners in ordinary cracked concrete

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Ordinary concrete class C20/25 to C50/60 <sup>(1)</sup> , cracked	35	6.0
2	TSA-E 08	M8		40	7.5
3	TSA-E 10	M10		50	9.0
4	TSA-E 12	M12		60	12.0
5	TSA-H 06	M6		35	1.5
6	TSA-H 08	M8		40	5.0
7	TSA-H 10	M10		50	6.0
8	TSA-H 12	M12		60	9.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard



**Table 20**

Characteristic tensile load capacities of fastenings with use of TSA-E and TSA-H steel expansion fasteners in hollow-core concrete slabs

Ref.	Fastener symbol	Stud thread size	Base material type	Effective anchoring depth $h_{ef}$ , mm	Calculated capacity $N_{R,d}$ , kN
1	2	3	4	5	6
1	TSA-E 06	M6	Hollow-core 50 mm slabs of ordinary non-cracked concrete class C20/25 to C50/60 <sup>(1)</sup>	35	3.0
2	TSA-E 08	M8		40	3.0
3	TSA-E 10	M10		50	3.0
4	TSA-E 12	M12		60	3.0
5	TSA-H 06	M6		35	1.5
6	TSA-H 08	M8		40	3.0
7	TSA-H 10	M10		50	3.0
8	TSA-H 12	M12		60	3.0

<sup>(1)</sup> According to the PN-EN 206:2014 standard