

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-10/0198  
of 6 January 2021

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

SX, SLG, SL, TDA, TDB, TDC, SD, SXW, SW, CDM

Product family  
to which the construction product belongs

Fastening screws for metal members and sheeting

Manufacturer

SFS intec AG  
Rosenbergsaustraße 10  
9435 Heerbrugg  
SCHWEIZ

Manufacturing plant

SFS plants 1, 5, 7, 16 and 18

This European Technical Assessment  
contains

78 pages including 71 annexes which form an integral  
part of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 330046-01-0602

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## Specific part

### 1 Technical description of the product

The fastening screws are self-drilling or self-tapping screws made of austenitic stainless steel or carbon steel with anticorrosion coating (listed in Table 1). The fastening screws are normally completed with sealing washers consisting of metal washer and EPDM-seal.

**Table 1 – Fastening screws for metal members and sheeting**

Annex	Fastening screw	Description	Fastener material	Application
3 / 4	Fastening screws for perforated sheeting	Hole pattern I Hole pattern II	Stainless steel	Perfoated Sheetting
5 / 6	SX3-S12-6,0 x L SX3-L12-S12-6,0 x L SX3-D12-S12-6,0 x L	Self-drilling screw with sealing washer $\varnothing$ 12 mm	Stainless steel	Steel / Steel
7 / 8	SX3-S14-6,0 x L SX3-L12-S14-6,0 x L SX3-D12-S14-6,0 x L	Self-drilling screw with sealing washer $\varnothing$ 14 mm	Stainless steel	Steel / Steel
9 / 10	SX3-S16-6,0 x L SX3-L12-S16-6,0 x L SX3-D12-S16-6,0 x L	Self-drilling screw with sealing washer $\varnothing$ 16 mm	Stainless steel	Steel / Steel
11 / 12	SX3-S19-6,0 x L SX3-L12-S19-6,0 x L SX3-D12-S19-6,0 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 19 mm	Stainless steel	Steel / Steel
13	SX5-S12-5,5 x L SX5-L12-S12-5,5 x L SX5-D12-S12-5,5 x L	Self-drilling screw with sealing washer $\varnothing$ 12 mm	Stainless steel	Steel / Steel
14	SX5-S14-5,5 x L SX5-L12-S14-5,5 x L SX5-D12-S14-5,5 x L	Self-drilling screw with sealing washer $\varnothing$ 14 mm	Stainless steel	Steel / Steel
15	SX5-S16-5,5 x L SX5-L12-S16-5,5 x L SX5-D12-S16-5,5 x L	Self-drilling screw with sealing washer $\varnothing$ 16 mm	Stainless steel	Steel / Steel
16	SX5-S19-5,5 x L SX5-L12-S19-5,5 x L SX5-D12-S19-5,5 x L	Self-drilling screw with sealing washer $\varnothing \geq 19$ mm	Stainless steel	Steel / Steel
17	SX14-S16-5,5 x L SX14-L12-S16-5,5 x L SX14-D12-S16-5,5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Steel
18 / 19	TDA-S-S16-6,5 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Steel
20	TDB-S-S16-6,3 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Steel
21	TDC-S-S16-6,3 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Steel
22	SLG-S-S14-4.8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Steel / Steel
23	SL2-S-S14-4.8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Steel / Steel

Table 1 - continued

Annex	Fastening screw	Description	Fastener material	Application
24	SL2-S-S14-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Steel / Steel
25	SL2-S-S14-6.3 x L SL2-S-L12-S14-6.3 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Steel / Steel
26	SLG-S-6.5 x L	Self-drilling screw	Stainless steel	Steel / Steel
27 / 28	SL3/2-5-S-SV16-6.0 x L	Self-drilling screw mit SV-washer 13x16 mm	Stainless steel	Steel / Steel
29	SD2-T16-6.3 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
30	SD3-T16-4,8 x L SD3-L12-T16-4,8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
31	SD3/15-T16-4,8 x L SD3/15-L12-T16-4,8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
32	SD3-T16-5.5 x L SD3-L12-T16-5.5 x L SD3-D12-T16-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
33	SDP3-Z-5.5 x L	Self-drilling screw	Carbon steel	Steel / Steel
34	SDL3-T16-5.5 x L SDL3-L12-T16-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
35	SD3-T16-6.3 x L SD3-L12-T16-6.3 x L SD3-D12-T16-6.3 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
36	SD6-T16-5.5 x L SD6-L12-T16-5.5 x L SD6-S16-5.5 x L SD6-L12-S16-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
37	SD6-H15-5.5 x L	Self-drilling screw	Carbon steel	Steel / Steel
38	SD6-T16-6.3 x L SD6-L12-T16-6.3 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
39	SD8-H15-5.5 x L	Self-drilling screw	Carbon steel	Steel / Steel
40	SD14-T16-5.5 x L SD14-L12-T16-5.5 x L SD14-S16-5.5 x L SD14-L12-S16-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Steel
41	SD14-H15-5.5 x L	Self-drilling screw	Carbon steel	Steel / Steel
42	CDM-4.8 x L CDM-D12-4.8xL	Self-drilling screw	Carbon steel	Steel / Steel
43	SLG-T-A14-4.8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Carbon steel	Steel / Steel
44	SL2-T-A14-4.8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Carbon steel	Steel / Steel
45	SL2-4.8 x L	Self-drilling screw	Carbon steel	Steel / Steel
46	SL2-H15-6.3 x L	Self-drilling screw	Carbon steel	Steel / Steel

Table 1 - continued

Annex	Fastening screw	Description	Fastener material	Application
47	SL3-H15-6.3 x L	Self-drilling screw	Carbon steel	Steel / Steel
48	SW2-S-S16-6.0 x L SW2-S-L12-S16-6.0 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Timber
49	SXW-S16-6.5 x L SXW-L12-S16-6.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Timber
50	TDA-S-S16-6,5 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Steel / Timber
51	SW-T-A14-4.8 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Carbon steel	Steel / Timber
52	SW3-T-T16-6.5 x L SW3-T-L12-T16-6.5 x L SW3-T-S16-6.5 x L SW3-T-L12-S16-6.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Carbon steel	Steel / Timber
53	SW3-T-H15-6.5 x L	Self-drilling screw	Carbon steel	Steel / Timber
54	SX3-S12-6,0 x L SX3-L12-S12-6,0 x L SX3-D12-S12-6,0 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 12 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
55	SX5-S12-5,5 x L SX5-L12-S12-5,5 x L SX5-D12-S12-5,5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 12 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
56	TDA-S-S16-6,5 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
57	TDB-S-S16-6.3 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
58	SL2-S-S14-5.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
59	SL2-S-S14-6.3 x L SL2-S-L12-S14-6.3 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 14 mm	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
60 / 61	SX3-S12-6,0 x L SX3-L12-S12-6,0 x L SX3-D12-S12-6,0 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 12 mm	Stainless steel	Aluminum alloy - EN 573 / Steel
62	SX5-S12-5,5 x L SX5-L12-S12-5,5 x L SX5-D12-S12-5,5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 12 mm	Stainless steel	Aluminum alloy - EN 573 / Steel
63	TDA-S-S16-6,5 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Steel
64	TDB-S-S16-6.3 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Steel
65 / 66	SL3/2-5-S-SV16-6.0 x L	Self-drilling screw mit SV-washer 13x16 mm	Stainless steel	Aluminum alloy - EN 573 / Steel

**Table 1 - continued**

Annex	Fastening screw	Description	Fastener material	Application
67	SW2-S-S16-6.0 x L SW2-S-L12-S16-6.0 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Timber
68	SXW-S16-6.5 x L SXW-L12-S16-6.5 x L	Self-drilling screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / Timber
69	TDA-S-S16-6,5 x L	Self-tapping screw with sealing washer $\geq \varnothing$ 16 mm	Stainless steel	Aluminum alloy - EN 573 / /Timber
70	SDA5-H13-5,5 x L	Self-drilling screw	Stainless steel	Aluminum alloy - EN 573 / Aluminum alloy - EN 573
71	SDA5-H13-5,5 x L	Self-drilling screw	Stainless steel	Stainless steel / Aluminum alloy - EN 573

## 2 Specification of the intended use in accordance with the applicable European Assessment Document

The fastening screws are intended to be used for fastening metal sheeting to metal or timber substructures. The sheeting can either be used as wall or roof cladding or as load bearing wall and roof element. The fastening screws can also be used for the fastening of any other thin gauge metal members. The intended use comprises fastening screws and connections for indoor and outdoor applications. Fastening screws which are intended to be used in external environments with  $\geq C2$  corrosion according to the standard EN ISO 12944-2 are made of stainless steel. Furthermore the intended use comprises connections with predominantly static loads (e.g. wind loads, dead loads). The fastening screws are not intended for re-use.

The performances given in Section 3 are only valid if the fastening screws are used in compliance with the specifications and conditions given in Annex (1-71).

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the fastening screws of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

## 3 Performance of the product and references to the methods used for its assessment

### 3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Shear Resistance of the Connection	see Annexes to this ETA
Tension Resistance of the Connection	see Annexes to this ETA
Design Resistance in combination of tension and shear forces (interaction)	see Annexes to this ETA
Check of Deformation Capacity in case of constraining forces due to temperature	No performance assessed
Durability	see Annexes to this ETA

**3.2 Safety in case of fire (BWR 2)**

Essential characteristic	Performance
Reaction to fire	Class A1

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base**

In accordance with EAD 330046-01-0602, the applicable European legal act is: Commission Decision 1998/214/EC, amended by 2001/596/EC.  
The system to be applied is: 2+

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

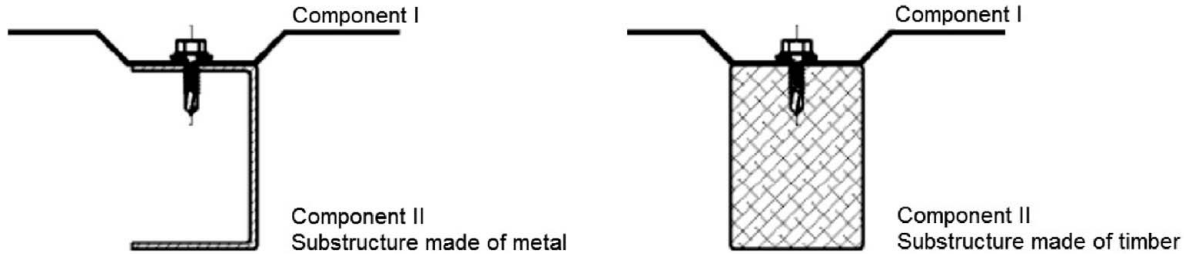
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin 6 January 2021 by Deutsches Institut für Bautechnik

Dr.-Ing. Ronald Schwuchow  
Head of Section

*beglaubigt:*  
Hahn

### Exemplary execution of a connection



### Dimensions

Design relevant dimensions are indicated as follows:

$t_I$	Thickness of component I
$t_{II}$	Thickness of component II made of metal
$l_p$	Screw-in length in component II made of timber
$l_{ef}$	Effective screw-in length in component II made of timber (without drill point)
$d_{dp}$	Pre-drill diameter of the connection
$d_{dp,I}$	Pre-drill diameter of component I

The thickness  $t_{II}$  corresponds to the load-bearing screw-in length of the fastening screw in component II, if the load-bearing screw-in length does not cover the entire component thickness.

### Resistance values

The resistance values of a connection are indicated as follows:

$N_{R,k}$	Characteristic tension resistance
$V_{R,k}$	Characteristic shear resistance

In some cases component-specific resistance values are indicated:

$N_{R,I,k}$	Characteristic pull-through resistance of component I
$N_{R,II,k}$	Characteristic pull-out resistance of component II
$V_{R,I,k}$	Characteristic hole bearing resistance of component I

Additionally indicated values for component II made of timber:

$M_{y,Rk}$	Characteristic yield moment of the fastening screw
$f_{ax,k}$	Characteristic withdrawal strength of timber

### Terms and explanations

Fastening screws for metal members and sheeting

### Annex 1



English translation prepared by DIBt

### Design values

The design values of a connection have to be determined as follows:

$$N_{R,d} = \frac{N_{R,k}}{\gamma_M} \qquad V_{R,d} = \frac{V_{R,k}}{\gamma_M}$$

$N_{R,d}$  Design value of tension resistance  
 $V_{R,d}$  Design value of shear resistance  
 $\gamma_M$  Partial safety factor

The recommended partial safety factor  $\gamma_M$  is 1.33, provided no partial safety factor is given in national regulations or national Annexes to Eurocode 3.

### Special conditions

If the thickness of component I ( $t_I$ ) or component II ( $t_{II}$ ) is between two indicated thicknesses, the resistance values  $N_{R,k}$  and  $V_{R,k}$  can be determined by linear interpolation. The same applies to screw-in lengths  $l_{ef}$  and  $l_p$ .

If component II made of metal with thickness  $t_{II} < 3$  mm leads to an asymmetric loading of the connection (e.g. Z-profile), the resistance values  $N_{R,k}$  have to be reduced to 70%.

In case of combined loading of a connection by tension and shear forces the following interaction equation has to be taken into account:

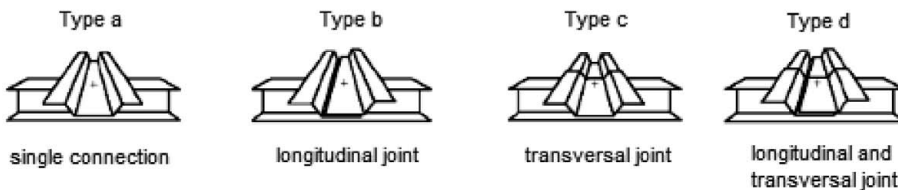
$$\frac{N_{S,d}}{N_{R,d}} + \frac{V_{S,d}}{V_{R,d}} \leq 1.0$$

$N_{S,d}$  Design value of the applied tension forces  
 $V_{S,d}$  Design value of the applied shear forces

### Types of connection

For the types of connection (a, b, c, d), indicated in the Annexes of the fastening screws, it is not necessary to take into account the effect of constraints due to temperature.

For other types of connection or if no connection types are indicated, the effect of constraints have to be taken into account, unless they do not occur or are not significant (e.g. sufficient flexibility of the substructure).



### Installation conditions

The installation is carried out according to manufacturer's instruction.

The load-bearing screw-in length of the fastening screw specified by the manufacturer has to be taken into account.

The fastening screws have to be processed with suitable drill driver (e.g. cordless drill driver with depth stop).

The fastening screws have to be fixed rectangular to the surface of the component.

Component I and component II have to be in direct contact to each other. The use of compression resistant thermal insulation strips up to a thickness of 3 mm is allowed.

<b>Design and installation</b>	<b>Annex 2</b>
Fastening screws for metal members and sheeting	

	<p><b>Fastening screws</b></p> <p>Self-drilling screws <math>\varnothing</math> 5.5 to 6.3 mm made of stainless steel with sealing washer made of stainless steel</p> <p>Self-tapping screws <math>\varnothing</math> 6.3 to 6.5 mm made of stainless steel with sealing washer made of stainless steel</p>
	<p><b>Materials</b></p> <p>Fastener: According to Annex of the fastening screw</p> <p>Washer: According to Annex of the fastening screw</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: According to Annex of the fastening screw</p>

		Sealing washer $\varnothing$ [mm]		
		16	19	$\geq 22$
<b><math>V_{R,I,k}</math> [kN]</b>	0.75	2.16	2.22	2.24
	0.88	2.56	2.64	2.64
	1.00	2.92	3.04	3.02
<b><math>t_i</math> [mm]</b>	1.25	3.70	3.88	3.80
	1.50	4.46	4.74	4.56
	0.75	1.40	1.94	2.14
<b><math>N_{R,I,k}</math> [kN]</b>	0.88	1.82	2.34	2.62
	1.00	2.24	2.74	3.06
	1.25	3.24	3.58	4.08
	1.50	4.36	4.46	5.12

**Additional definitions**

The resistance values  $N_{R,k}$  and  $V_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$  and  $V_{R,k} = \min \{V_{R,I,k} | V_{R,k}\}$ .  $N_{R,II,k}$  and  $V_{R,k}$  are indicated in the Annex of the fastening screw.

For component I made of S320GD the indicated resistance values  $N_{R,I,k}$  and  $V_{R,I,k}$  may be increased by 8.3% and for component I made of S350GD to S450GD by 16.6%.

If the connection is exposed to wind loads, the component thickness  $t_i$  must be at least 1 mm.

<b>Hole pattern I</b>	<b>Annex 3</b>
Fastening screws for perforated sheeting	

	<p><b>Fastening screws</b></p> <p>Self-drilling screws Ø 5.5 to 6.3 mm made of stainless steel with sealing washer made of stainless steel</p> <p>Self-tapping screws Ø 6.3 to 6.5 mm made of stainless steel with sealing washer made of stainless steel</p>
	<p><b>Materials</b></p> <p>Fastener: According to Annex of the fastening screw</p> <p>Washer: According to Annex of the fastening screw</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: According to Annex of the fastening screw</p>

		Sealing washer Ø [mm]		
		16	19	≥ 22
<b>V<sub>R,I,k</sub> [kN]</b>	0.75	2.38	2.52	2.84
	0.88	3.02	3.12	3.42
	1.00	3.56	3.70	3.84
<b>t<sub>i</sub> [mm]</b>	1.25	4.68	4.84	4.92
	1.50	5.76	6.04	5.90
<b>N<sub>R,I,k</sub> [kN]</b>	0.75	2.86	3.16	3.24
	0.88	3.40	3.72	3.76
	1.00	3.90	4.28	4.28
<b>t<sub>i</sub> [mm]</b>	1.25	4.94	5.42	5.42
	1.50	6.00	6.60	6.60

**Additional definitions**

The resistance values  $N_{R,k}$  and  $V_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$  and  $V_{R,k} = \min \{V_{R,I,k} | V_{R,k}\}$ .  $N_{R,II,k}$  and  $V_{R,k}$  are indicated in the Annex of the fastening screw.

For component I made of S320GD the indicated resistance values  $N_{R,I,k}$  and  $V_{R,I,k}$  may be increased by 8.3% and for component I made of S350GD to S450GD by 16.6%.

If the connection is exposed to wind loads, the component thickness  $t_i$  must be at least 1 mm.

<b>Hole pattern II</b>	<b>Annex 4</b>
Fastening screws for perforated sheeting	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]																
		0.63	0.75	0.88	1.00	1.25	1.50	1.75	2.00									
V <sub>R,k</sub> [kN]	0.50	0.98 <sup>a</sup>	-	1.20 <sup>a</sup>	-	1.45 <sup>a</sup>	-	1.61 <sup>a</sup>	-	1.76 <sup>a</sup>	-	1.90 <sup>a</sup>	-	1.90 <sup>a</sup>	-	1.90 <sup>a</sup>	-	
	0.55	1.03 <sup>a</sup>	-	1.25 <sup>a</sup>	-	1.53 <sup>a</sup>	-	1.68 <sup>a</sup>	-	1.91 <sup>a</sup>	-	2.13 <sup>a</sup>	-	2.13 <sup>a</sup>	-	2.13 <sup>a</sup>	-	
	0.63	1.11 <sup>a</sup>	-	1.34 <sup>a</sup>	-	1.66 <sup>a</sup>	-	1.79 <sup>a</sup>	-	2.15 <sup>a</sup>	-	2.50 <sup>a</sup>	-	2.50 <sup>a</sup>	-	2.50 <sup>a</sup>	-	
	0.75	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	1.96 <sup>a</sup>	-	2.51 <sup>a</sup>	-	3.06 <sup>a</sup>	-	3.06 <sup>a</sup>	-	3.06 <sup>a</sup>	-	
	t <sub>I</sub> [mm]	0.88	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.05	-	2.79	-	3.53	-	3.66	-	3.79	-
		1.00	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.14	-	3.05	-	3.96	-	4.21	-	4.46	-
		1.25	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	5.36	-	-	-
		1.50	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	-	-	-	-
N <sub>R,k</sub> [kN]	0.50	0.89	-	1.14	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	
	0.55	0.89	-	1.14	-	1.54	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	
	0.63	0.89	-	1.14	-	1.66	-	1.81	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-	
	0.75	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	2.80 <sup>a</sup>	-	2.80 <sup>a</sup>	-	2.80 <sup>a</sup>	-	
	t <sub>I</sub> [mm]	0.88	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.63	-	3.63	-
		1.00	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.39	-
		1.25	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	-	-
		1.50	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	-	-	-	-
N <sub>R,II,k</sub> [kN]		0.89		1.14		1.66		1.81		2.38		3.14		3.86		4.57		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 12 mm</b>	<b>Annex 5</b>
SX3-S12-6,0 x L, SX3-L12-S12-6,0 x L, SX3-D12-S12-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 4.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]									
		2 x 0.63	2 x 0.75	2 x 0.88	2 x 1.00	2 x 1.25	2 x 1.50				
V <sub>R,k</sub> [kN]	0.50	0.88 <sup>a</sup>	-	1.87 <sup>a</sup>	-	1.89 <sup>a</sup>	-	1.91 <sup>a</sup>	-	1.91 <sup>a</sup>	-
	0.55	0.98 <sup>a</sup>	-	2.01 <sup>a</sup>	-	2.05 <sup>a</sup>	-	2.08 <sup>a</sup>	-	2.12 <sup>a</sup>	-
	0.63	1.15 <sup>a</sup>	-	2.24 <sup>a</sup>	-	2.30 <sup>a</sup>	-	2.36 <sup>a</sup>	-	2.45 <sup>a</sup>	-
	0.75	1.39 <sup>a</sup>	-	2.58 <sup>a</sup>	-	2.68 <sup>a</sup>	-	2.77 <sup>a</sup>	-	2.96 <sup>a</sup>	-
	0.88	1.66	-	2.67	-	3.30	-	3.36	-	3.66	-
	1.00	1.90	-	2.75	-	3.36	-	4.01	-	4.01	-
	1.25	2.41	-	2.92	-	3.47	-	4.01	-	5.05	-
N <sub>R,k</sub> [kN]	0.50	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-
	0.55	1.40	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-
	0.63	1.40	-	1.98	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-
	0.75	1.40	-	1.98	-	2.61	-	2.80 <sup>a</sup>	-	2.80 <sup>a</sup>	-
	0.88	1.40	-	1.98	-	2.61	-	3.19	-	3.63	-
	1.00	1.40	-	1.98	-	2.61	-	3.19	-	4.37	-
	1.25	1.40	-	1.98	-	2.61	-	3.19	-	4.37	-
N <sub>R,II,k</sub> [kN]		1.40		1.98		2.61		3.19		4.37	

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 12 mm</b>	<b>Annex 6</b>
SX3-S12-6,0 x L, SX3-L12-S12-6,0 x L, SX3-D12-S12-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}</math></p>

		$t_{II} \text{ [mm]}$															
		0.63	0.75	0.88	1.00	1.25	1.50	1.75	2.00								
<b><math>V_{R,k}</math> [kN]</b>	0.50	0.98 <sup>a</sup>	-	1.20 <sup>a</sup>	-	1.45 <sup>a</sup>	ac	1.61 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac		
	0.55	1.03 <sup>a</sup>	-	1.25 <sup>a</sup>	-	1.53 <sup>a</sup>	-	1.68 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	2.13 <sup>a</sup>	ac	2.13 <sup>a</sup>	a		
	0.63	1.11 <sup>a</sup>	-	1.34 <sup>a</sup>	-	1.66 <sup>a</sup>	-	1.79 <sup>a</sup>	ac	2.15 <sup>a</sup>	ac	2.50 <sup>a</sup>	ac	2.50 <sup>a</sup>	a		
	0.75	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	1.96 <sup>a</sup>	ac	2.51 <sup>a</sup>	ac	3.06 <sup>a</sup>	ac	3.06 <sup>a</sup>	a		
	0.88	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.05	-	2.79	-	3.53	-	3.66	-	3.79	a
	1.00	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.14	-	3.05	-	3.96	-	4.21	-	4.46	a
	1.25	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	5.36	-	-	-
1.50	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	-	-	-	-	
<b><math>N_{R,k}</math> [kN]</b>	0.50	0.89	-	1.14	-	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac		
	0.55	0.89	-	1.14	-	1.66	-	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac		
	0.63	0.89	-	1.14	-	1.66	-	1.81	ac	2.25	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	a		
	0.75	0.89	-	1.14	-	1.66	-	1.81	ac	2.38	ac	3.09 <sup>a</sup>	ac	3.09 <sup>a</sup>	a		
	0.88	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.00	a
	1.00	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.57	a
	1.25	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	-	-
1.50	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	-	-	-	-	
<b><math>N_{R,II,k}</math> [kN]</b>		0.89		1.14		1.66		1.81		2.38		3.14		3.86		4.57	

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 14 mm</b>	<b>Annex 7</b>
SX3-S14-6,0 x L, SX3-L12-S14-6,0 x L, SX3-D12-S14-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 4.00 \text{ mm}</math></p>

		$t_{II}$ [mm]												
		2 x 0.63		2 x 0.75		2 x 0.88		2 x 1.00		2 x 1.25		2 x 1.50		
$V_{R,k}$ [kN]	$t_I$ [mm]	0.50	0.88 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.89 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac
		0.55	0.98 <sup>a</sup>	ac	2.01 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.08 <sup>a</sup>	ac	2.12 <sup>a</sup>	ac	2.12 <sup>a</sup>	a
		0.63	1.15 <sup>a</sup>	ac	2.24 <sup>a</sup>	ac	2.30 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.45 <sup>a</sup>	ac	2.45 <sup>a</sup>	a
		0.75	1.39 <sup>a</sup>	ac	2.58 <sup>a</sup>	ac	2.68 <sup>a</sup>	ac	2.77 <sup>a</sup>	ac	2.96 <sup>a</sup>	ac	2.96 <sup>a</sup>	a
		0.88	1.66	-	2.67	-	3.30	-	3.36	ac	3.66	a	3.79	a
		1.00	1.90	-	2.75	-	3.36	-	4.01	ac	4.01	a	4.01	a
		1.25	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-
		1.50	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-
$N_{R,k}$ [kN]	$t_I$ [mm]	0.50	1.34	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac
		0.55	1.40	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	a
		0.63	1.40	ac	1.98	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	a
		0.75	1.40	ac	1.98	ac	2.61	ac	3.09	ac	3.09 <sup>a</sup>	ac	3.09 <sup>a</sup>	a
		0.88	1.40	-	1.98	-	2.61	-	3.19	ac	4.00	a	4.00	a
		1.00	1.40	-	1.98	-	2.61	-	3.19	ac	4.37	a	4.84	a
		1.25	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-
		1.50	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-
$N_{R,II,k}$ [kN]		1.40		1.98		2.61		3.19		4.37		5.82		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

**Self-drilling screw with sealing washer Ø 14 mm**

SX3-S14-6,0 x L, SX3-L12-S14-6,0 x L, SX3-D12-S14-6,0 x L

**Annex 8**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}</math></p>

		$t_{II} \text{ [mm]}$															
		0.63	0.75	0.88	1.00	1.25	1.50	1.75	2.00								
<b><math>V_{R,k}</math> [kN]</b>	0.50	0.98 <sup>a</sup>	-	1.20 <sup>a</sup>	-	1.45 <sup>a</sup>	ac	1.61 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac		
	0.55	1.03 <sup>a</sup>	-	1.25 <sup>a</sup>	-	1.53 <sup>a</sup>	-	1.68 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	2.13 <sup>a</sup>	ac	2.13 <sup>a</sup>	a		
	0.63	1.11 <sup>a</sup>	-	1.34 <sup>a</sup>	-	1.66 <sup>a</sup>	-	1.79 <sup>a</sup>	ac	2.15 <sup>a</sup>	ac	2.50 <sup>a</sup>	ac	2.50 <sup>a</sup>	a		
	0.75	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	1.96 <sup>a</sup>	ac	2.51 <sup>a</sup>	ac	3.06 <sup>a</sup>	ac	3.06 <sup>a</sup>	a		
	0.88	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.05	-	2.79	-	3.53	-	3.66	-	3.79	a
	1.00	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.14	-	3.05	-	3.96	-	4.21	-	4.46	a
	1.25	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	5.36	-	-	-
1.50	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	-	-	-	-	
<b><math>N_{R,k}</math> [kN]</b>	0.50	0.89	-	1.14	-	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac		
	0.55	0.89	-	1.14	-	1.66	-	1.81	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	a		
	0.63	0.89	-	1.14	-	1.66	-	1.81	ac	2.38	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	a		
	0.75	0.89	-	1.14	-	1.66	-	1.81	ac	2.38	ac	3.14	ac	3.50 <sup>a</sup>	a		
	0.88	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.52	a
	1.00	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.57	a
	1.25	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	-	-
1.50	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	-	-	-	-	
<b><math>N_{R,II,k}</math> [kN]</b>		0.89		1.14		1.66		1.81		2.38		3.14		3.86		4.57	

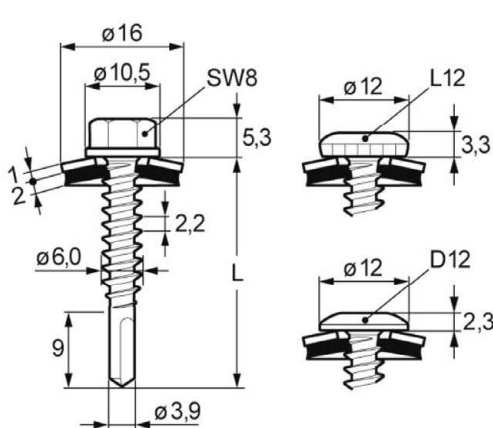
**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 16 mm</b>	<b>Annex 9</b>
SX3-S16-6,0 x L, SX3-L12-S16-6,0 x L, SX3-D12-S16-6,0 x L	



English translation prepared by DIBt

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 4.00 \text{ mm}</math></p>

		$t_{II}$ [mm]												
		2 x 0.63		2 x 0.75		2 x 0.88		2 x 1.00		2 x 1.25		2 x 1.50		
$V_{R,k}$ [kN]	0.50	0.88 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.89 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	
	0.55	0.98 <sup>a</sup>	ac	2.01 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.08 <sup>a</sup>	ac	2.12 <sup>a</sup>	ac	2.12 <sup>a</sup>	a	
	0.63	1.15 <sup>a</sup>	ac	2.24 <sup>a</sup>	ac	2.30 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.45 <sup>a</sup>	ac	2.45 <sup>a</sup>	a	
	0.75	1.39 <sup>a</sup>	ac	2.58 <sup>a</sup>	ac	2.68 <sup>a</sup>	ac	2.77 <sup>a</sup>	ac	2.96 <sup>a</sup>	ac	2.96 <sup>a</sup>	a	
	$t_I$ [mm]	0.88	1.66	-	2.67	-	3.30	-	3.36	ac	3.66	a	3.79	a
		1.00	1.90	-	2.75	-	3.36	-	4.01	ac	4.01	a	4.01	a
		1.25	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-
	1.50	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-	
$N_{R,k}$ [kN]	0.50	1.40	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	
	0.55	1.40	ac	1.91	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	a	
	0.63	1.40	ac	1.98	ac	2.61	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	a	
	0.75	1.40	ac	1.98	ac	2.61	ac	3.19	ac	3.50 <sup>a</sup>	ac	3.50 <sup>a</sup>	a	
	$t_I$ [mm]	0.88	1.40	-	1.98	-	2.61	-	3.19	ac	4.37	a	4.52	a
		1.00	1.40	-	1.98	-	2.61	-	3.19	ac	4.37	a	5.47	a
		1.25	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-
	1.50	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-	
$N_{R,II,k}$ [kN]		1.40		1.98		2.61		3.19		4.37		5.82		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 16 mm</b>	<b>Annex 10</b>
SX3-S16-6,0 x L, SX3-L12-S16-6,0 x L, SX3-D12-S16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 3.00 \text{ mm}</math></p>

		$t_{II} \text{ [mm]}$															
		0.63	0.75	0.88	1.00	1.25	1.50	1.75	2.00								
<b><math>V_{R,k}</math> [kN]</b>	0.50	0.98 <sup>a</sup>	-	1.20 <sup>a</sup>	-	1.45 <sup>a</sup>	ac	1.61 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac
	0.55	1.03 <sup>a</sup>	-	1.25 <sup>a</sup>	-	1.53 <sup>a</sup>	-	1.68 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	2.13 <sup>a</sup>	ac	2.13 <sup>a</sup>	ac	2.13 <sup>a</sup>	a
	0.63	1.11 <sup>a</sup>	-	1.34 <sup>a</sup>	-	1.66 <sup>a</sup>	-	1.79 <sup>a</sup>	ac	2.15 <sup>a</sup>	ac	2.50 <sup>a</sup>	ac	2.50 <sup>a</sup>	a	2.50 <sup>a</sup>	a
	0.75	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	1.96 <sup>a</sup>	ac	2.51 <sup>a</sup>	ac	3.06 <sup>a</sup>	ac	3.06 <sup>a</sup>	a	3.06 <sup>a</sup>	a
	0.88	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.05	-	2.79	-	3.53	-	3.66	-	3.79	a
	1.00	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.14	-	3.05	-	3.96	-	4.21	-	4.46	a
	1.25	1.11 <sup>a</sup>	-	1.47 <sup>a</sup>	-	1.85 <sup>a</sup>	-	2.32	-	3.59	-	4.86	-	5.36	-	-	-
<b><math>N_{R,k}</math> [kN]</b>	0.50	0.89	-	1.14	-	1.66	ac	1.81	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac
	0.55	0.89	-	1.14	-	1.66	-	1.81	ac	2.36	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	a
	0.63	0.89	-	1.14	-	1.66	-	1.81	ac	2.38	ac	3.14	ac	3.14 <sup>a</sup>	a	3.14 <sup>a</sup>	a
	0.75	0.89	-	1.14	-	1.66	-	1.81	ac	2.38	ac	3.14	ac	3.86	a	4.31	a
	0.88	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.57	a
	1.00	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	4.57	a
	1.25	0.89	-	1.14	-	1.66	-	1.81	-	2.38	-	3.14	-	3.86	-	-	-
<b><math>N_{R,II,k}</math> [kN]</b>		0.89		1.14		1.66		1.81		2.38		3.14		3.86		4.57	

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 19 \text{ mm}</math></b>	<b>Annex 11</b>
SX3-S19-6,0 x L, SX3-L12-S19-6,0 x L, SX3-D12-S19-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 4.00</math> mm</p>

		$t_{II}$ [mm]												
		2 x 0.63		2 x 0.75		2 x 0.88		2 x 1.00		2 x 1.25		2 x 1.50		
$V_{R,k}$ [kN]	0.50	0.88 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.89 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	
	0.55	0.98 <sup>a</sup>	ac	2.01 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.08 <sup>a</sup>	ac	2.12 <sup>a</sup>	ac	2.12 <sup>a</sup>	a	
	0.63	1.15 <sup>a</sup>	ac	2.24 <sup>a</sup>	ac	2.30 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.45 <sup>a</sup>	ac	2.45 <sup>a</sup>	a	
	0.75	1.39 <sup>a</sup>	ac	2.58 <sup>a</sup>	ac	2.68 <sup>a</sup>	ac	2.77 <sup>a</sup>	ac	2.96 <sup>a</sup>	ac	2.96 <sup>a</sup>	a	
	$t_I$ [mm]	0.88	1.66	-	2.67	-	3.30	-	3.36	ac	3.66	a	3.79	a
		1.00	1.90	-	2.75	-	3.36	-	4.01	ac	4.01	a	4.01	a
		1.25	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-
		1.50	2.41	-	2.92	-	3.47	-	4.01	-	5.05	a	-	-
$N_{R,k}$ [kN]	0.50	1.40	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	
	0.55	1.40	ac	1.98	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	a	
	0.63	1.40	ac	1.98	ac	2.61	ac	3.14	ac	3.14 <sup>a</sup>	ac	3.14 <sup>a</sup>	a	
	0.75	1.40	ac	1.98	ac	2.61	ac	3.19	ac	4.31	ac	4.31	a	
	$t_I$ [mm]	0.88	1.40	-	1.98	-	2.61	-	3.19	ac	4.37	a	5.57	a
		1.00	1.40	-	1.98	-	2.61	-	3.19	ac	4.37	a	5.82	a
		1.25	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-
		1.50	1.40	-	1.98	-	2.61	-	3.19	-	4.37	a	-	-
$N_{R,II,k}$ [kN]		1.40		1.98		2.61		3.19		4.37		5.82		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 19</math> mm</b>	<b>Annex 12</b>
SX3-S19-6,0 x L, SX3-L12-S19-6,0 x L, SX3-D12-S19-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 5.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]							
		1.50	1.75	2.00	2.50	3.00	4.00		
V <sub>R,k</sub> [kN]	0.50	1.57 <sup>a</sup>	-	1.67 <sup>a</sup>	-	1.76 <sup>a</sup>	-	1.76 <sup>a</sup>	-
	0.55	1.71 <sup>a</sup>	-	1.79 <sup>a</sup>	-	1.86 <sup>a</sup>	-	1.86 <sup>a</sup>	-
	0.63	1.94 <sup>a</sup>	-	1.99 <sup>a</sup>	-	2.03 <sup>a</sup>	-	2.03 <sup>a</sup>	-
	0.75	2.28 <sup>a</sup>	-	2.28 <sup>a</sup>	-	2.28 <sup>a</sup>	-	2.28 <sup>a</sup>	-
	0.88	2.86 <sup>a</sup>	-	2.86 <sup>a</sup>	-	2.86 <sup>a</sup>	-	3.27 <sup>a</sup>	-
	1.00	3.43	-	3.43	-	3.43	-	4.18	-
	1.25	3.43	-	3.87	-	4.31	-	5.20	-
N <sub>R,k</sub> [kN]	0.50	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-	1.22 <sup>a</sup>	-
	0.55	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-	1.54 <sup>a</sup>	-
	0.63	2.04	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-	2.04 <sup>a</sup>	-
	0.75	2.09	-	2.69	-	2.80 <sup>a</sup>	-	2.80 <sup>a</sup>	-
	0.88	2.09	-	2.69	-	3.28	-	3.63	-
	1.00	2.09	-	2.69	-	3.28	-	4.39	-
	1.25	2.09	-	2.69	-	3.28	-	5.02	-
N <sub>R,II,k</sub> [kN]		2.09	2.69	3.28	4.15	5.02	8.32		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer Ø 12 mm</b>	<b>Annex 13</b>
SX5-S12-5,5 x L, SX5-L12-S12-5,5 x L, SX5-D12-S12-5,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 5.00</math> mm</p>

		t <sub>II</sub> [mm]												
		1.50		1.75		2.00		2.50		3.00		4.00		
V <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.57 <sup>a</sup>	ac	1.67 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.71 <sup>a</sup>	ac	1.79 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	1.94 <sup>a</sup>	ac	1.99 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	a
		0.75	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	a
		0.88	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	3.04 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	a
		1.00	3.43	ac	3.43	ac	3.43	ac	3.74	ac	4.18	ac	4.18	a
		1.25	3.43	-	3.87	-	4.31	-	5.20	-	6.08	a	-	-
		1.50	3.43	-	3.87	-	4.31	-	5.20	-	6.08	-	-	-
N <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac	1.34 <sup>a</sup>	ac
		0.55	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	ac	1.69 <sup>a</sup>	a
		0.63	2.09	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	ac	2.25 <sup>a</sup>	a
		0.75	2.09	ac	2.69	ac	3.09	ac	3.09 <sup>a</sup>	ac	3.09 <sup>a</sup>	ac	3.09 <sup>a</sup>	a
		0.88	2.09	ac	2.69	ac	3.28	ac	4.00	ac	4.00	ac	4.00	a
		1.00	2.09	ac	2.69	ac	3.28	ac	4.15	ac	4.84	ac	4.84	a
		1.25	2.09	-	2.69	-	3.28	-	4.15	-	5.02	a	-	-
		1.50	2.09	-	2.69	-	3.28	-	4.15	-	5.02	-	-	-
N <sub>R,II,k</sub> [kN]		2.09		2.69		3.28		4.15		5.02		8.32		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

**Self-drilling screw with sealing washer Ø 14 mm**

SX5-S14-5,5 x L, SX5-L12-S14-5,5 x L, SX5-D12-S14-5,5 x L

**Annex 14**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 5.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]												
		1.50		1.75		2.00		2.50		3.00		4.00		
V <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.57 <sup>a</sup>	ac	1.67 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.71 <sup>a</sup>	ac	1.79 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	1.94 <sup>a</sup>	ac	1.99 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	a
		0.75	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	a
		0.88	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	3.04 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	a
		1.00	3.43	ac	3.43	ac	3.43	ac	3.74	ac	4.18	ac	4.18	a
		1.25	3.43	-	3.87	-	4.31	-	5.20	-	6.08	a	-	-
		1.50	3.43	-	3.87	-	4.31	-	5.20	-	6.08	-	-	-
N <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac	1.52 <sup>a</sup>	ac
		0.55	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	ac	1.91 <sup>a</sup>	a
		0.63	2.09	ac	2.69	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	ac	2.70 <sup>a</sup>	a
		0.75	2.09	ac	2.69	ac	3.09	ac	3.50 <sup>a</sup>	ac	3.50 <sup>a</sup>	ac	3.50 <sup>a</sup>	a
		0.88	2.09	ac	2.69	ac	3.28	ac	4.15	ac	4.52	ac	4.52	a
		1.00	2.09	ac	2.69	ac	3.28	ac	4.15	ac	5.02	ac	5.47	a
		1.25	2.09	-	2.69	-	3.28	-	4.15	-	5.02	a	-	-
		1.50	2.09	-	2.69	-	3.28	-	4.15	-	5.02	-	-	-
N <sub>R,II,k</sub> [kN]		2.09		2.69		3.28		4.15		5.02		8.32		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

**Self-drilling screw with sealing washer Ø 16 mm**

SX5-S16-5,5 x L, SX5-L12-S16-5,5 x L, SX5-D12-S16-5,5 x L

**Annex 15**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 5.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]												
		1.50		1.75		2.00		2.50		3.00		4.00		
V <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.57 <sup>a</sup>	ac	1.67 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.71 <sup>a</sup>	ac	1.79 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	1.94 <sup>a</sup>	ac	1.99 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	a
		0.75	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	a
		0.88	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	3.04 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	a
		1.00	3.43	ac	3.43	ac	3.43	ac	3.74	ac	4.18	ac	4.18	a
		1.25	3.43	-	3.87	-	4.31	-	5.20	-	6.08	a	-	-
		1.50	3.43	-	3.87	-	4.31	-	5.20	-	6.08	-	-	-
N <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac	1.87 <sup>a</sup>	ac
		0.55	2.09	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	ac	2.36 <sup>a</sup>	a
		0.63	2.09	ac	2.69	ac	3.14	ac	3.14 <sup>a</sup>	ac	3.14 <sup>a</sup>	ac	3.14 <sup>a</sup>	a
		0.75	2.09	ac	2.69	ac	3.28	ac	4.15	ac	4.31	ac	4.31	a
		0.88	2.09	ac	2.69	ac	3.28	ac	4.15	ac	5.02	ac	5.57	a
		1.00	2.09	ac	2.69	ac	3.28	ac	4.15	ac	5.02	ac	6.74	a
		1.25	2.09	-	2.69	-	3.28	-	4.15	-	5.02	a	-	-
		1.50	2.09	-	2.69	-	3.28	-	4.15	-	5.02	-	-	-
N <sub>R,II,k</sub> [kN]		2.09		2.69		3.28		4.15		5.02		8.32		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

**Self-drilling screw with sealing washer ≥ Ø 19 mm**

SX5-S19-5,5 x L, SX5-L12-S19-5,5 x L, SX5-D12-S19-5,5 x L

**Annex 16**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 14.00</math> mm</p>

		t <sub>II</sub> [mm]												
		4.00		5.00		6.00		8.00		10.00		12.00		
V <sub>R,k</sub> [kN]	0.50	2.20	ac	2.20	ac	2.20	ac	2.20	ac	2.20	ac	2.20	ac	
	0.55	2.50	ac	2.50	ac	2.50	ac	2.50	ac	2.50	ac	2.50	ac	
	0.63	2.80	ac	2.80	ac	2.80	ac	2.80	ac	2.80	ac	2.80	ac	
	0.75	3.40	ac	3.40	ac	3.40	ac	3.40	ac	3.40	ac	3.40	ac	
	t <sub>i</sub> [mm]	0.88	4.00	ac	4.00	ac	4.00	ac	4.00	ac	4.00	ac	4.00	ac
		1.00	4.50	ac	4.50	ac	4.50	ac	4.50	ac	4.50	ac	4.50	ac
		1.25	5.60	ac	5.60	ac	5.60	ac	5.60	ac	5.60	ac	5.60	ac
		1.50	6.40	ac	6.40	ac	6.40	ac	6.40	ac	6.40	ac	6.40	ac
N <sub>R,k</sub> [kN]	0.50	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	
	0.55	2.10	ac	2.10	ac	2.10	ac	2.10	ac	2.10	ac	2.10	ac	
	0.63	2.40	ac	2.40	ac	2.40	ac	2.40	ac	2.40	ac	2.40	ac	
	0.75	3.00	ac	3.00	ac	3.00	ac	3.00	ac	3.00	ac	3.00	ac	
	t <sub>i</sub> [mm]	0.88	3.60	ac	3.60	ac	3.60	ac	3.60	ac	3.60	ac	3.60	ac
		1.00	4.20	ac	4.20	ac	4.20	ac	4.20	ac	4.20	ac	4.20	ac
		1.25	6.60	ac	6.60	ac	6.60	ac	6.60	ac	6.60	ac	6.60	ac
		1.50	7.10	ac	10.90	ac	10.90	ac	10.90	ac	10.90	ac	10.90	ac
N <sub>R,II,k</sub> [kN]		7.10		10.90		10.90		10.90		10.90		10.90		

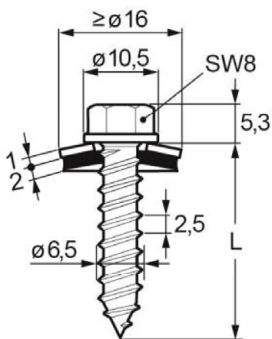
Additional definitions

Self-drilling screw with sealing washer  $\geq \varnothing 16$  mm

SX14-S16-5,5 x L, SX14-L12-S16-5,5 x L

Annex 17



	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

	$t_{II}$ [mm]																
	0.63		0.75		0.88		1.00		1.25		1.50		2.00		3.00		
$d_{pd}$ [mm]	3.5		4.0		4.5		5.0		5.0		5.0		5.0		5.0		
$V_{R,k}$ [kN]	0.50	0.82	-	1.07 <sup>a</sup>	-	1.35 <sup>a</sup>	-	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac
	0.55	1.00	-	1.24	-	1.52	-	1.75	ac	1.95	ac	2.10	ac	2.10	ac	2.10	ac
	0.63	1.30	-	1.50	-	1.80	-	2.00	ac	2.50	ac	2.90	ac	2.90	ac	2.90	ac
	0.75	1.40	-	1.60	-	1.90	-	2.20	ac	2.70	ac	3.10	ac	3.40	ac	3.50	ac
	0.88	1.50	-	1.70	-	2.00	-	2.30	-	2.80	ac	3.20	ac	3.90	ac	4.00	ac
	1.00	1.60	-	1.80	-	2.10	-	2.50	-	3.10	-	3.60	-	4.40	-	4.50	ac
	1.25	1.60	-	1.82	-	2.30	-	2.70	-	3.30	-	4.00	-	4.70	-	5.40	-
1.50	1.60	-	1.83	-	2.40	-	2.80	-	3.50	-	4.00	-	4.90	-	5.70	-	
$N_{R,k}$ [kN]	0.50	1.00	-	1.20	-	1.40	-	1.50	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac
	0.55	1.00	-	1.20	-	1.40	-	1.50	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac
	0.63	1.00	-	1.20	-	1.40	-	1.50	ac	1.90	ac	2.30	ac	2.70	ac	2.70	ac
	0.75	1.00	-	1.20	-	1.40	-	1.50	ac	1.90	ac	2.30	ac	3.40	ac	3.40	ac
	0.88	1.00	-	1.20	-	1.40	-	1.50	-	1.90	ac	2.30	ac	3.80	ac	4.10	ac
	1.00	1.00	-	1.20	-	1.40	-	1.50	-	1.90	-	2.30	-	3.80	-	4.80	ac
	1.25	1.00	-	1.20	-	1.40	-	1.50	-	1.90	-	2.30	-	3.80	-	5.60	-
1.50	1.00	-	1.20	-	1.40	-	1.50	-	1.90	-	2.30	-	3.80	-	5.60	-	
$N_{R,II,k}$ [kN]	1.00		1.20		1.40		1.50		1.90		2.30		3.80		5.60		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-tapping screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 18</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

	$t_{II}$ [mm]										
	2 x 0.75		2 x 0.88		2 x 1.00		2 x 1.25		2 x 1.50		
$d_{pd}$ [mm]	4.0				4.5						
$V_{R,k}$ [kN]	0.50	1.36 <sup>a</sup>	ac	1.48 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac	1.60 <sup>a</sup>	ac
	0.55	1.54 <sup>a</sup>	ac	1.72 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac	1.90 <sup>a</sup>	ac
	0.63	1.83 <sup>a</sup>	ac	2.10 <sup>a</sup>	ac	2.37 <sup>a</sup>	ac	2.37 <sup>a</sup>	ac	2.37 <sup>a</sup>	ac
	0.75	2.30 <sup>a</sup>	ac	2.72 <sup>a</sup>	ac	3.14 <sup>a</sup>	ac	3.14 <sup>a</sup>	ac	3.14 <sup>a</sup>	ac
	0.88	2.49 <sup>a</sup>	-	2.94 <sup>a</sup>	-	3.40 <sup>a</sup>	ac	3.40 <sup>a</sup>	ac	3.40 <sup>a</sup>	ac
	1.00	2.67 <sup>a</sup>	-	3.16 <sup>a</sup>	-	3.65	ac	3.65	ac	3.65	ac
	1.25	2.67 <sup>a</sup>	-	3.17 <sup>a</sup>	-	3.67	-	3.67	-	3.67	-
1.50	2.67 <sup>a</sup>	-	3.18 <sup>a</sup>	-	3.68	-	3.68	-	3.68	-	
$N_{R,k}$ [kN]	0.50	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac	1.68 <sup>a</sup>	ac
	0.55	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac	1.88 <sup>a</sup>	ac
	0.63	2.18	ac	2.70	ac	2.70	ac	2.70	ac	2.70	ac
	0.75	2.18	ac	2.77	ac	3.36	ac	3.36	ac	3.36	ac
	0.88	2.18	-	2.77	-	3.36	ac	3.36	ac	3.36	ac
	1.00	2.18	-	2.77	-	3.36	ac	3.36	ac	3.36	ac
	1.25	2.18	-	2.77	-	3.36	-	3.36	-	3.36	-
1.50	2.18	-	2.77	-	3.36	-	3.36	-	3.36	-	
$N_{R,II,k}$ [kN]	2.18		2.77		3.36		n/a		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-tapping screw with sealing washer <math>\geq \text{Ø} 16</math> mm</b>	<b>Annex 19</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

		t <sub>II</sub> [mm]									
		1.25	1.50	2.00	3.00	4.00	6.00	8.00	10.00	> 10.00 <sup>b</sup>	
d <sub>pd</sub> [mm] <sup>c</sup>		5.0		5.3			5.5	5.7			5.8
V <sub>R,k</sub> [kN]	0.50	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	
	0.55	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	2.06 <sup>a</sup> ac	
	0.63	2.50 ac	2.70 ac	2.90 ac	3.00 ac	3.10 ac	3.10 ac	3.10 ac	3.10 ac	3.10 ac	
	0.75	2.60 ac	3.10 ac	3.30 ac	3.60 ac	3.70 ac	3.70 ac	3.70 ac	3.70 ac	3.70 ac	
	0.88	2.80 ac	3.20 ac	3.80 ac	4.10 ac	4.30 ac	4.40 ac	4.40 ac	4.40 ac	4.40 ac	
	1.00	3.20 -	3.60 -	4.10 -	4.80 ac	4.90 ac	5.10 ac	5.10 ac	5.10 ac	5.10 ac	
	1.25	3.60 -	4.20 -	5.00 -	6.10 -	6.30 -	6.50 -	6.50 -	6.50 -	6.50 -	
N <sub>R,k</sub> [kN]	0.50	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	1.84 <sup>a</sup> ac	
	0.55	2.00 ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	2.05 <sup>a</sup> ac	
	0.63	2.00 ac	2.70 ac	2.80 ac	2.80 ac	2.80 ac	2.80 ac	2.80 ac	2.80 ac	2.80 ac	
	0.75	2.00 ac	2.70 ac	3.60 ac	3.60 ac	3.60 ac	3.60 ac	3.60 ac	3.60 ac	3.60 ac	
	0.88	2.00 ac	2.70 ac	3.60 ac	4.29 ac	4.29 ac	4.29 ac	4.29 ac	4.29 ac	4.29 ac	
	1.00	2.00 -	2.70 -	3.60 -	4.85 ac	4.85 ac	4.85 ac	4.85 ac	4.85 ac	4.85 ac	
	1.25	2.00 -	2.70 -	3.60 -	4.90 -	4.90 -	4.90 -	4.90 -	4.90 -	4.90 -	
N <sub>R,II,k</sub> [kN]	1.50	2.00 -	2.70 -	3.60 -	5.90 -	5.90 -	5.90 -	5.90 -	5.90 -	5.90 -	
		2.00	2.70	3.60	6.48	9.19	12.22	15.24	15.24	15.24	

**Additional definitions**

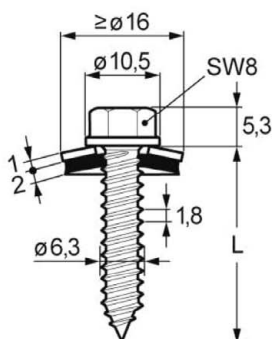
Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

Index <sup>b</sup>: Only valid for component II made of S235, S280GD or HX300LAD.

Index <sup>c</sup>: The pre-drill diameter d<sub>pd</sub> for not indicated thicknesses t<sub>II</sub> is defined as follows:

d<sub>pd</sub> = 5.3 mm for t<sub>II</sub> = 1.6 - 4.0 mm, d<sub>pd</sub> = 5.5 mm for t<sub>II</sub> = 4.1 - 6.0 mm, d<sub>pd</sub> = 5.7 mm for t<sub>II</sub> = 6.1 - 10.0 mm

<b>Self-tapping screw with sealing washer ≥ Ø 16 mm</b>	<b>Annex 20</b>
TDB-S-S16-6,3 x L	

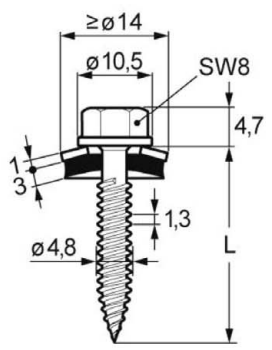
	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

	$t_{II}$ [mm]																					
	1.25		1.50		2.00		3.00		4.00													
$d_{pd}$ [mm]	5.0				5.3																	
$V_{R,k}$ [kN]	$t_i$ [mm]	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50	1.84 <sup>a</sup>	ac	1.84 <sup>a</sup>	ac	1.84 <sup>a</sup>	ac	1.84 <sup>a</sup>	ac	1.84 <sup>a</sup>	ac	1.84 <sup>a</sup>	ac	
	$N_{R,k}$ [kN]	$t_i$ [mm]	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50	2.00	ac	2.05 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac	2.05 <sup>a</sup>	ac
		$N_{R,II,k}$ [kN]	2.00		2.70		3.60		6.48		9.19											

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

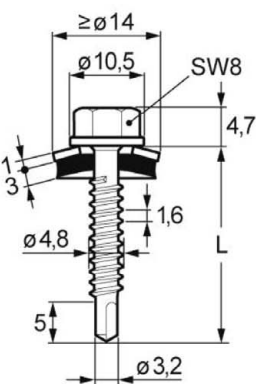
<b>Self-tapping screw with sealing washer <math>\geq \varnothing</math> 16 mm</b>	<b>Annex 21</b>
TDC-S-S16-6,3 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]						
		0.40	0.50	0.55	0.63	0.75	0.88	1.00
<b>V<sub>R,k</sub> [kN]</b>	0.40	0.66	0.66	0.66	0.66	0.66	0.66	0.66
	0.50	0.66	0.80	0.80	0.80	0.80	0.80	0.80
	0.55	0.66	0.80	0.98	0.98	0.98	0.98	0.98
	0.63	0.66	0.80	0.98	1.28	1.28	1.28	1.28
	0.75	0.66	0.80	0.98	1.28	1.72	1.72	1.72
<b>t<sub>i</sub> [mm]</b>	0.88	0.66	0.80	0.98	1.28	1.72	1.72	1.72
	1.00	0.66	0.80	0.98	1.28	1.72	1.72	1.72
	0.40	0.52	0.73	0.82	0.95	0.95	0.95	0.95
<b>N<sub>R,k</sub> [kN]</b>	0.50	0.52	0.73	0.82	0.97	1.20	1.20	1.20
	0.55	0.52	0.73	0.82	0.97	1.20	1.20	1.20
	0.63	0.52	0.73	0.82	0.97	1.20	1.20	1.20
	0.75	0.52	0.73	0.82	0.97	1.20	1.20	1.20
	0.88	0.52	0.73	0.82	0.97	1.20	1.20	1.20
1.00	0.52	0.73	0.82	0.97	1.20	1.20	1.20	
<b>N<sub>R,II,k</sub> [kN]</b>		0.52	0.73	0.82	0.97	1.20	n/a	n/a

Additional definitions

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 14 \text{ mm}</math></b>	<b>Annex 22</b>
SLG-S-S14-4,8 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]								
		0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50
V <sub>R,k</sub> [kN]	0.40	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
	0.50	0.58	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
	0.55	0.58	0.69	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	0.63	0.58	0.69	0.80	0.98	0.98	0.98	0.98	0.98	0.98
	0.75	0.58	0.69	0.80	0.98	1.26	1.26	1.26	1.26	1.26
	0.88	0.58	0.69	0.80	0.98	1.26	1.82	1.82	1.82	1.82
	1.00	0.58	0.69	0.80	0.98	1.26	1.82	2.35	2.35	2.35
	1.25	0.58	0.69	0.80	0.98	1.26	1.82	2.35	2.35	-
N <sub>R,k</sub> [kN]	0.40	0.30	0.42	0.49	0.59	0.76	0.96	1.07	1.07	1.07
	0.50	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	0.55	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	0.63	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	0.75	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	0.88	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	1.00	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	1.16
	1.25	0.30	0.42	0.49	0.59	0.76	0.96	1.16	1.16	-
N <sub>R,II,k</sub> [kN]	1.50	0.30	0.42	0.49	0.59	0.76	0.96	1.16	-	-
		0.30	0.42	0.49	0.59	0.76	0.96	1.16	n/a	n/a

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 14 \text{ mm}$**

SL2-S-S14-4,8 x L

**Annex 23**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]								
		0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50
V <sub>R,k</sub> [kN]	0.40	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
	0.50	0.48	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	0.55	0.48	0.75	0.90	0.90	0.90	0.90	0.90	0.90	0.90
	0.63	0.48	0.75	0.90	1.13	1.13	1.13	1.13	1.13	1.13
	0.75	0.48	0.75	0.90	1.13	1.48	1.48	1.48	1.48	1.48
	0.88	0.48	0.75	0.90	1.13	1.48	1.73	1.73	1.73	1.73
	1.00	0.48	0.75	0.90	1.13	1.48	1.73	1.97	1.97	1.97
	1.25	0.48	0.75	0.90	1.13	1.48	1.73	1.97	1.97	-
N <sub>R,k</sub> [kN]	0.40	0.43	0.57	0.65	0.79	1.00	1.00	1.00	1.00	1.00
	0.50	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	0.55	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	0.63	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	0.75	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	0.88	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	1.00	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	1.61
	1.25	0.43	0.57	0.65	0.79	1.03	1.32	1.61	1.61	-
N <sub>R,II,k</sub> [kN]	0.40	0.43	0.57	0.65	0.79	1.03	1.32	1.61	n/a	n/a
	0.50	0.43	0.57	0.65	0.79	1.03	1.32	1.61	n/a	n/a

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 14 \text{ mm}$**

SL2-S-S14-5,5 x L

**Annex 24**

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]								
		0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50
V <sub>R,k</sub> [kN]	0.40	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
	0.50	0.57	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	0.55	0.57	0.80	0.95	0.95	0.95	0.95	0.95	0.95	0.95
	0.63	0.57	0.80	0.95	1.18	1.18	1.18	1.18	1.18	1.18
	0.75	0.57	0.80	0.95	1.18	1.55	1.55	1.55	1.55	1.55
	0.88	0.57	0.80	0.95	1.18	1.55	2.27	2.27	2.27	2.27
	1.00	0.57	0.80	0.95	1.18	1.55	2.27	2.98	2.98	2.98
	1.25	0.57	0.80	0.95	1.18	1.55	2.27	2.98	2.98	-
N <sub>R,k</sub> [kN]	0.40	0.57	0.74	0.84	0.99	1.23	1.28	1.28	1.28	1.28
	0.50	0.57	0.74	0.84	0.99	1.23	1.36	1.36	1.36	1.36
	0.55	0.57	0.74	0.84	0.99	1.23	1.50	1.50	1.50	1.50
	0.63	0.57	0.74	0.84	0.99	1.23	1.61	1.73	1.73	1.73
	0.75	0.57	0.74	0.84	0.99	1.23	1.61	1.98	1.98	1.98
	0.88	0.57	0.74	0.84	0.99	1.23	1.61	1.98	1.98	1.98
	1.00	0.57	0.74	0.84	0.99	1.23	1.61	1.98	1.98	1.98
	1.25	0.57	0.74	0.84	0.99	1.23	1.61	1.98	1.98	-
N <sub>R,II,k</sub> [kN]	1.50	0.57	0.80	0.95	1.18	1.55	2.27	2.98	-	-
		0.57	0.74	0.84	0.99	1.23	1.61	1.98	n/a	n/a

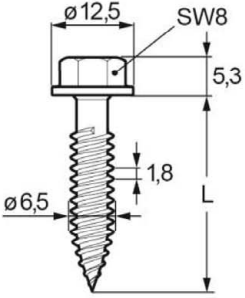
Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 14 \text{ mm}$**

SL2-S-S14-6,3 x L, SL2-S-L12-S14-6,3 x L

**Annex 25**

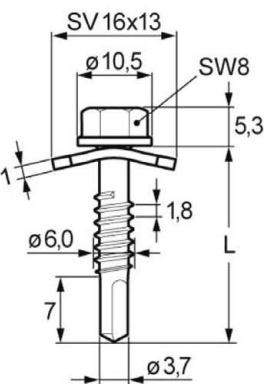


	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: -</p> <p>Component I: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_{II}) \leq 1.25</math> mm</p>

		$t_{II}$ [mm]				
		0.63	0.75	0.88	1.00	1.25
$d_{pd,I}$ [mm]		6.50 - 7.20				
$V_{R,k}$ [kN]	2.00	1.49	2.29	3.16	3.38	3.62
	2.50	1.49	2.29	3.16	3.38	3.62
	3.00	1.49	2.29	3.16	3.38	3.62
	$t_I$ [mm]	3.50	1.49	2.29	3.16	3.38
$N_{R,k}$ [kN]	4.00	1.49	2.29	3.16	3.38	-
	2.00	1.07	1.48	1.93	2.19	2.47
	2.50	1.07	1.48	1.93	2.19	2.47
	3.00	1.07	1.48	1.93	2.19	2.47
$t_I$ [mm]	3.50	1.07	1.48	1.93	2.19	2.47
	4.00	1.07	1.48	1.93	2.19	-
	$N_{R,II,k}$ [kN]	1.07	1.48	1.93	2.19	2.47

Additional definitions

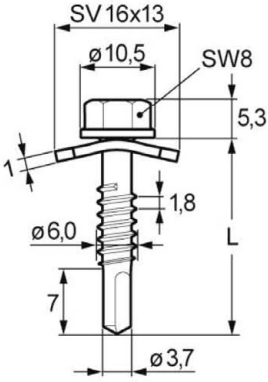
<b>Self-drilling screw</b>	<b>Annex 26</b>
SLG-S-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 3.00 \text{ mm}</math></p>

		t <sub>II</sub> [mm]					
		0.63	0.75	0.88	1.00	1.25	1.50
<b>V<sub>R,k</sub> [kN]</b>	1.00	-	-	1.88	1.88	2.01	2.01
	1.25	1.03	1.46	1.88	2.22	2.97	2.97
	1.50	1.03	1.46	1.88	2.22	2.97	2.97
t <sub>I</sub> [mm]	1.75	1.03	1.46	1.88	2.22	2.97	-
	2.00	1.03	1.46	1.88	2.22	-	-
	1.00	-	-	1.49	1.82	2.51	3.21
<b>N<sub>R,k</sub> [kN]</b>	1.25	0.82	1.15	1.49	1.82	2.51	3.21
	1.50	0.82	1.15	1.49	1.82	2.51	3.21
	1.75	0.82	1.15	1.49	1.82	2.51	-
2.00	0.82	1.15	1.49	1.82	-	-	
<b>N<sub>R,II,k</sub> [kN]</b>		0.82	1.15	1.49	1.82	2.51	3.21

Additional definitions

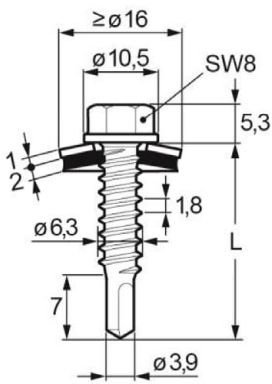
<b>Self-drilling screw with SV-washer 13x16 mm</b>	<b>Annex 27</b>
SL3/2-5-S-SV16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 4.00</math> mm</p>

		t <sub>II</sub> [mm]			
		2 x 0.75	2 x 0.88	2 x 1.00	2 x 1.25
<b>V<sub>R,k</sub> [kN]</b>	1.00	2.10	2.23	2.35	3.23
	1.25	2.60	2.92	3.24	4.01
	1.50	3.09	3.61	4.12	4.12
t <sub>I</sub> [mm]	1.75	3.09	3.61	4.12	-
	2.00	3.09	3.61	4.12	-
<b>N<sub>R,k</sub> [kN]</b>	1.00	2.43	2.94	3.45	3.69
	1.25	2.43	2.94	3.45	4.38
	1.50	2.43	2.94	3.45	4.38
t <sub>I</sub> [mm]	1.75	2.43	2.94	3.45	-
	2.00	2.43	2.94	3.45	-
<b>N<sub>R,II,k</sub> [kN]</b>		2.43	2.94	3.45	4.38

Additional definitions

<b>Self-drilling screw with SV-washer 13x16 mm</b>	<b>Annex 28</b>
SL3/2-5-S-SV16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 2.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]								
		0.75	0.88	1.00	1.25	1.50				
V <sub>R,k</sub> [kN]	0.50	n/a	-	n/a	-	n/a	-	n/a	-	
	0.55	n/a	-	n/a	-	n/a	-	n/a	-	
	0.63	1.54	-	1.54	-	1.54	-	1.54	-	
	0.75	1.54	-	1.54	-	1.54	-	1.54	-	
	t <sub>I</sub> [mm]	0.88	1.54	-	2.39	-	2.39	-	2.39	-
		1.00	1.54	-	2.39	-	2.39	-	2.39	-
		1.25	1.54	-	2.39	-	2.39	-	-	-
		1.50	1.54	-	2.39	-	-	-	-	-
N <sub>R,k</sub> [kN]	0.50	n/a	-	n/a	-	n/a	-	n/a	-	
	0.55	n/a	-	n/a	-	n/a	-	n/a	-	
	0.63	1.17	-	1.60	-	1.92	-	1.92	-	
	0.75	1.17	-	1.60	-	1.92	-	1.92	-	
	t <sub>I</sub> [mm]	0.88	1.17	-	1.60	-	1.92	-	1.92	-
		1.00	1.17	-	1.60	-	1.92	-	1.92	-
		1.25	1.17	-	1.60	-	1.92	-	-	-
		1.50	1.17	-	1.60	-	-	-	-	-
<b>N<sub>R,II,k</sub> [kN]</b>		1.17		1.60		1.92		n/a		n/a

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16 \text{ mm}$**

SD2-T16-6.3 x L

**Annex 29**

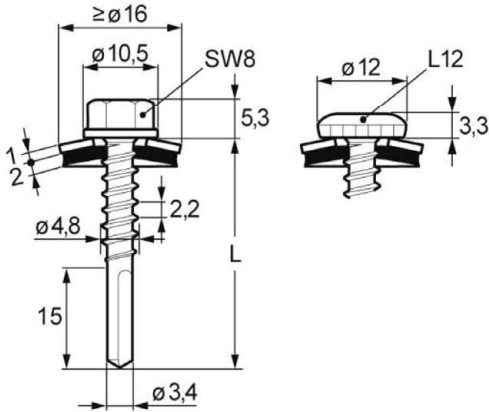
	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 3.00</math> mm</p>

		$t_{II}$ [mm]										
		1.25		1.50		1.75		2.00		2.50		
$V_{R,k}$ [kN]	0.50	1.57 <sup>a</sup>	ac	1.57 <sup>a</sup>	ac	1.57 <sup>a</sup>	ac	1.57 <sup>a</sup>	a	1.57 <sup>a</sup>	a	
	0.55	1.63 <sup>a</sup>	ac	1.63 <sup>a</sup>	ac	1.63 <sup>a</sup>	ac	1.63 <sup>a</sup>	a	-	-	
	0.63	1.72 <sup>a</sup>	ac	1.72 <sup>a</sup>	ac	1.72 <sup>a</sup>	a	1.72 <sup>a</sup>	a	-	-	
	0.75	2.43 <sup>a</sup>	ac	2.43 <sup>a</sup>	ac	2.43 <sup>a</sup>	a	2.43 <sup>a</sup>	a	-	-	
	$t_i$ [mm]	0.88	2.92	-	3.11	-	3.30	-	3.49	a	-	-
		1.00	3.37	-	3.73	-	4.10	-	4.46	a	-	-
		1.25	3.89	-	4.07	-	4.10	-	-	-	-	-
		1.50	4.40	-	4.40	-	-	-	-	-	-	-
$N_{R,k}$ [kN]	0.50	1.53	ac	1.53	ac	1.53	ac	1.53	a	1.53	a	
	0.55	1.65	ac	1.71	ac	1.71	ac	1.71	a	-	-	
	0.63	1.65	ac	1.98	ac	1.98	a	1.98	a	-	-	
	0.75	1.65	ac	2.16	ac	2.41	a	2.41	a	-	-	
	$t_i$ [mm]	0.88	1.65	-	2.16	-	2.60	-	2.86	a	-	-
		1.00	1.65	-	2.16	-	2.60	-	3.03	a	-	-
		1.25	1.65	-	2.16	-	2.60	-	-	-	-	-
		1.50	1.65	-	2.16	-	-	-	-	-	-	-
$N_{R,II,k}$ [kN]		1.65		2.16		2.60		3.03		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 30</b>
SD3-T16-4,8 x L, SD3-L12-T16-4,8 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.50 \text{ mm}</math></p>

		$t_{II}$ [mm]				
		2 x 0.63	2 x 0.75	2 x 0.88	2 x 1.00	2 x 1.25
$V_{R,k}$ [kN]	0.50	-	-	-	-	-
	0.55	-	-	-	-	-
	0.63	1.64	1.64	1.64	1.64	1.64
	0.75	2.22	2.22	2.22	2.22	2.22
	0.88	2.84	2.84	2.84	2.84	2.84
	1.00	2.87	2.97	3.06	3.06	3.06
	1.25	2.90	3.10	3.29	3.29	-
$N_{R,k}$ [kN]	0.50	-	-	-	-	-
	0.55	-	-	-	-	-
	0.63	1.41	1.98	1.98	1.98	1.98
	0.75	1.41	2.00	2.41	2.41	2.41
	0.88	1.41	2.00	2.58	2.71	2.71
	1.00	1.41	2.00	2.58	2.71	2.71
	1.25	1.41	2.00	2.58	2.71	-
$N_{R,II,k}$ [kN]	1.41	2.00	2.58	2.71	n/a	

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16 \text{ mm}$**

SD3/15-T16-4,8 x L, SD3/15-L12-T16-4,8 x L

**Annex 31**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{ii}) \leq 3.50 \text{ mm}</math></p>

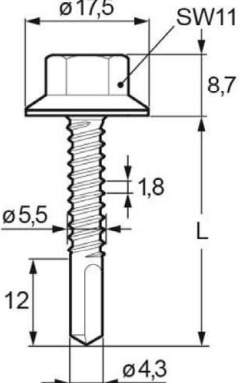
		$t_{ii}$ [mm]										
		1.25		1.50		1.75		2.00		2.50		
$V_{R,k}$ [kN]	$t_i$ [mm]	0.50	1.19	ac	1.19	ac	1.19	ac	1.19	ac	1.19	ac
		0.55	1.30	-	1.30	-	1.30	-	1.30	ac	1.30	a
		0.63	1.47	-	1.47	-	1.47	-	1.47	ac	1.47	a
		0.75	1.72	-	1.72	-	1.72	-	1.72	ac	1.72	a
		0.88	2.49	-	2.62	-	2.75	-	2.87	a	2.87	a
		1.00	3.20	-	3.45	-	3.70	-	3.94	a	3.94	a
		1.25	4.03	-	4.14	-	4.14	-	4.14	-	-	-
		1.50	4.82	-	4.82	-	4.82	-	4.82	-	-	-
$N_{R,k}$ [kN]	$t_i$ [mm]	0.50	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac
		0.55	1.71	-	1.71	-	1.71	-	1.71	ac	1.71	a
		0.63	1.71	-	1.98	-	1.98	-	1.98	ac	1.98	a
		0.75	1.71	-	2.36	-	2.41	-	2.41	ac	2.41	a
		0.88	1.71	-	2.36	-	2.76	-	2.86	a	2.86	a
		1.00	1.71	-	2.36	-	2.76	-	3.16	a	3.16	a
		1.25	1.71	-	2.36	-	2.76	-	3.16	-	-	-
		1.50	1.71	-	2.36	-	2.76	-	3.16	-	-	-
$N_{R,ii,k}$ [kN]		1.71		2.36		2.76		3.16		n/a		

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16 \text{ mm}$**

SD3-T16-5,5 x L, SD3-L12-T16-5,5 x L, SD3-D12-T16-5,5 x L

**Annex 32**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating with polyamide screw head</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.50 \text{ mm}</math></p>

		$t_{II}$ [mm]										
		1.25		1.50		1.75		2.00		2.50		
$V_{R,k}$ [kN]	$t_I$ [mm]	0.50	1.76	ac	1.90	ac	2.04	ac	2.04	ac	2.04	ac
		0.55	1.76	-	1.90	-	2.04	-	2.04	-	2.04	-
		0.63	1.76	-	1.90	-	2.04	-	2.04	-	2.04	-
		0.75	1.76	-	1.90	-	2.04	-	2.04	-	2.04	-
		0.88	1.76	-	1.90	-	2.04	-	2.04	-	2.04	-
		1.00	1.76	-	1.90	-	2.04	-	2.04	-	2.04	-
		1.25	1.76	-	1.90	-	2.04	-	2.04	-	-	-
		1.50	1.76	-	1.90	-	2.04	-	2.04	-	-	-
$N_{R,k}$ [kN]	$t_I$ [mm]	0.50	1.34	ac	1.64	ac	1.94	ac	1.94	ac	1.94	ac
		0.55	1.34	-	1.64	-	1.94	-	1.94	-	1.94	-
		0.63	1.34	-	1.64	-	1.94	-	1.94	-	1.94	-
		0.75	1.34	-	1.64	-	1.94	-	1.94	-	1.94	-
		0.88	1.34	-	1.64	-	1.94	-	1.94	-	1.94	-
		1.00	1.34	-	1.64	-	1.94	-	1.94	-	1.94	-
		1.25	1.34	-	1.64	-	1.94	-	1.94	-	-	-
		1.50	1.34	-	1.64	-	1.94	-	1.94	-	-	-
$N_{R,II,k}$ [kN]		1.71		2.36		2.76		3.16		n/a		

**Additional definitions**

For component I and II made of S320GD the indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) and  $V_{R,k}$  may be increased by 8.3% and for component I and II made of S350GD to S450GD by 16.6%.

<b>Self-drilling screw</b>	<b>Annex 33</b>
SDP3-Z-5,5 x L	



	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 3.00</math> mm</p>

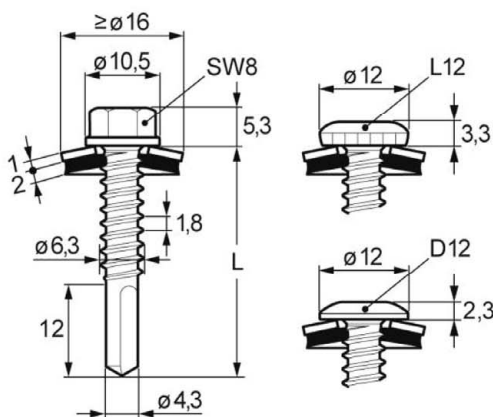
		$t_{II}$ [mm]										
		1.25		1.50		1.75		2.00		2.50		
$V_{R,k}$ [kN]	0.50	1.79	ac	1.79	ac	1.79	ac	1.79	ac	1.79	a	
	0.55	1.92	ac	1.92	ac	1.92	ac	1.92	a	-	-	
	0.63	2.13	ac	2.13	ac	2.13	a	2.13	a	-	-	
	0.75	2.44	ac	2.44	ac	2.44	a	2.44	a	-	-	
	$t_i$ [mm]	0.88	2.57	-	2.57	-	2.57	-	2.57	-	-	-
		1.00	3.11	-	3.11	-	3.11	-	3.11	-	-	-
		1.25	3.72	-	3.72	-	3.72	-	-	-	-	-
		1.50	4.33	-	4.33	-	-	-	-	-	-	-
$N_{R,k}$ [kN]	0.50	1.90	ac	1.90	ac	1.90	ac	1.90	ac	1.90	a	
	0.55	2.12	ac	2.12	ac	2.12	ac	2.12	a	-	-	
	0.63	2.18	ac	2.47	ac	2.47	a	2.47	a	-	-	
	0.75	2.18	ac	2.93	ac	3.00	a	3.00	a	-	-	
	$t_i$ [mm]	0.88	2.18	-	2.93	-	3.42	-	3.47	-	-	-
		1.00	2.18	-	2.93	-	3.42	-	3.90	-	-	-
		1.25	2.18	-	2.93	-	3.42	-	-	-	-	-
		1.50	2.18	-	2.93	-	-	-	-	-	-	-
$N_{R,II,k}$ [kN]		2.18		2.93		3.42		3.90		n/a		

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16$  mm**

SDL3-T16-5,5 x L, SDL3-L12-T16-5,5 x L

**Annex 34**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}</math></p>

		$t_{II}$ [mm]									
		1.25		1.50		1.75		2.00		2.50	
$V_{R,k}$ [kN]	0.50	1.61	ac	1.61	ac	1.61	ac	1.61	ac	1.61	a
	0.55	1.86	-	1.86	-	1.86	-	1.86	-	-	-
	0.63	2.27	-	2.27	-	2.27	-	2.27	-	-	-
	0.75	2.88	-	2.88	-	2.88	-	2.88	-	-	-
	0.88	3.42	-	3.65	-	3.88	-	4.10	-	-	-
	1.00	3.92	-	4.36	-	4.80	-	5.23	-	-	-
	1.25	4.12	-	4.36	-	4.80	-	-	-	-	-
$N_{R,k}$ [kN]	0.50	1.70	ac	1.70	ac	1.70	ac	1.70	ac	1.70	a
	0.55	1.93	-	1.93	-	1.93	-	1.93	-	-	-
	0.63	2.29	-	2.29	-	2.29	-	2.29	-	-	-
	0.75	2.42	-	2.83	-	2.83	-	2.83	-	-	-
	0.88	2.42	-	3.36	-	3.64	-	3.77	-	-	-
	1.00	2.42	-	3.36	-	3.64	-	3.91	-	-	-
	1.25	2.42	-	3.36	-	3.64	-	-	-	-	-
$N_{R,II,k}$ [kN]	1.50	2.42	-	3.36	-	-	-	-	-	-	-
		2.42		3.36		3.64		3.91		n/a	

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16 \text{ mm}$**

SD3-T16-6,3 x L, SD3-L12-T16-6,3 x L, SD3-D12-T16-6,3 x L

**Annex 35**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating or stainless steel A2 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 6.00</math> mm</p>

		t <sub>II</sub> [mm]														
		1.50		1.75		2.00		2.50		3.00		4.00		5.00		
V <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.57 <sup>a</sup>	ac	1.67 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.71 <sup>a</sup>	ac	1.79 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	1.94 <sup>a</sup>	ac	1.99 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	a
		0.75	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	a
		0.88	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	3.04 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	a
		1.00	3.43	ac	3.43	ac	3.43	ac	3.74	ac	4.18	ac	4.18	ac	4.18	a
		1.25	3.43	-	3.87	-	4.31	-	5.20	-	6.08	ac	6.08	a	-	-
		1.50	3.43	-	3.87	-	4.31	-	5.20	-	6.08	-	6.08	-	-	-
N <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac
		0.55	1.71	ac	1.71	ac	1.71	ac	1.71	ac	1.71	ac	1.71	ac	1.71	a
		0.63	1.98	ac	1.98	ac	1.98	ac	1.98	ac	1.98	ac	1.98	ac	1.98	a
		0.75	1.98	ac	2.41	ac	2.41	ac	2.41	ac	2.41	ac	2.41	ac	2.41	a
		0.88	2.20	ac	2.70	ac	2.86	ac	2.86	ac	2.86	ac	2.86	ac	2.86	a
		1.00	2.20	ac	2.70	ac	3.20	ac	3.29	ac	3.29	ac	3.29	ac	3.29	a
		1.25	2.20	-	2.70	-	3.20	-	4.10	-	4.10	ac	4.10	a	-	-
		1.50	2.20	-	2.70	-	3.20	-	4.30	-	5.00	-	5.00	-	-	-
N <sub>R,II,k</sub> [kN]		2.20		2.70		3.20		4.30		5.40		n/a		n/a		

**Additional definitions**

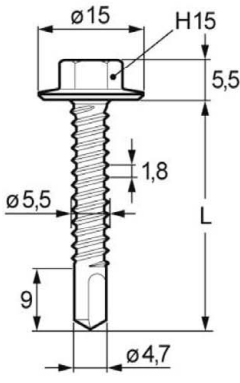
Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

**Self-drilling screw with sealing washer ≥ Ø 16 mm**

SD6-T16-5,5 x L, SD6-L12-T16-5,5 x L, SD6-S16-5,5 x L, SD6-L12-S16-5,5 x L

**Annex 36**

English translation prepared by DIBt

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 6.00</math> mm</p>

		t <sub>II</sub> [mm]														
		1.50		1.75		2.00		2.50		3.00		4.00		5.00		
V <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.57 <sup>a</sup>	ac	1.67 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.71 <sup>a</sup>	ac	1.79 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	1.94 <sup>a</sup>	ac	1.99 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	ac	2.03 <sup>a</sup>	a
		0.75	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	ac	2.28 <sup>a</sup>	a
		0.88	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	2.86 <sup>a</sup>	ac	3.04 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	ac	3.27 <sup>a</sup>	a
		1.00	3.43	ac	3.43	ac	3.43	ac	3.74	ac	4.18	ac	4.18	ac	4.18	a
		1.25	3.43	-	3.87	-	4.31	-	5.20	-	6.08	ac	6.08	a	-	-
		1.50	3.43	-	3.87	-	4.31	-	5.20	-	6.08	-	6.08	-	-	-
N <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac
		0.55	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	a
		0.63	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	a
		0.75	2.20	ac	2.70	ac	3.20	ac	3.20	ac	3.20	ac	3.20	ac	3.20	a
		0.88	2.20	ac	2.70	ac	3.20	ac	4.00	ac	4.00	ac	4.00	ac	4.00	a
		1.00	2.20	ac	2.70	ac	3.20	ac	4.30	ac	4.80	ac	4.80	ac	4.80	a
		1.25	2.20	-	2.70	-	3.20	-	4.30	-	5.40	ac	5.60	a	-	-
		1.50	2.20	-	2.70	-	3.20	-	4.30	-	5.40	-	5.80	-	-	-
N <sub>R,II,k</sub> [kN]		2.20		2.70		3.20		4.30		5.40		n/a		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw</b>	<b>Annex 37</b>
SD6-H15-5,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 6.00</math> mm</p>

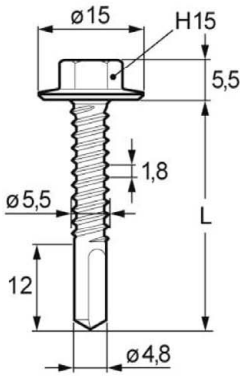
		t <sub>II</sub> [mm]														
		1.50		1.75		2.00		2.50		3.00		4.00		5.00		
V <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.97	ac	1.97	ac	1.97	ac	1.97	ac	1.99	ac	1.99	ac	1.99	ac
		0.55	1.99	-	2.02	-	2.05	-	2.13	-	2.19	ac	2.19	ac	2.19	a
		0.63	2.27	-	2.31	-	2.35	-	2.44	-	2.51	ac	2.51	ac	2.51	a
		0.75	2.71	-	2.76	-	2.80	-	2.90	-	2.99	ac	2.99	ac	2.99	a
		0.88	3.18	-	3.27	-	3.36	-	3.54	-	3.72	ac	3.72	ac	3.72	a
		1.00	3.61	-	3.74	-	3.87	-	4.13	-	4.39	ac	4.39	ac	4.39	a
		1.25	3.61	-	3.74	-	3.87	-	4.13	-	4.39	-	4.39	-	-	-
		1.50	3.61	-	3.74	-	3.87	-	4.13	-	4.39	-	4.39	-	-	-
N <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.95	ac	1.95	ac	1.95	ac	1.95	ac	1.95	ac	1.95	ac	1.95	ac
		0.55	2.13	-	2.33	-	2.33	-	2.33	-	2.33	ac	2.33	ac	2.33	a
		0.63	2.13	-	2.66	-	2.93	-	2.93	-	2.93	ac	2.93	ac	2.93	a
		0.75	2.13	-	2.66	-	3.20	-	3.83	-	3.83	ac	3.83	ac	3.83	a
		0.88	2.13	-	2.66	-	3.20	-	4.59	-	4.59	ac	4.59	ac	4.59	a
		1.00	2.13	-	2.66	-	3.20	-	4.63	-	5.29	ac	5.29	ac	5.29	a
		1.25	2.13	-	2.66	-	3.20	-	4.63	-	5.29	-	5.29	-	-	-
		1.50	2.13	-	2.66	-	3.20	-	4.63	-	5.29	-	5.29	-	-	-
<b>N<sub>R,II,k</sub> [kN]</b>		2.13		2.66		3.20		4.63		5.29		n/a		n/a		

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 16$  mm**

SD6-T16-6,3 x L, SD6-L12-T16-6,3 x L

**Annex 38**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 8.00</math> mm</p>

		t <sub>II</sub> [mm]														
		2.00		2.50		3.00		4.00		5.00		6.00		7.00		
V <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	a
		0.63	2.40	ac	2.40	ac	2.80	ac	2.80	ac	3.00	ac	3.00	ac	3.00	a
		0.75	2.80	ac	2.80	ac	3.40	ac	3.40	ac	3.40	ac	3.60	ac	3.60	a
		0.88	3.20	-	3.20	-	4.00	ac	4.00	ac	4.20	ac	4.20	ac	4.20	a
		1.00	3.80	-	3.80	-	4.40	-	4.60	ac	4.80	ac	4.80	ac	4.80	a
		1.25	4.80	-	4.80	-	5.80	-	5.80	-	6.00	-	6.40	-	-	-
		1.50	5.20	-	5.20	-	6.40	-	6.40	-	7.00	-	7.20	-	-	-
N <sub>R,k</sub> [kN]	t <sub>i</sub> [mm]	0.50	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac
		0.55	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	a
		0.63	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	ac	1.80	a
		0.75	3.20	ac	3.20	ac	3.20	ac	3.20	ac	3.20	ac	3.20	ac	3.20	a
		0.88	3.20	-	4.00	-	4.00	ac	4.00	ac	4.00	ac	4.00	ac	4.00	a
		1.00	3.20	-	4.30	-	4.80	-	4.80	ac	4.80	ac	4.80	ac	4.80	a
		1.25	3.20	-	4.30	-	5.40	-	5.60	-	5.60	-	5.60	-	-	-
		1.50	3.20	-	4.30	-	5.40	-	5.80	-	6.00	-	6.00	-	-	-
<b>N<sub>R,II,k</sub> [kN]</b>		3.20		4.30		5.40		n/a		n/a		n/a		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw</b>	<b>Annex 39</b>
SD8-H15-5,5 x L	

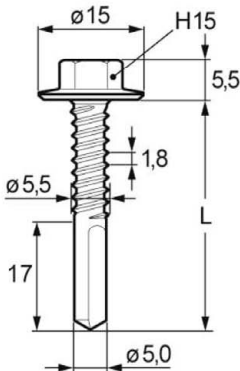
	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating or stainless steel A2 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 14.00</math> mm</p>

		$t_{II}$ [mm]												
		4.00		5.00		6.00		8.00		10.00		12.00		
<b><math>V_{R,k}</math> [kN]</b>	$t_i$ [mm]	0.50	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac
		0.63	2.63	ac	2.63	ac	2.63	ac	2.63	ac	2.63	ac	2.63	ac
		0.75	5.25	ac	5.25	ac	5.25	ac	5.25	ac	5.25	ac	5.25	ac
		0.88	6.22	ac	6.35	ac	6.49	ac	6.49	ac	6.49	ac	6.49	ac
		1.00	7.19	ac	7.46	ac	7.72	ac	7.72	ac	7.72	ac	7.72	ac
		1.25	7.19	-	7.46	-	7.72	-	8.22	-	8.22	-	8.22	-
		1.50	7.19	-	7.46	-	7.72	-	8.72	-	8.72	-	8.72	-
<b><math>N_{R,k}</math> [kN]</b>	$t_i$ [mm]	0.50	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac	1.53	ac
		0.55	1.71	ac	1.71	ac	1.71	ac	1.71	ac	1.71	ac	1.71	ac
		0.63	1.98	ac	1.98	ac	1.98	ac	1.98	ac	1.98	ac	1.98	ac
		0.75	2.41	ac	2.41	ac	2.41	ac	2.41	ac	2.41	ac	2.41	ac
		0.88	2.86	ac	2.86	ac	2.86	ac	2.86	ac	2.86	ac	2.86	ac
		1.00	3.29	ac	3.29	ac	3.29	ac	3.29	ac	3.29	ac	3.29	ac
		1.25	4.10	-	4.10	-	4.10	-	4.10	-	4.10	-	4.10	-
		1.50	5.00	-	5.00	-	5.00	-	5.00	-	5.00	-	5.00	-
<b><math>N_{R,II,k}</math> [kN]</b>		6.99		8.75		9.62		n/a		n/a		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 40</b>
SD14-T16-5,5 x L, SD14-L12-T16-5,5 x L, SD14-S16-5,5 x L, SD14-L12-S16-5,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 14.00</math> mm</p>

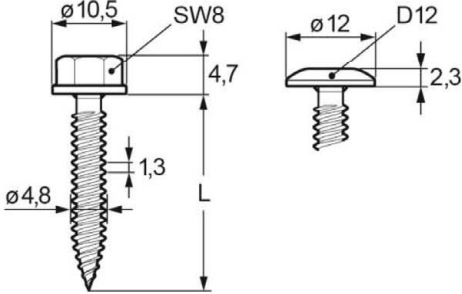
		t <sub>II</sub> [mm]												
		4.00		5.00		6.00		8.00		10.00		12.00		
V <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac	1.76 <sup>a</sup>	ac
		0.55	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac	1.86 <sup>a</sup>	ac
		0.63	2.63	ac	2.63	ac	2.63	ac	2.63	ac	2.63	ac	2.63	ac
		0.75	5.25	ac	5.25	ac	5.25	ac	5.25	ac	5.25	ac	5.25	ac
		0.88	6.22	ac	6.35	ac	6.49	ac	6.49	ac	6.49	ac	6.49	ac
		1.00	7.19	ac	7.46	ac	7.72	ac	7.72	ac	7.72	ac	7.72	ac
		1.25	7.19	-	7.46	-	7.72	-	8.22	-	8.22	-	8.22	-
	1.50	7.19	-	7.46	-	7.72	-	8.72	-	8.72	-	8.72	-	
N <sub>R,k</sub> [kN]	t <sub>I</sub> [mm]	0.50	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac	1.15	ac
		0.55	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac	1.28	ac
		0.63	2.00	ac	2.00	ac	2.00	ac	2.00	ac	2.00	ac	2.00	ac
		0.75	2.90	ac	2.90	ac	2.90	ac	2.90	ac	2.90	ac	2.90	ac
		0.88	3.62	ac	3.62	ac	3.62	ac	3.62	ac	3.62	ac	3.62	ac
		1.00	4.33	ac	4.33	ac	4.33	ac	4.33	ac	4.33	ac	4.33	ac
		1.25	6.13	-	6.13	-	6.13	-	6.13	-	6.13	-	6.13	-
	1.50	6.99	-	8.75	-	9.62	-	9.62	-	9.62	-	9.62	-	
N <sub>R,II,k</sub> [kN]		6.99		8.75		9.62		n/a		n/a		n/a		

**Additional definitions**

Index <sup>a</sup>: For component I made of S320GD to S450GD the resistance value may be increased by 8.3%.

<b>Self-drilling screw</b>	<b>Annex 41</b>
SD14-H15-5,5 x L	

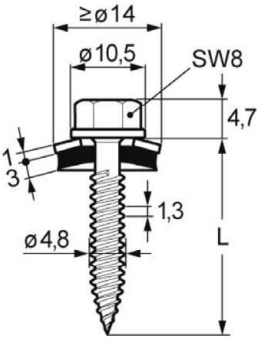


	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]				
		0.63	0.75	0.88	1.00	1.25
<b>V<sub>R,k</sub> [kN]</b>	0.63	1.48	1.48	1.48	1.48	1.48
	0.75	1.48	2.90	2.90	2.90	2.90
	0.88	1.48	2.90	3.78	3.78	3.78
	t <sub>i</sub> [mm]	1.00	2.90	3.78	4.59	4.59
	1.25	1.48	2.90	3.78	4.49	4.59
<b>N<sub>R,k</sub> [kN]</b>	0.63	1.16	1.34	1.65	1.88	1.88
	0.75	1.16	1.34	1.65	1.94	2.35
	0.88	1.16	1.34	1.65	1.94	2.35
	t <sub>i</sub> [mm]	1.00	1.16	1.34	1.65	1.94
	1.25	1.16	1.34	1.65	1.94	2.35
<b>N<sub>R,II,k</sub> [kN]</b>		1.16	1.34	1.65	1.94	2.62

Additional definitions

<b>Self-drilling screw</b>	<b>Annex 42</b>
CDM-4,8 x L, CDM-D12-4,8 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Aluminum alloy - EN 573 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.00 \text{ mm}</math></p>

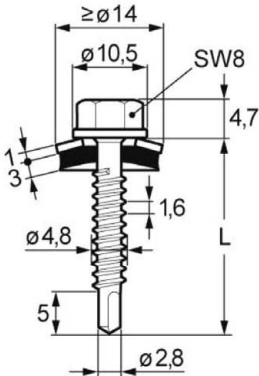
		t <sub>II</sub> [mm]						
		0.40	0.50	0.55	0.63	0.75	0.88	1.00
<b>V<sub>R,k</sub> [kN]</b>	0.40	0.74	0.74	0.74	0.74	0.74	0.74	0.74
	0.50	0.74	0.94	0.94	0.94	0.94	0.94	0.94
	0.55	0.74	0.94	1.06	1.06	1.06	1.06	1.06
	0.63	0.74	0.94	1.06	1.25	1.25	1.25	1.25
	0.75	0.74	0.94	1.06	1.25	2.29	2.29	2.29
	0.88	0.74	0.94	1.06	1.25	2.29	2.98	2.98
<b>t<sub>i</sub> [mm]</b>	1.00	0.74	0.94	1.06	1.25	2.29	2.98	3.61
<b>N<sub>R,k</sub> [kN]</b>	0.40	0.69	0.89	1.00	1.16	1.34	1.58	1.58
	0.50	0.69	0.89	1.00	1.16	1.34	1.65	1.77
	0.55	0.69	0.89	1.00	1.16	1.34	1.65	1.94
	0.63	0.69	0.89	1.00	1.16	1.34	1.65	1.94
	0.75	0.69	0.89	1.00	1.16	1.34	1.65	1.94
	0.88	0.69	0.89	1.00	1.16	1.34	1.65	1.94
<b>t<sub>i</sub> [mm]</b>	1.00	0.69	0.89	1.00	1.16	1.34	1.65	1.94
<b>N<sub>R,II,k</sub> [kN]</b>		0.69	0.89	1.00	1.16	1.34	1.65	1.94

Additional definitions

**Self-drilling screw with sealing washer  $\geq \text{Ø } 14 \text{ mm}$**

SLG-T-A14-4,8 x L

**Annex 43**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Aluminum alloy - EN 573 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

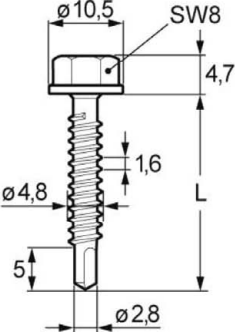
		t <sub>II</sub> [mm]								
		0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.25	1.50
<b>V<sub>R,k</sub> [kN]</b>	0.40	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
	0.50	0.58	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
	0.55	0.58	0.69	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	0.63	0.58	0.69	0.80	0.98	0.98	0.98	0.98	0.98	0.98
	0.75	0.58	0.69	0.80	0.98	1.26	1.26	1.26	1.26	1.26
	0.88	0.58	0.69	0.80	0.98	1.26	1.82	1.82	1.82	1.82
	1.00	0.58	0.69	0.80	0.98	1.26	1.82	2.35	2.35	2.35
<b>N<sub>R,k</sub> [kN]</b>	0.40	0.30	0.42	0.49	0.80	1.00	1.09	1.09	1.09	1.09
	0.50	0.30	0.42	0.49	0.80	1.00	1.40	1.70	1.92	1.92
	0.55	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	2.10
	0.63	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	2.10
	0.75	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	2.10
	0.88	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	2.10
	1.00	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	2.10
<b>N<sub>R,II,k</sub> [kN]</b>	1.25	0.30	0.42	0.49	0.80	1.00	1.40	1.70	2.10	-
	1.50	0.30	0.42	0.49	0.80	1.00	1.40	1.70	-	-

Additional definitions

**Self-drilling screw with sealing washer  $\geq \varnothing 14 \text{ mm}$**

SL2-T-A14-4,8 x L

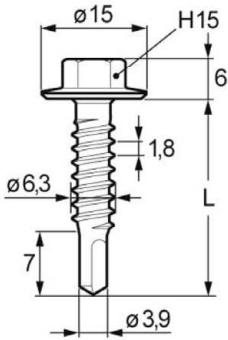
**Annex 44**

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

		$t_{II} \text{ [mm]}$						
		0.63	0.75	0.88	1.00	1.25	1.50	
$V_{R,k} \text{ [kN]}$	0.63	1.40	1.40	1.90	2.40	2.40	2.40	
	0.75	1.40	1.90	1.90	2.60	2.60	2.60	
	0.88	1.80	1.90	2.80	2.80	2.80	2.80	
	$t_i \text{ [mm]}$	1.00	2.10	2.50	2.80	3.60	3.60	3.60
		1.25	2.10	2.50	2.80	3.60	3.60	-
		1.50	2.10	2.50	2.80	3.60	-	-
$N_{R,k} \text{ [kN]}$	0.63	0.80	1.00	1.40	1.70	2.10	2.10	
	0.75	0.80	1.00	1.40	1.70	2.10	2.10	
	0.88	0.80	1.00	1.40	1.70	2.10	2.10	
	$t_i \text{ [mm]}$	1.00	0.80	1.00	1.40	1.70	2.10	2.10
		1.25	0.80	1.00	1.40	1.70	2.10	-
		1.50	0.80	1.00	1.40	1.70	-	-
$N_{R,II,k} \text{ [kN]}$		0.80	1.00	1.40	1.70	2.10	n/a	

Additional definitions

<b>Self-drilling screw</b>	<b>Annex 45</b>
SL2-4,8 x L	



Materials

Fastener: Carbon steel with anticorrosion coating  
Washer: -  
Component I: S280GD to S450GD - EN 10346  
Component II: S280GD to S450GD - EN 10346  
HX300LAD to HX460LAD - EN 10346

Drilling-capacity  $\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}$

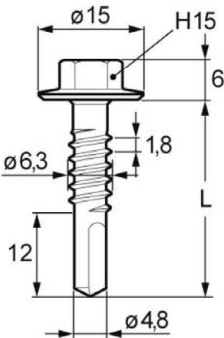
		$t_{II} \text{ [mm]}$					
		0.63	0.75	0.88	1.00	1.25	1.50
$V_{R,k} \text{ [kN]}$	0.63	0.90	1.00	1.10	1.30	1.60	1.60
	0.75	0.90	2.70	2.70	2.70	2.70	2.70
	0.88	0.90	2.70	3.60	3.60	3.60	3.60
	1.00	0.90	2.70	3.60	3.90	4.10	4.10
	1.25	0.90	2.70	3.60	3.90	4.10	-
$t_i \text{ [mm]}$	1.50	0.90	2.70	3.60	3.90	-	-
	0.63	0.80	1.10	1.40	1.60	2.10	2.10
	0.75	0.80	1.10	1.40	1.60	2.10	2.10
	0.88	0.80	1.10	1.40	1.60	2.10	2.10
	1.00	0.80	1.10	1.40	1.60	2.10	2.10
$N_{R,k} \text{ [kN]}$	1.25	0.80	1.10	1.40	1.60	2.10	-
	1.50	0.80	1.10	1.40	1.60	-	-
	$N_{R,II,k} \text{ [kN]}$	0.80	1.10	1.40	1.60	2.10	n/a

Additional definitions

**Self-drilling screw**

SL2-H15-6,3 x L

**Annex 46**

	<p><u>Materials</u></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><u>Drilling-capacity</u> <math>\Sigma(t_i + t_{II}) \leq 3.50 \text{ mm}</math></p>

		t <sub>II</sub> [mm]				
		1.00	1.25	1.50	1.75	2.00
<b>V<sub>R,k</sub> [kN]</b>	1.00	-	3.50	4.10	4.10	4.10
	1.25	3.20	3.60	4.10	4.10	4.10
t <sub>i</sub> [mm]	1.50	3.20	3.60	5.40	5.40	4.10
	1.75	3.20	3.60	5.40	5.40	-
	2.00	3.20	3.60	5.40	-	-
<b>N<sub>R,k</sub> [kN]</b>	1.00	-	2.20	2.60	2.60	2.60
	1.25	1.40	2.20	2.60	2.60	2.60
t <sub>i</sub> [mm]	1.50	1.40	2.20	2.60	2.60	2.60
	1.75	1.40	2.20	2.60	2.60	-
	2.00	1.40	2.20	2.60	-	-
<b>N<sub>R,II,k</sub> [kN]</b>		1.40	2.20	2.60	n/a	n/a

Additional definitions

<b>Self-drilling screw</b>	<b>Annex 47</b>
SL3-H15-6,3 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 7.9</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 25</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

		$l_{ef}$ [mm]							
		25	30	35	40	45			
$V_{R,k}$ [kN]	0.50	1.02	1.02	1.02	1.02	1.02	$V_{R,i,k}$ [kN]	1.02	
	0.55	1.02	1.10	1.10	1.10	1.10		1.10	
	0.63	1.02	1.21	1.21	1.21	1.21		1.21	
	0.75	1.02	1.23	1.40	1.40	1.40		1.40	
	$t_i$ [mm]	0.88	1.02	1.23	1.40	1.40		1.40	1.40
		1.00	1.02	1.23	1.40	1.40		1.40	1.40
		1.25	1.02	1.23	1.40	1.40		1.40	1.40
		1.50	1.02	1.23	1.40	1.40		1.40	1.40
$N_{R,k}$ [kN]	0.50	1.59	1.59	1.59	1.59	1.59	$N_{R,i,k}$ [kN]	1.59	
	0.55	1.78	1.93	1.93	1.93	1.93		1.93	
	0.63	1.78	2.14	2.44	2.44	2.44		2.44	
	0.75	1.78	2.14	2.49	2.85	3.21		3.28	
	$t_i$ [mm]	0.88	1.78	2.14	2.49	2.85		3.21	3.28
		1.00	1.78	2.14	2.49	2.85		3.21	3.28
		1.25	1.78	2.14	2.49	2.85		3.21	3.28
		1.50	1.78	2.14	2.49	2.85		3.21	3.28
$N_{R,II,k}$ [kN]		1.78	2.14	2.49	2.85	3.21			

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{N_{R,i,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350}\}$ .

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 48</b>
SW2-S-S16-6,0 x L, SW2-S-L12-S16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 12.1</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 35</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

		$l_{ef}$ [mm]								
		35	45	55	65	75				
$V_{R,k}$ [kN]	0.50	1.55	1.55	1.55	1.55	1.55	$V_{R,i,k}$ [kN]	1.55		
	0.55	1.71	1.71	1.71	1.71	1.71		1.71		
	0.63	1.73	2.23	2.73	2.90	2.90		2.90		
	0.75	1.73	2.23	2.73	3.14	3.34		3.34		
	$t_i$ [mm]	0.88	1.73	2.23	2.73	3.14		3.34	3.34	4.00
		1.00	1.73	2.23	2.73	3.14		3.34	3.34	4.50
		1.25	1.73	2.23	2.73	3.14		3.34	3.34	5.40
1.50		1.73	2.23	2.73	3.14	3.34	3.34	5.70		
$N_{R,k}$ [kN]	0.50	1.68	1.68	1.68	1.68	1.68	$N_{R,i,k}$ [kN]	1.68		
	0.55	1.88	1.88	1.88	1.88	1.88		1.88		
	0.63	2.70	2.70	2.70	2.70	2.70		2.70		
	0.75	2.70	3.40	3.40	3.40	3.40		3.40		
	$t_i$ [mm]	0.88	2.70	3.47	4.10	4.10		4.10	4.10	4.10
		1.00	2.70	3.47	4.25	4.80		4.80	4.80	4.80
		1.25	2.70	3.47	4.25	5.02		5.60	5.60	5.60
1.50		2.70	3.47	4.25	5.02	5.60	5.60	5.60		
$N_{R,II,k}$ [kN]		2.70	3.47	4.25	5.02	5.79				

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{ N_{R,i,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350} \}$ .

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 49</b>
SXW-S16-6,5 x L, SXW-L12-S16-6,5 x L	



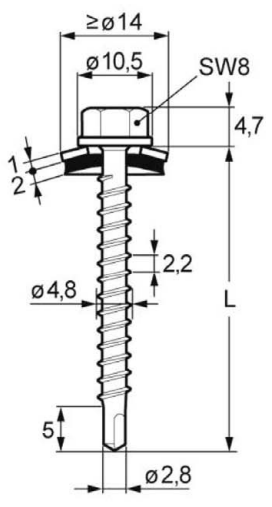
	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> -</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk}</math> = 13.9 Nm</p> <p><math>f_{ax,k}</math> = 13.2 N/mm<sup>2</sup> (<math>l_{ef} = 29</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

	$l_p$ [mm]						
	35	45	55	65	75		
$d_{pd}$ [mm]	4.0						
$V_{R,k}$ [kN]	0.50	1.55	1.55	1.55	1.55	1.55	$V_{R,I,k}$ [kN]
	0.55	1.71	1.71	1.71	1.71	1.71	
	0.63	1.73	2.23	2.73	2.90	2.90	
	0.75	1.73	2.23	2.73	3.14	3.34	
	0.88	1.73	2.23	2.73	3.14	3.34	
	1.00	1.73	2.23	2.73	3.14	3.34	
$t_i$ [mm]	1.25	1.73	2.23	2.73	3.14	3.34	4.50
	1.50	1.73	2.23	2.73	3.14	3.34	5.40
	0.50	1.68	1.68	1.68	1.68	1.68	5.70
	0.55	1.88	1.88	1.88	1.88	1.88	1.68
	0.63	2.70	2.70	2.70	2.70	2.70	1.88
	0.75	2.70	3.40	3.40	3.40	3.40	2.70
$N_{R,k}$ [kN]	0.88	2.70	3.47	4.10	4.10	4.10	3.40
	1.00	2.70	3.47	4.25	4.80	4.80	4.10
	1.25	2.70	3.47	4.25	5.02	5.60	4.80
	1.50	2.70	3.47	4.25	5.02	5.60	5.60
	0.50	2.70	3.47	4.25	5.02	5.60	5.60
	0.55	2.70	3.47	4.25	5.02	5.60	5.60
$N_{R,II,k}$ [kN]	2.70	3.47	4.25	5.02	5.79		

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{ N_{R,I,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350} \}$ .

<b>Self-tapping screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 50</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Aluminum alloy - EN 573 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 6.1</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 25</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

		$l_{ef}$ [mm]						
		25	30	35	40	45		
<b><math>V_{R,k}</math> [kN]</b>	0.50	0.90	1.08	1.19	1.19	1.19	<b><math>V_{R,I,k}</math> [kN]</b>	
	0.55	0.90	1.08	1.26	1.28	1.28		
	0.63	0.90	1.08	1.26	1.42	1.42		
	0.75	0.90	1.08	1.26	1.44	1.62		
	$t_i$ [mm]	0.88	0.90	1.08	1.26	1.44		1.62
	1.00	0.90	1.08	1.26	1.44	1.62		
	1.25	0.90	1.08	1.26	1.44	1.62		
	1.50	0.90	1.08	1.26	1.44	1.62		
<b><math>N_{R,k}</math> [kN]</b>	0.50	1.43	1.71	1.92	1.92	1.92	<b><math>N_{R,I,k}</math> [kN]</b>	
	0.55	1.43	1.71	2.00	2.15	2.15		
	0.63	1.43	1.71	2.00	2.28	2.49		
	0.75	1.43	1.71	2.00	2.28	2.57		
	$t_i$ [mm]	0.88	1.43	1.71	2.00	2.28		2.57
	1.00	1.43	1.71	2.00	2.28	2.57		
	1.25	1.43	1.71	2.00	2.28	2.57		
	1.50	1.43	1.71	2.00	2.28	2.57		
<b><math>N_{R,II,k}</math> [kN]</b>		1.43	1.71	2.00	2.28	2.57		

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{ N_{R,I,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350} \}$ .

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 14</math> mm</b>	<b>Annex 51</b>
SW-T-A14-4,8 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: Carbon steel with anticorrosion coating or stainless steel A2 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 14.9</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 35</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

		$l_{ef}$ [mm]							
		35	45	55	65	75			
$V_{R,k}$ [kN]	0.50	1.58	1.58	1.58	1.58	1.58	$V_{R,i,k}$ [kN]	1.58	
	0.55	1.73	1.73	1.73	1.73	1.73		1.73	
	0.63	1.73	1.97	1.97	1.97	1.97		1.97	
	0.75	1.73	2.23	2.33	2.33	2.33		2.33	
	$t_i$ [mm]	0.88	1.73	2.23	2.33	2.33		2.33	2.33
		1.00	1.73	2.23	2.33	2.33		2.33	2.33
		1.25	1.73	2.23	2.33	2.33		2.33	2.33
$N_{R,k}$ [kN]	0.50	1.63	1.63	1.63	1.63	1.63	$N_{R,i,k}$ [kN]	1.63	
	0.55	1.93	1.93	1.93	1.93	1.93		1.93	
	0.63	2.41	2.41	2.41	2.41	2.41		2.41	
	0.75	2.70	3.13	3.13	3.13	3.13		3.13	
	$t_i$ [mm]	0.88	2.70	3.47	3.91	3.91		3.91	3.91
		1.00	2.70	3.47	4.25	4.68		4.68	4.68
		1.25	2.70	3.47	4.25	4.68		4.68	4.68
$N_{R,II,k}$ [kN]		2.70	3.47	4.25	5.02	5.79			

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{ N_{R,i,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350} \}$ .

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 52</b>
SW3-T-T16-6,5 x L, SW3-T-L12-T16-6,5 x L, SW3-T-S16-6,5 x L, SW3-T-L12-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Carbon steel with anticorrosion coating</p> <p>Washer: -</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 14.9</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 35</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

		$l_{ef}$ [mm]						
		35	45	55	65	75		
<b><math>V_{R,k}</math> [kN]</b>	0.50	1.58	1.58	1.58	1.58	1.58	<b><math>V_{R,I,k}</math> [kN]</b>	
	0.55	1.73	1.73	1.73	1.73	1.73		
	0.63	1.73	1.97	1.97	1.97	1.97		
	0.75	1.73	2.23	2.33	2.33	2.33		
	0.88	1.73	2.23	2.33	2.33	2.33		
	1.00	1.73	2.23	2.33	2.33	2.33		
	1.25	1.73	2.23	2.33	2.33	2.33		
<b><math>N_{R,k}</math> [kN]</b>	0.50	1.84	1.84	1.84	1.84	1.84	<b><math>N_{R,I,k}</math> [kN]</b>	
	0.55	2.01	2.01	2.01	2.01	2.01		
	0.63	2.29	2.29	2.29	2.29	2.29		
	0.75	2.70	2.71	2.71	2.71	2.71		
	0.88	2.70	3.47	3.55	3.55	3.55		
	1.00	2.70	3.47	4.25	4.33	4.33		
	1.25	2.70	3.47	4.25	4.33	4.33		
<b><math>N_{R,II,k}</math> [kN]</b>		2.70	3.47	4.25	5.02	5.79		

**Additional definitions**

The indicated resistance values  $N_{R,k}$  (and  $N_{R,II,k}$ ) applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,k}(k_{mod}, \rho_k) = \min \{ N_{R,I,k} | N_{R,II,k} * \frac{k_{mod}}{0.9} * \frac{\rho_k}{350} \}$ .

<b>Self-drilling screw</b>	<b>Annex 53</b>
SW3-T-H15-6,5 x L	

	<b>Materials</b> Fastener: Stainless steel A2 or A4 - EN ISO 3506 Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal Component I: Aluminum alloy - EN 573 Component II: Aluminum alloy - EN 573
	<b>Drilling-capacity</b> $\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}$

Component I and II $R_m \geq 165 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$											
	1.00		1.20		1.50		2.00		2.50			
$V_{R,k} \text{ [kN]}$	0.50	0.65	-	0.69	-	0.69	-	0.69	-	0.69	-	
	0.60	0.80	-	0.80	-	0.86	-	0.97	-	-	-	
	0.70	0.99	-	0.99	-	1.04	-	1.25	-	-	-	
	0.80	1.19	-	1.19	-	1.21	-	1.53	-	-	-	
	$t_I \text{ [mm]}$	0.90	1.31	-	1.31	-	1.38	-	1.81	-	-	-
		1.00	1.42	-	1.42	-	1.55	-	2.08	-	-	-
		1.20	1.42	-	1.45	-	1.90	-	-	-	-	-
		1.50	1.42	-	1.45	-	1.90	-	-	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	0.72		0.82		1.26		1.85		2.65			

Component I and II $R_m \geq 215 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$											
	1.00		1.20		1.50		2.00		2.50			
$V_{R,k} \text{ [kN]}$	0.50	0.85	-	0.90	-	0.90	-	0.90	-	0.90	-	
	0.60	1.04	-	1.04	-	1.12	-	1.26	-	-	-	
	0.70	1.30	-	1.30	-	1.35	-	1.63	-	-	-	
	0.80	1.55	-	1.55	-	1.57	-	1.99	-	-	-	
	$t_I \text{ [mm]}$	0.90	1.70	-	1.70	-	1.80	-	2.35	-	-	-
		1.00	1.85	-	1.85	-	2.02	-	2.71	-	-	-
		1.20	1.85	-	1.89	-	2.47	-	-	-	-	-
		1.50	1.85	-	1.89	-	2.47	-	-	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	0.93		1.06		1.64		2.41		3.45			

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 12 \text{ mm}</math></b>	<b>Annex 54</b>
SX3-S12-6,0 x L, SX3-L12-S12-6,0 x L, SX3-D12-S12-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 5.00</math> mm</p>

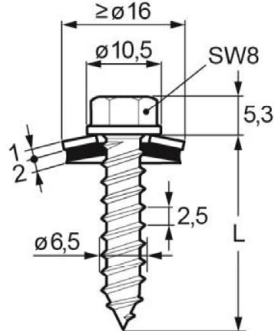
Component I and II $R_m \geq 165$ N/mm <sup>2</sup>	$t_{II}$ [mm]										
	1.50		2.00		2.50		3.00		4.00		
$V_{R,k}$ [kN]	0.50	0.71	-	0.89	-	0.89	-	0.89	-	0.89	
	0.60	0.83	-	1.06	-	1.06	-	1.06	-	1.06	
	0.70	0.95	-	1.23	-	1.23	-	1.23	-	1.23	
	0.80	1.06	-	1.40	-	1.40	-	1.40	-	1.40	
	$t_i$ [mm]	0.90	1.18	-	1.49	-	1.52	-	1.55	-	1.60
		1.00	1.30	-	1.57	-	1.63	-	1.69	-	1.80
		1.20	1.30	-	1.74	-	1.86	-	1.97	-	-
		1.50	1.30	-	1.74	-	1.86	-	1.97	-	-
<b><math>N_{R,II,k}</math> [kN]</b>	1.00		1.13		1.74		2.35		3.88		

Component I and II $R_m \geq 215$ N/mm <sup>2</sup>	$t_{II}$ [mm]										
	1.50		2.00		2.50		3.00		4.00		
$V_{R,k}$ [kN]	0.50	0.76	-	1.16	-	1.16	-	1.16	-	1.16	
	0.60	0.90	-	1.38	-	1.38	-	1.38	-	1.38	
	0.70	1.04	-	1.60	-	1.61	-	1.61	-	1.61	
	0.80	1.18	-	1.82	-	1.83	-	1.83	-	1.83	
	$t_i$ [mm]	0.90	1.32	-	1.93	-	1.98	-	2.02	-	2.09
		1.00	1.46	-	2.04	-	2.13	-	2.20	-	2.35
		1.20	1.46	-	2.26	-	2.42	-	2.57	-	-
		1.50	1.46	-	2.26	-	2.42	-	2.57	-	-
<b><math>N_{R,II,k}</math> [kN]</b>	1.31		1.48		2.28		3.07		5.05		

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 12</math> mm</b>	<b>Annex 55</b>
SX5-S12-5,5 x L, SX5-L12-S12-5,5 x L, SX5-D12-S12-5,5 x L	

	<p><u>Materials</u></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><u>Drilling-capacity</u> -</p>

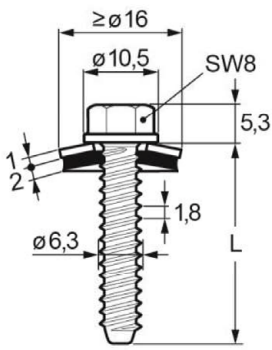
Component I and II $R_m \geq 165 \text{ N/mm}^2$		$t_{II} [\text{mm}]$					
		1.00	1.20	1.50	2.00	2.50	3.00
$d_{pd} [\text{mm}]$		4.5			5.0		5.3
$V_{R,k} [\text{kN}]$	$t_I [\text{mm}]$	0.50	0.65	0.82	0.86	0.86	0.86
		0.60	0.65	0.82	1.03	1.03	1.03
		0.70	0.65	0.82	1.03	1.20	1.20
		0.80	0.65	0.82	1.03	1.37	1.37
		0.90	0.65	0.82	1.03	1.37	1.46
		1.00	0.67	0.82	1.03	1.37	1.55
		1.20	0.67	0.88	1.08	1.41	1.74
	1.50	0.67	0.88	1.24	1.53	1.83	
$N_{R,II,k} [\text{kN}]$		0.42	0.55	0.77	1.19	1.69	2.19

Component I and II $R_m \geq 215 \text{ N/mm}^2$		$t_{II} [\text{mm}]$					
		1.00	1.20	1.50	2.00	2.50	3.00
$d_{pd} [\text{mm}]$		4.5			5.0		5.3
$V_{R,k} [\text{kN}]$	$t_I [\text{mm}]$	0.50	0.85	1.06	1.12	1.12	1.12
		0.60	0.85	1.06	1.34	1.34	1.34
		0.70	0.85	1.06	1.34	1.57	1.57
		0.80	0.85	1.06	1.34	1.79	1.79
		0.90	0.85	1.06	1.34	1.78	1.90
		1.00	0.88	1.06	1.34	1.78	2.01
		1.20	0.88	1.15	1.41	1.83	2.26
	1.50	0.88	1.15	1.61	2.00	2.39	
$N_{R,II,k} [\text{kN}]$		0.55	0.71	1.01	1.55	2.20	2.85

Additional definitions

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-tapping screw with sealing washer <math>\geq \text{Ø } 16 \text{ mm}</math></b>	<b>Annex 56</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><b>Drilling-capacity</b> -</p>

Component I and II $R_m \geq 165 \text{ N/mm}^2$		$t_{II}$ [mm]							
		1.50	2.00	2.50	3.00	4.00	$\geq 6.00$		
$d_{pd}$ [mm]		4.5	5.0			5.3	5.5		
$V_{R,k}$ [kN]	$t_I$ [mm]	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50
		0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		-	-	-	-	-	-	-	-
		0.83	1.00	1.16	1.16	1.16	1.16	1.16	1.16
		-	-	-	-	-	-	-	-
		0.83	1.00	1.33	1.33	1.33	1.33	1.33	1.33
		-	-	-	-	-	-	-	-
	0.83	1.00	1.33	1.50	1.50	1.50	1.50	1.50	
	-	-	-	-	-	-	-	-	
	0.83	1.00	1.33	1.66	1.66	1.66	1.66	1.66	
	-	-	-	-	-	-	-	-	
	0.83	1.06	1.37	1.68	2.00	2.00	2.00	2.00	
	-	-	-	-	-	-	-	-	
	0.83	1.22	1.50	1.79	2.07	2.49	2.49	2.49	
	-	-	-	-	-	-	-	-	
$N_{R,II,k}$ [kN]		0.76	1.17	1.64	2.15	4.21	6.09		

Component I and II $R_m \geq 215 \text{ N/mm}^2$		$t_{II}$ [mm]							
		1.50	2.00	2.50	3.00	4.00	$\geq 6.00$		
$d_{pd}$ [mm]		4.5	5.0			5.3	5.5		
$V_{R,k}$ [kN]	$t_I$ [mm]	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50
		1.08	1.30	1.30	1.30	1.30	1.30	1.30	1.30
		-	-	-	-	-	-	-	-
		1.08	1.30	1.52	1.52	1.52	1.52	1.52	1.52
		-	-	-	-	-	-	-	-
		1.08	1.30	1.73	1.73	1.73	1.73	1.73	1.73
		-	-	-	-	-	-	-	-
	1.08	1.30	1.73	1.95	1.95	1.95	1.95	1.95	
	-	-	-	-	-	-	-	-	
	1.08	1.30	1.73	2.17	2.17	2.17	2.17	2.17	
	-	-	-	-	-	-	-	-	
	1.08	1.38	1.79	2.19	2.60	2.60	2.60	2.60	
	-	-	-	-	-	-	-	-	
	1.08	1.59	1.96	2.33	2.70	3.25	3.25	3.25	
	-	-	-	-	-	-	-	-	
$N_{R,II,k}$ [kN]		0.99	1.53	2.13	2.80	5.48	7.93		

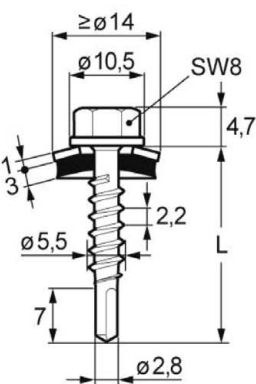
**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-tapping screw with sealing washer <math>\geq \text{Ø } 16 \text{ mm}</math></b>	<b>Annex 57</b>
TDB-S-S16-6,3 x L	



English translation prepared by DIBt

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 2.50 \text{ mm}</math></p>

Component I and II $R_m \geq 165 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$								
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k} \text{ [kN]}$	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
$t_i \text{ [mm]}$	0.31	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	0.31	0.45	0.59	0.59	0.59	0.59	0.59	0.59	0.59
	0.31	0.45	0.59	0.73	0.73	0.73	0.73	0.73	0.73
	0.31	0.45	0.59	0.73	0.82	0.82	0.82	0.82	0.82
	0.31	0.45	0.59	0.73	0.82	0.91	0.91	0.91	0.91
	0.31	0.45	0.59	0.73	0.82	0.91	0.91	-	-
	0.31	0.45	0.59	0.73	0.82	0.91	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	0.26	0.36	0.47	0.57	0.67	0.77	n/a	n/a	n/a

Component I and II $R_m \geq 215 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$								
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k} \text{ [kN]}$	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
$t_i \text{ [mm]}$	0.40	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
	0.40	0.58	0.77	0.77	0.77	0.77	0.77	0.77	0.77
	0.40	0.58	0.77	0.95	0.95	0.95	0.95	0.95	0.95
	0.40	0.58	0.77	0.95	1.07	1.07	1.07	1.07	1.07
	0.40	0.58	0.77	0.95	1.07	1.18	1.18	1.18	1.18
	0.40	0.58	0.77	0.95	1.07	1.18	1.18	-	-
	0.40	0.58	0.77	0.95	1.07	1.18	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	0.34	0.48	0.61	0.75	0.88	1.00	n/a	n/a	n/a

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \text{Ø } 14 \text{ mm}</math></b>	<b>Annex 58</b>
SL2-S-S14-5,5 x L	

English translation prepared by DIBt

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{ii}) \leq 2.50 \text{ mm}</math></p>

Component I and II $R_m \geq 165 \text{ N/mm}^2$	$t_{ii} [\text{mm}]$								
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k} [\text{kN}]$	0.50	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
	0.60	0.28	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	0.70	0.28	0.45	0.62	0.62	0.62	0.62	0.62	0.62
	0.80	0.28	0.45	0.62	0.79	0.79	0.79	0.79	0.79
$t_i [\text{mm}]$	0.90	0.28	0.45	0.62	0.79	0.97	0.97	0.97	0.97
	1.00	0.28	0.45	0.62	0.79	0.97	1.15	1.15	1.15
	1.20	0.28	0.45	0.62	0.79	0.97	1.15	1.15	-
	1.50	0.28	0.45	0.62	0.79	0.97	1.15	-	-
<b><math>N_{R,II,k} [\text{kN}]</math></b>		0.35	0.44	0.54	0.63	0.75	0.87	n/a	n/a

Component I and II $R_m \geq 215 \text{ N/mm}^2$	$t_{ii} [\text{mm}]$								
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k} [\text{kN}]$	0.50	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
	0.60	0.36	0.58	0.58	0.58	0.58	0.58	0.58	0.58
	0.70	0.36	0.58	0.81	0.81	0.81	0.81	0.81	0.81
	0.80	0.36	0.58	0.81	1.03	1.03	1.03	1.03	1.03
$t_i [\text{mm}]$	0.90	0.36	0.58	0.81	1.03	1.26	1.26	1.26	1.26
	1.00	0.36	0.58	0.81	1.03	1.26	1.49	1.49	1.49
	1.20	0.36	0.58	0.81	1.03	1.26	1.49	1.49	-
	1.50	0.36	0.58	0.81	1.03	1.26	1.49	-	-
<b><math>N_{R,II,k} [\text{kN}]</math></b>		0.46	0.58	0.70	0.82	0.98	1.14	n/a	n/a

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 14 \text{ mm}</math></b>	<b>Annex 59</b>
SL2-S-S14-6,3 x L, SL2-S-L12-S14-6,3 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 3.00 \text{ mm}</math></p>

Component I $R_m \geq 165 \text{ N/mm}^2$	$t_{II} [\text{mm}]$							
	0.75	0.88	1.00	1.25	1.50	1.75	2.00	
$V_{R,k} [\text{kN}]$	0.50	0.56 -	0.73 -	0.78 -	0.78 -	0.78 -	0.78 -	0.78 -
	0.60	0.76 -	0.86 -	0.92 -	0.93 -	0.97 -	0.98 -	0.98 -
	0.70	0.96 -	0.98 -	1.06 -	1.07 -	1.16 -	1.17 -	1.18 -
	0.80	1.06 -	1.11 -	1.20 -	1.22 -	1.35 -	1.37 -	1.38 -
$t_i [\text{mm}]$	0.90	1.06 -	1.24 -	1.34 -	1.37 -	1.54 -	1.57 -	1.59 -
	1.00	1.06 -	1.36 -	1.48 -	1.51 -	1.73 -	1.76 -	1.79 -
	1.20	1.06 -	1.36 -	1.48 -	1.80 -	2.11 -	2.15 -	-
	1.50	1.06 -	1.36 -	1.48 -	1.80 -	2.11 -	-	-
<b><math>N_{R,II,k} [\text{kN}]</math></b>		1.14	1.66	1.81	2.38	3.14	3.86	4.57

Component I $R_m \geq 215 \text{ N/mm}^2$	$t_{II} [\text{mm}]$							
	0.75	0.88	1.00	1.25	1.50	1.75	2.00	
$V_{R,k} [\text{kN}]$	0.50	0.74 -	0.95 -	1.02 -	1.02 -	1.02 -	1.02 -	1.02 -
	0.60	0.99 -	1.11 -	1.20 -	1.21 -	1.27 -	1.27 -	1.28 -
	0.70	1.25 -	1.28 -	1.38 -	1.40 -	1.51 -	1.53 -	1.54 -
	0.80	1.37 -	1.44 -	1.57 -	1.59 -	1.76 -	1.78 -	1.80 -
$t_i [\text{mm}]$	0.90	1.37 -	1.61 -	1.75 -	1.78 -	2.01 -	2.04 -	2.07 -
	1.00	1.37 -	1.77 -	1.93 -	1.96 -	2.26 -	2.29 -	2.33 -
	1.20	1.37 -	1.77 -	1.93 -	2.34 -	2.75 -	2.80 -	-
	1.50	1.37 -	1.77 -	1.93 -	2.34 -	2.75 -	-	-
<b><math>N_{R,II,k} [\text{kN}]</math></b>		1.14	1.66	1.81	2.38	3.14	3.86	4.57

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \text{Ø } 12 \text{ mm}</math></b>	<b>Annex 60</b>
SX3-S12-6,0 x L, SX3-L12-S12-6,0 x L, SX3-D12-S12-6,0 x L	



	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 5.00</math> mm</p>

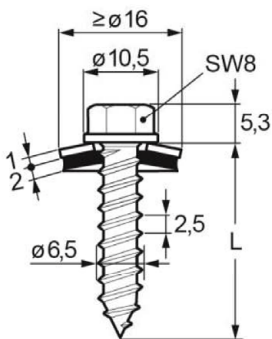
Component I $R_m \geq 165$ N/mm <sup>2</sup>	$t_{II}$ [mm]					
	1.50	1.75	2.00	2.50	3.00	4.00
$V_{R,k}$ [kN]	0.50	0.70 -	0.80 -	0.89 -	0.89 -	0.89 -
	0.60	0.95 -	1.01 -	1.07 -	1.07 -	1.07 -
	0.70	1.19 -	1.23 -	1.26 -	1.26 -	1.26 -
	0.80	1.44 -	1.44 -	1.44 -	1.44 -	1.44 -
$t_i$ [mm]	0.90	1.55 -	1.55 -	1.55 -	1.55 -	1.58 -
	1.00	1.66 -	1.66 -	1.66 -	1.66 -	1.72 -
	1.20	1.66 -	1.72 -	1.77 -	1.88 -	1.99 -
	1.50	1.66 -	1.72 -	1.77 -	1.88 -	1.99 -
<b><math>N_{R,II,k}</math> [kN]</b>	<b>2.09</b>	<b>2.69</b>	<b>3.28</b>	<b>4.15</b>	<b>5.02</b>	<b>8.32</b>

Component I $R_m \geq 215$ N/mm <sup>2</sup>	$t_{II}$ [mm]					
	1.50	1.75	2.00	2.50	3.00	4.00
$V_{R,k}$ [kN]	0.50	0.91 -	1.03 -	1.16 -	1.16 -	1.16 -
	0.60	1.23 -	1.31 -	1.40 -	1.40 -	1.40 -
	0.70	1.56 -	1.60 -	1.64 -	1.64 -	1.64 -
	0.80	1.88 -	1.88 -	1.88 -	1.88 -	1.88 -
$t_i$ [mm]	0.90	2.03 -	2.03 -	2.03 -	2.03 -	2.06 -
	1.00	2.17 -	2.17 -	2.17 -	2.17 -	2.24 -
	1.20	2.17 -	2.24 -	2.31 -	2.46 -	2.60 -
	1.50	2.17 -	2.24 -	2.31 -	2.46 -	2.60 -
<b><math>N_{R,II,k}</math> [kN]</b>	<b>2.09</b>	<b>2.69</b>	<b>3.28</b>	<b>4.15</b>	<b>5.02</b>	<b>8.32</b>

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 12</math> mm</b>	<b>Annex 62</b>
SX5-S12-5,5 x L, SX5-L12-S12-5,5 x L, SX5-D12-S12-5,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

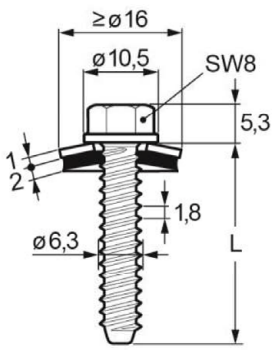
Component I $R_m \geq 165 \text{ N/mm}^2$	$t_{II} [\text{mm}]$								
	0.63	0.75	0.88	1.00	1.25	1.50	2.00	3.00	
$d_{pd} [\text{mm}]$	3.5	4.0	4.5			5.0			
$V_{R,k} [\text{kN}]$	0.50	0.35 -	0.44 -	0.55 -	0.65 -	0.86 -	0.86 -	0.86 -	
	0.60	0.35 -	0.44 -	0.55 -	0.65 -	0.86 -	1.03 -	1.03 -	
	0.70	0.35 -	0.44 -	0.55 -	0.65 -	0.86 -	1.03 -	1.20 -	
	0.80	0.35 -	0.44 -	0.55 -	0.65 -	0.86 -	1.03 -	1.37 -	
	$t_I [\text{mm}]$	0.90	0.35 -	0.44 -	0.56 -	0.65 -	0.86 -	1.03 -	1.37 -
		1.00	0.35 -	0.44 -	0.56 -	0.67 -	0.86 -	1.03 -	1.37 -
		1.20	0.35 -	0.44 -	0.56 -	0.67 -	0.92 -	1.08 -	1.41 -
	1.50	0.35 -	0.44 -	0.56 -	0.67 -	0.94 -	1.24 -	1.53 -	
<b><math>N_{R,II,k} [\text{kN}]</math></b>	1.00	1.20	1.40	1.50	1.90	2.30	3.80	5.60	

Component I $R_m \geq 215 \text{ N/mm}^2$	$t_{II} [\text{mm}]$								
	0.63	0.75	0.88	1.00	1.25	1.50	2.00	3.00	
$d_{pd} [\text{mm}]$	3.5	4.0	4.5			5.0			
$V_{R,k} [\text{kN}]$	0.50	0.45 -	0.58 -	0.72 -	0.85 -	1.12 -	1.12 -	1.12 -	
	0.60	0.45 -	0.58 -	0.72 -	0.85 -	1.12 -	1.34 -	1.34 -	
	0.70	0.45 -	0.58 -	0.72 -	0.85 -	1.12 -	1.34 -	1.57 -	
	0.80	0.45 -	0.58 -	0.72 -	0.85 -	1.12 -	1.34 -	1.79 -	
	$t_I [\text{mm}]$	0.90	0.45 -	0.58 -	0.72 -	0.85 -	1.12 -	1.34 -	1.78 -
		1.00	0.45 -	0.58 -	0.72 -	0.88 -	1.12 -	1.34 -	1.78 -
		1.20	0.45 -	0.58 -	0.72 -	0.88 -	1.20 -	1.41 -	1.83 -
	1.50	0.45 -	0.58 -	0.72 -	0.88 -	1.23 -	1.61 -	2.00 -	
<b><math>N_{R,II,k} [\text{kN}]</math></b>	1.00	1.20	1.40	1.50	1.90	2.30	3.80	5.60	

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-tapping screw with sealing washer <math>\geq \text{Ø} 16 \text{ mm}</math></b>	<b>Annex 63</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S235 to S355 - EN 10025 S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> -</p>

Component I $R_m \geq 165 \text{ N/mm}^2$	$t_{II}$ [mm]													
	1.25	1.50	2.00	3.00	4.00	6.00	8.00	10.00	> 10.00 <sup>a</sup>					
$d_{pd}$ [mm] <sup>b</sup>	5.0		5.3			5.5	5.7			5.8				
$V_{R,k}$ [kN]	0.50	0.83	-	0.83	-	0.83	-	0.83	-	0.83	-	0.83	-	
	0.60	0.83	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	
	0.70	0.83	-	1.00	-	1.16	-	1.16	-	1.16	-	1.16	-	
	0.80	0.83	-	1.00	-	1.33	-	1.33	-	1.33	-	1.33	-	
	$t_I$ [mm]	0.90	0.83	-	1.00	-	1.33	-	1.50	-	1.50	-	1.50	-
		1.00	0.83	-	1.00	-	1.33	-	1.66	-	1.66	-	1.66	-
		1.20	0.90	-	1.06	-	1.37	-	2.00	-	2.00	-	2.00	-
		1.50	0.93	-	1.22	-	1.50	-	2.07	-	2.49	-	2.49	-
$N_{R,II,k}$ [kN]	2.00	2.70	3.60	6.00	9.19	12.22	15.24	15.24	15.24	15.24				

Component I $R_m \geq 215 \text{ N/mm}^2$	$t_{II}$ [mm]													
	1.25	1.50	2.00	3.00	4.00	6.00	8.00	10.00	> 10.00 <sup>a</sup>					
$d_{pd}$ [mm] <sup>b</sup>	5.0		5.3			5.5	5.7			5.8				
$V_{R,k}$ [kN]	0.50	1.08	-	1.08	-	1.08	-	1.08	-	1.08	-	1.08	-	
	0.60	1.08	-	1.30	-	1.30	-	1.30	-	1.30	-	1.30	-	
	0.70	1.08	-	1.30	-	1.52	-	1.52	-	1.52	-	1.52	-	
	0.80	1.08	-	1.30	-	1.73	-	1.73	-	1.73	-	1.73	-	
	$t_I$ [mm]	0.90	1.08	-	1.30	-	1.73	-	1.95	-	1.95	-	1.95	-
		1.00	1.08	-	1.30	-	1.73	-	2.17	-	2.17	-	2.17	-
		1.20	1.18	-	1.38	-	1.79	-	2.60	-	2.60	-	2.60	-
		1.50	1.21	-	1.59	-	1.96	-	2.70	-	3.25	-	3.25	-
$N_{R,II,k}$ [kN]	2.00	2.70	3.60	6.00	9.19	12.22	15.24	15.24	15.24	15.24				

**Additional definitions**

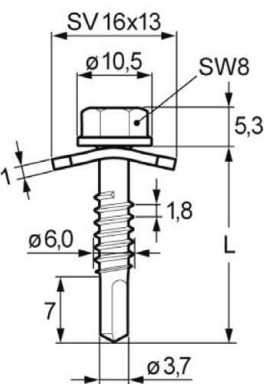
The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

Index <sup>a</sup>: Only valid for component II made of S235, S280GD or HX300LAD.

Index <sup>b</sup>: The pre-drill diameter  $d_{pd}$  for not indicated thicknesses  $t_{II}$  is defined as follows:

$$d_{pd} = 5.3 \text{ mm for } t_{II} = 1.6 - 4.0 \text{ mm, } d_{pd} = 5.5 \text{ mm for } t_{II} = 4.1 - 6.0 \text{ mm, } d_{pd} = 5.7 \text{ mm for } t_{II} = 6.1 - 10.0 \text{ mm}$$

<b>Self-tapping screw with sealing washer <math>\geq \text{Ø } 16 \text{ mm}</math></b>	<b>Annex 64</b>
TDB-S-S16-6,3 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i + t_{II}) \leq 4.00</math> mm</p>

Component I $R_m \geq 165$ N/mm <sup>2</sup>	$t_{II}$ [mm]					
	0.63	0.75	0.88	1.00	1.25	1.50
$V_{R,k}$ [kN] 1.50	1.20	1.40	1.57	1.74	1.77	1.77
$V_{R,k}$ [kN] 2.00	1.20	1.83	2.04	2.25	2.57	2.88
$t_i$ [mm] 2.50	1.20	1.83	2.43	2.43	2.57	2.88
$t_i$ [mm] 3.00	1.20	2.01	2.81	2.81	-	-
$N_{R,II,k}$ [kN]	0.82	1.15	1.49	1.82	2.51	3.21

Component I $R_m \geq 215$ N/mm <sup>2</sup>	$t_{II}$ [mm]					
	0.63	0.75	0.88	1.00	1.25	1.50
$V_{R,k}$ [kN] 1.50	1.20	1.60	1.93	2.26	2.30	2.30
$V_{R,k}$ [kN] 2.00	1.20	1.83	2.35	2.87	3.31	3.75
$t_i$ [mm] 2.50	1.20	1.83	2.58	2.87	3.31	3.75
$t_i$ [mm] 3.00	1.20	2.01	2.81	2.87	-	-
$N_{R,II,k}$ [kN]	0.82	1.15	1.49	1.82	2.51	3.21

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with SV-washer 13x16 mm</b>	<b>Annex 65</b>
SL3/2-5-S-SV16-6,0 x L	



	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: S280GD to S450GD - EN 10346 HX300LAD to HX460LAD - EN 10346</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 4.00 \text{ mm}</math></p>

Component I $R_m \geq 165 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$			
	2 x 0.75	2 x 0.88	2 x 1.00	2 x 1.25
$V_{R,k} \text{ [kN]}$ 1.50	1.40	1.57	1.74	1.77
$V_{R,k} \text{ [kN]}$ 2.00	1.83	2.04	2.25	-
$t_I \text{ [mm]}$ 2.50	1.83	-	-	-
$t_I \text{ [mm]}$ 3.00	-	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	2.43	2.94	3.45	4.38

Component I $R_m \geq 215 \text{ N/mm}^2$	$t_{II} \text{ [mm]}$			
	2 x 0.75	2 x 0.88	2 x 1.00	2 x 1.25
$V_{R,k} \text{ [kN]}$ 1.50	1.60	1.93	2.26	2.30
$V_{R,k} \text{ [kN]}$ 2.00	1.83	2.35	2.87	-
$t_I \text{ [mm]}$ 2.50	1.83	-	-	-
$t_I \text{ [mm]}$ 3.00	-	-	-	-
<b><math>N_{R,II,k} \text{ [kN]}</math></b>	2.43	2.94	3.45	4.38

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} \mid N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self-drilling screw with SV-washer 13x16 mm</b>	<b>Annex 66</b>
SL3/2-5-S-SV16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 7.9</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 25</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

Component I $R_m \geq 165$ N/mm <sup>2</sup>	$l_{ef}$ [mm]					$V_{R,I,k}$ [kN]
	25	30	35	40	45	
$V_{R,k}$ [kN]	0.50	0.59	0.59	0.59	0.59	0.59
	0.60	0.80	0.80	0.80	0.80	0.80
	0.70	1.01	1.01	1.01	1.01	1.01
	0.80	1.02	1.14	1.14	1.14	1.14
$t_i$ [mm]	0.90	1.02	1.23	1.26	1.26	1.26
	1.00	1.02	1.23	1.26	1.26	1.26
	1.20	1.02	1.23	1.26	1.26	1.26
	1.50	1.02	1.23	1.26	1.26	1.26
<b><math>N_{R,II,k}</math> [kN]</b>	1.78	2.14	2.49	2.85	3.21	

Component I $R_m \geq 215$ N/mm <sup>2</sup>	$l_{ef}$ [mm]					$V_{R,I,k}$ [kN]
	25	30	35	40	45	
$V_{R,k}$ [kN]	0.50	0.70	0.70	0.70	0.70	0.70
	0.60	0.93	0.93	0.93	0.93	0.93
	0.70	1.02	1.16	1.16	1.16	1.16
	0.80	1.02	1.23	1.34	1.34	1.34
$t_i$ [mm]	0.90	1.02	1.23	1.43	1.52	1.52
	1.00	1.02	1.23	1.43	1.52	1.52
	1.20	1.02	1.23	1.43	1.52	1.52
	1.50	1.02	1.23	1.43	1.52	1.52
<b><math>N_{R,II,k}</math> [kN]</b>	1.78	2.14	2.49	2.85	3.21	

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

The indicated resistance values  $N_{R,II,k}$  applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,II,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,II,k}(k_{mod}, \rho_k) = N_{R,II,k} \cdot \frac{k_{mod}}{0.9} \cdot \frac{\rho_k}{350}$

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 67</b>
SW2-S-S16-6,0 x L, SW2-S-L12-S16-6,0 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 2.00</math> mm</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk} = 12.1</math> Nm</p> <p><math>f_{ax,k} = 13.2</math> N/mm<sup>2</sup> (<math>l_{ef} = 35</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

Component I $R_m \geq 165$ N/mm <sup>2</sup>	$l_{ef}$ [mm]					$V_{R,I,k}$ [kN]
	35	45	55	65	75	
$V_{R,k}$ [kN]	0.50	0.86	0.86	0.86	0.86	0.86
	0.60	1.03	1.03	1.03	1.03	1.03
	0.70	1.20	1.20	1.20	1.20	1.20
	0.80	1.37	1.37	1.37	1.37	1.37
$t_i$ [mm]	0.90	1.54	1.54	1.54	1.54	1.54
	1.00	1.72	1.72	1.72	1.72	1.72
	1.20	1.73	2.06	2.06	2.06	2.06
	1.50	1.73	2.23	2.57	2.57	2.57
<b><math>N_{R,II,k}</math> [kN]</b>	2.70	3.47	4.25	5.02	5.79	

Component I $R_m \geq 215$ N/mm <sup>2</sup>	$l_{ef}$ [mm]					$V_{R,I,k}$ [kN]
	35	45	55	65	75	
$V_{R,k}$ [kN]	0.50	1.12	1.12	1.12	1.12	1.12
	0.60	1.34	1.34	1.34	1.34	1.34
	0.70	1.57	1.57	1.57	1.57	1.57
	0.80	1.73	1.79	1.79	1.79	1.79
$t_i$ [mm]	0.90	1.73	2.01	2.01	2.01	2.01
	1.00	1.73	2.23	2.24	2.24	2.24
	1.20	1.73	2.23	2.68	2.68	2.68
	1.50	1.73	2.23	2.73	3.22	3.35
<b><math>N_{R,II,k}</math> [kN]</b>	2.70	3.47	4.25	5.02	5.79	

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

The indicated resistance values  $N_{R,II,k}$  applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,II,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,II,k}(k_{mod}, \rho_k) = N_{R,II,k} \cdot \frac{k_{mod}}{0.9} \cdot \frac{\rho_k}{350}$

<b>Self-drilling screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 68</b>
SXW-S16-6,5 x L, SXW-L12-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2, A4 or 1.4547 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Timber (coniferous timber) - EN 14081</p>
	<p><b>Drilling-capacity</b> -</p>
	<p><b>Characteristics</b></p> <p><math>M_{y,Rk}</math> = 13.9 Nm</p> <p><math>f_{ax,k}</math> = 13.2 N/mm<sup>2</sup> (<math>l_{ef} = 29</math> mm, <math>\rho_a = 350</math> kg/m<sup>3</sup>)</p>

Component I $R_m \geq 165$ N/mm <sup>2</sup>	$l_p$ [mm]							
	35	45	55	65	75			
$d_{pd}$ [mm]	4.80							
$V_{R,k}$ [kN]	0.50	0.86	0.86	0.86	0.86	0.86	$V_{R,i,k}$ [kN]	
	0.60	1.03	1.03	1.03	1.03	1.03		
	0.70	1.20	1.20	1.20	1.20	1.20		
	0.80	1.37	1.37	1.37	1.37	1.37		
	$t_i$ [mm]	0.90	1.54	1.54	1.54	1.54		1.54
		1.00	1.72	1.72	1.72	1.72		1.72
		1.20	1.73	2.06	2.06	2.06		2.06
		1.50	1.73	2.23	2.57	2.57		2.57
<b><math>N_{R,II,k}</math> [kN]</b>	2.70	3.47	4.25	5.02	5.79			

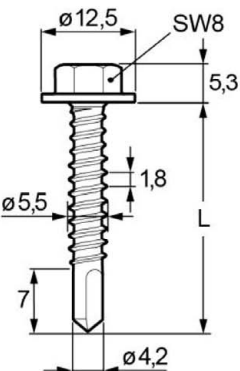
Component I $R_m \geq 215$ N/mm <sup>2</sup>	$l_p$ [mm]							
	35	45	55	65	75			
$d_{pd}$ [mm]	4.80							
$V_{R,k}$ [kN]	0.50	1.12	1.12	1.12	1.12	1.12	$V_{R,i,k}$ [kN]	
	0.60	1.34	1.34	1.34	1.34	1.34		
	0.70	1.57	1.57	1.57	1.57	1.57		
	0.80	1.73	1.79	1.79	1.79	1.79		
	$t_i$ [mm]	0.90	1.73	2.01	2.01	2.01		2.01
		1.00	1.73	2.23	2.24	2.24		2.24
		1.20	1.73	2.23	2.68	2.68		2.68
		1.50	1.73	2.23	2.73	3.22		3.35
<b><math>N_{R,II,k}</math> [kN]</b>	2.70	3.47	4.25	5.02	5.79			

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

The indicated resistance values  $N_{R,II,k}$  applies to component II with  $k_{mod} = 0.9$  and  $\rho_k = 350$  kg/m<sup>3</sup>.  $N_{R,II,k}$  for other  $k_{mod}$  or  $\rho_k$  can be determined as follows:  $N_{R,II,k}(k_{mod}, \rho_k) = N_{R,II,k} \cdot \frac{k_{mod}}{0.9} \cdot \frac{\rho_k}{350}$

<b>Self-tapping screw with sealing washer <math>\geq \varnothing 16</math> mm</b>	<b>Annex 69</b>
TDA-S-S16-6,5 x L	

	<p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: -</p> <p>Component I: Aluminum alloy - EN 573</p> <p>Component II: Aluminum alloy - EN 573</p>
	<p><b>Drilling-capacity</b> <math>\Sigma(t_i) \leq 4.00</math> mm</p>

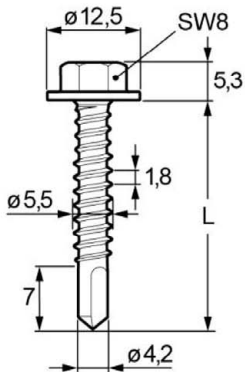
Component I and II $R_m \geq 165$ N/mm <sup>2</sup>	$t_{II}$ [mm]				
	1.50	2.00	2.50	3.00	4.00
$d_{pd,I}$ [mm]	5.2				
$V_{R,k}$ [kN]	2.00	1.51	2.03	2.24	2.44
	2.50	1.51	2.10	2.41	2.70
$t_i$ [mm]	3.00	1.51	2.17	2.57	2.96
	4.00	1.51	2.30	2.89	3.48
$N_{R,II,k}$ [kN]	0.74	1.19	1.58	1.97	4.55

Component I and II $R_m \geq 215$ N/mm <sup>2</sup>	$t_{II}$ [mm]				
	1.50	2.00	2.50	3.00	4.00
$d_{pd,I}$ [mm]	5.2				
$V_{R,k}$ [kN]	2.00	1.97	2.64	2.91	3.18
	2.50	1.97	2.73	3.13	3.52
$t_i$ [mm]	3.00	1.97	2.82	3.34	3.86
	4.00	1.97	2.99	3.76	4.53
$N_{R,II,k}$ [kN]	0.96	1.55	2.06	2.57	5.93

**Additional definitions**

The resistance value  $N_{R,k}$  can be determined as follows:  $N_{R,k} = \min \{N_{R,I,k} | N_{R,II,k}\}$ .  $N_{R,I,k}$  is to be calculate according to EN 1999-1-4:2007, equation (8.13).

<b>Self drilling screw</b>	<b>Annex 70</b>
SDA5-H13-5,5 x L	



Materials

Fastener: Stainless steel A2 or A4 - EN ISO 3506  
Washer: -  
Component I: Stainless steel - EN 10088 -  $R_m \geq 550 \text{ N/mm}^2$   
Component II: Aluminum alloy - EN 573

Drilling-capacity  $\Sigma(t_i) \leq 4.00 \text{ mm}$

Component II $R_m \geq 165 \text{ N/mm}^2$	$t_{II} [\text{mm}]$				
	1.50	2.00	2.50	3.00	4.00
$d_{pd,I} [\text{mm}]$	5.5				
$V_{R,k} [\text{kN}]$	1.50	-	2.32	2.56	2.80
	2.00	-	2.44	2.78	3.12
$t_i [\text{mm}]$	2.50	1.90	2.56	3.00	3.44
$N_{R,II,k} [\text{kN}]$	0.74	1.19	1.58	1.97	4.55

Component II $R_m \geq 215 \text{ N/mm}^2$	$t_{II} [\text{mm}]$				
	1.50	2.00	2.50	3.00	4.00
$d_{pd,I} [\text{mm}]$	5.5				
$V_{R,k} [\text{kN}]$	1.50	-	3.03	3.34	3.65
	2.00	-	3.18	3.63	4.07
$t_i [\text{mm}]$	2.50	2.47	3.33	3.91	4.48
$N_{R,II,k} [\text{kN}]$	0.96	1.55	2.06	2.57	5.93

Additional definitions

**Self drilling screw**

SDA5-H13-5,5 x L

**Annex 71**