Deutsches Institut für Bautechnik

Approval body for construction products and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

ETA-13/0179 of 1 September 2017

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	S-CD, S-MP, S-CDW
Product family to which the construction product belongs	Fastening screws for sandwich panels
Manufacturer	Hilti AG Feldkircherstraße 100 9494 Schaan FÜRSTENTUM LIECHTENSTEIN
Manufacturing plant	Hilti AG, Plant 1683 Hilti AG, Plant 7855 Hilti AG, Plant 4330 Hilti AG, Plant 6522
This European Technical Assessment contains	36 pages including 29 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 330047-01-0602 ("Fastening Screws for Sandwich Panels")
This version replaces	ETA-13/0179 issued on 25 April 2013

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Specific Part

1 Technical description of the product

The products are fastening screws for sandwich panels (self-drilling and self-tapping screws) made of steel (listed in Table 1). The fastening screws for sandwich panels are completed with a metallic washer and an EPDM sealing washer. The fastening screws for sandwich panels are made of austenitic stainless steel or galvanised/painted/coated carbon steel or a bimetal combination with drill bits made of hardened carbon steel. The fastening screws for sandwich panels and the corresponding connections are subject to tension and/or shear forces. Samples of fastening screws for sandwich panels are shown in Figure 1.

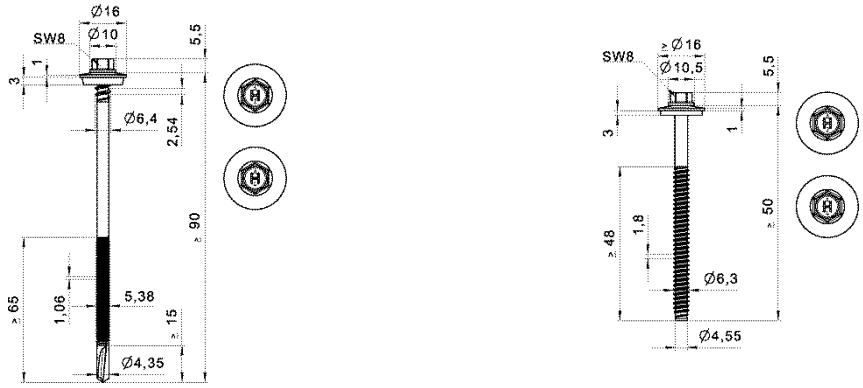

Figure 1: Fastening screws for sandwich panels (exemplary)

The components and the system setup of the product are given in Annexes (4-29).

Table 1 – Types of fastening screws for sandwich panels

Annex	Product	Component I	Component II	Description
4	Hilti S-CDH 53 C 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
5	Hilti S-CDH 63 C 5,5 x L Hilti S-CDH 73 C 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
6	Hilti S-CD 53 C 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø16 mm
7	Hilti S-CD 63 C 5,5 x L Hilti S-CD 73 C 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
8	Hilti S-CDH 53 S 5,5 x L Hilti S-CDH 53 SS 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm

Table 1 (continued)

Annex	Product	Component I	Component II	Description
9	Hilti S-CDH 63 S 5,5 x L Hilti S-CDH 63 SS 5,5 x L Hilti S-CDH 73 S 5,5 x L Hilti S-CDH 73 SS 5,5 x L	Steel ≤ S450G	Steel ≤ S450GD ≤ S420	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
10	Hilti S-CD 53 S 5,5 x L Hilti S-CD 53 SS 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
11	Hilti S-CD 63 S 5,5 x L Hilti S-CD 63 SS 5,5 x L Hilti S-CD 73 S 5,5 x L Hilti S-CD 73 SS 5,5 x L	Steel ≤ S450GD	Steel ≤ S450GD ≤ S420	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
12	Hilti S-CDH 55 C 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
13	Hilti S-CDH 65 C 5,5 x L Hilti S-CDH 75 C 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
14	Hilti S-CD 55 C 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø16 mm
15	Hilti S-CD 65 C 5,5 x L Hilti S-CD 75 C 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
16	Hilti S-CDH 55 S 5,5 x L Hilti S-CDH 55 SS 5,5 x L	Steel ≤ S350GD	Steel ≤ S320GD ≤ S235	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
17	Hilti S-CDH 65 S 5,5 x L Hilti S-CDH 65 SS 5,5 x L Hilti S-CDH 75 S 5,5 x L Hilti S-CDH 75 SS 5,5 x L	Steel ≤ S350GD	Steel ≤ S320GD ≤ S235	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
18	Hilti S-CD 55 S 5,5 x L Hilti S-CD 55 SS 5,5 x L	Steel ≤ S350GD	Steel ≤ S320GD ≤ S235	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
19	Hilti S-CD 65 S 5,5 x L Hilti S-CD 65 SS 5,5 x L Hilti S-CD 75 S 5,5 x L Hilti S-CD 75 SS 5,5 x L	Steel ≤ S350GD	Steel ≤ S320GD ≤ S235	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
20	Hilti S-CDH 55 GS 5,5 x L Hilti S-CDH 55 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm

Table 1 (continued)

Annex	Product	Component I	Component II	Description
21	Hilti S-CDH 65 GS 5,5 x L Hilti S-CDH 65 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø19 mm
22	Hilti S-CDH 75 GS 5,5 x L Hilti S-CDH 75 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø22 mm
23	Hilti S-CD 55 GS 5,5 x L Hilti S-CD 55 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
24	Hilti S-CD 65 GS 5,5 x L Hilti S-CD 65 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø19 mm
25	Hilti S-CD 75 GS 5,5 x L Hilti S-CD 75 GSS 5,5 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø22 mm
26	Hilti S-CDW 51 S 6,5 x L Hilti S-CDW 51 SS 6,5 x L	Steel ≤ S320GD	Structural Timber	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
27	Hilti S-CDW 61 S 6,5 x L Hilti S-CDW 61 SS 6,5 x L Hilti S-CDW 71 S 6,5 x L Hilti S-CDW 71 SS 6,5 x L	Steel ≤ S320GD	Structural Timber	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
28	Hilti S-MP 52 S 6,3 x L Hilti S-MP 52 SS 6,3 x L Hilti S-MP 62 S 6,3 x L Hilti S-MP 62 SS 6,3 x L Hilti S-MP 72 S 6,3 x L Hilti S-MP 72 SS 6,3 x L	Steel ≤ S350GD	Steel ≤ S320GD ≤ S235	Self tapping, Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm, Ø19 mm and Ø22 mm
29	Hilti S-MP 54 S 6,3 x L Hilti S-MP 54 SS 6,3 x L Hilti S-MP 64 S 6,3 x L Hilti S-MP 64 SS 6,3 x L Hilti S-MP 74 S 6,3 x L Hilti S-MP 74 SS 6,3 x L	Steel ≤ S350GD	Steel ≤ S350GD ≤ S355	Self tapping, Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm, Ø19 mm and Ø22 mm

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

In accordance with the applicable EAD the fastening screws are intended to be used for fastening sandwich panels to metal or timber substructures. The sandwich panel can either be used as wall or roof cladding or as load bearing wall and roof element. The intended use comprises fastening screws for sandwich panels and connections for indoor and outdoor applications. Fastening screws which are intended to be used in external environments with ≥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 for sandwich panels are used in compliance with the specifications and conditions given in Annexes (1-29).

The assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the fastening screws for sandwich panels 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 2-3 and 4-29
Tension Resistance of the Connection	see Annexes 2-3 and 4-29
Design Resistance in case of combined Tension and Shear Forces (interaction)	see Annexes 2-3 and 4-29
Bending Capacity in case of Thermal Expansion of the outer face of Sandwich Panels	see Annexes 2 and 4-29
Durability	No performance assessed

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1 in accordance with Commission Decision 96/603/EC (as amended)

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

In accordance with EAD No. 330047-01-0602, the applicable European legal act is Commission Decision 98/214/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 on 1 September 2017 by Deutsches Institut für Bautechnik

Dr.-Ing. Lars Eckfeldt
p. p. Head of Department

beglaubigt:
Jensky

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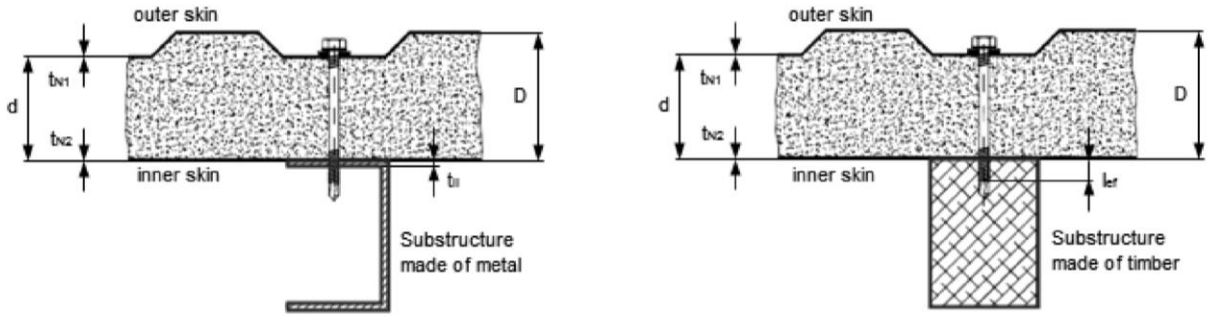
Examples of execution of a connection



Materials and dimensions

Design relevant materials and dimensions are indicated in the Annexes of the fastening screws:

Fastener	Material of the fastening screw
Washer	Material of the sealing washer
Component I	Material of the sandwich panel (outer skin and inner skin)
Component II	Material of the substructure

D, d	Thickness of component I
t_{N1}	Thickness of the outer skin of component I
t_{N2}	Thickness of the inner skin of component I
t_{II}	Thickness of component II made of metal
l_{ef}	Effective screw-in length in component II made of timber (without drill point)
d_{dp}	Pre-drill diameter of component I and component II

The thickness tII 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.

Performance characteristics

The design relevant performance characteristics of a connection are indicated in the Annexes of the fastening screws:

$N_{R,k}$	Characteristic value of tension resistance
$V_{R,k}$	Characteristic value of shear resistance
u	Maximum allowed head displacement of the fastening screw

In some cases component-specific performance characteristics are indicated for an individual calculation of the design relevant performance characteristics of a connection:

$N_{R,I,k}$	Characteristic value of pull-through resistance for the outer skin of component I
$N_{R,II,k}$	Characteristic value of pull-out resistance for component II
$V_{R,I,k}$	Characteristic value of hole bearing resistance for the inner skin of component I
$V_{R,II,k}$	Characteristic value of hole bearing resistance for component II
$M_{y,Rk}$	Characteristic value of yield moment of the fastening screw (for component II made of timber)
$f_{ax,k}$	Characteristic value of withdrawal strength for component II made of timber
$f_{h,k}$	Characteristic value of embedding strength for component II made of timber

Terms and explanations	Annex 1
Fastening screws for sandwich panels	

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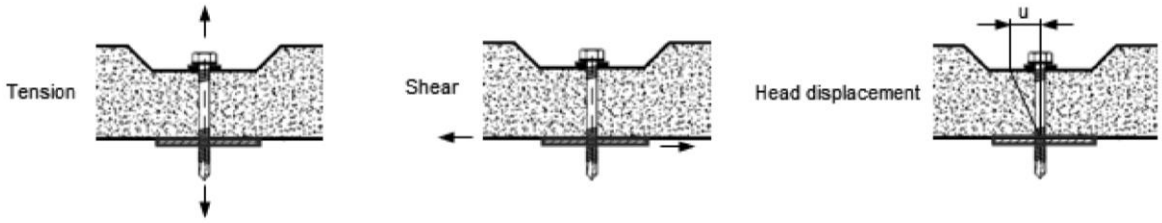
Occurred loadings of a connection



Design values

The design values of tension and shear resistance 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
γ_M	Partial safety factor

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

Special conditions

If the component thickness t_{N1}, t_{N2} or t_{II} lies in between two indicated component thicknesses, the characteristic value may be calculated by linear interpolation.

For asymmetric components II made of metal (e.g. Z- or C-shaped profiles) with component thickness $t_{II} < 5$ mm, the characteristic value $N_{R,}k$ has to be reduced to 70%.

In case of combined loading 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

Head displacement

The head displacement of the fastening screw as a result of thermal expansion of the outer skin of the sandwich panel may not exceed the maximum allowed head displacement of the fastening screw.

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 use of impact wrench is not allowed.

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.

Design and installation	Annex 2
Fastening screws for sandwich panels	

Component II made of timber

The characteristic values of tension and shear resistance for other k_{mod} or ρ_k as indicated in the Annex of the fastening screw can be determined as follows:

$$N_{R,k} = \min \begin{cases} N_{R,I,k} \\ N_{R,II,k} * k_{mod} \end{cases} \qquad V_{R,k} = \min \begin{cases} V_{R,I,k} \\ V_{R,II,k} * k_{mod} \end{cases}$$

$N_{R,I,k}$ and $V_{R,I,k}$ are given in the Annex of the fastening screw.

$N_{R,II,k}$ is determined according to EN 1995-1-1:2004 + A1:2008, equation (8.40a), with $f_{ax,k}$ given in the Annex of the fastening screw.

$V_{R,II,k}$ is determined according to EN 1995-1-1:2004 + A1:2008, equation (8.9), with $M_{y,Rk}$ given in the Annex of the fastening screw.

Additional provisions	
Fastening screws for sandwich panels	Annex 3

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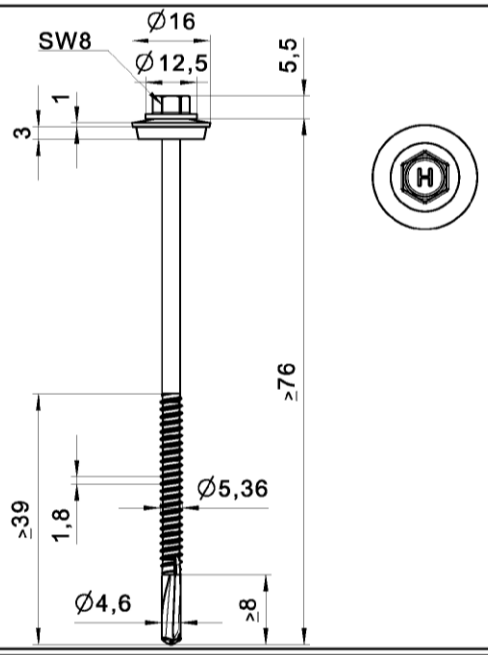

Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	3,50	4,00	4,50	5,00	—
$V_{R,k}$ [kN]	0,40	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	1,19	1,19	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	2,05	2,05	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	2,29	2,29	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	2,51	2,51	—
$N_{R,k}$ [kN]	0,40	1,39	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,50	1,39	1,63	1,63	1,63	1,63	1,63	1,63	1,63	—
	0,55	1,39	2,03	2,03	2,03	2,03	2,03	2,03	2,03	—
	0,60	1,39	2,43	2,43	2,43	2,43	2,43	2,43	2,43	—
	0,63	1,39	2,68	2,68	2,68	2,68	2,68	2,68	2,68	—
	0,75	1,39	2,86	3,64	3,64	3,64	3,64	3,64	3,64	—
	0,88	1,39	2,86	4,04	4,04	4,04	4,04	4,04	4,04	—
	1,00	1,39	2,86	4,32	4,41	4,41	4,41	4,41	4,41	—
u [mm]	40	4,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	—
	50	5,0	2,8	2,8	2,8	2,8	2,8	2,8	2,8	—
	60	6,0	3,5	3,5	3,5	3,5	3,5	3,5	3,5	—
	70	7,0	4,1	4,1	4,1	4,1	4,1	4,1	4,1	—
	80	8,0	4,7	4,7	4,7	4,7	4,7	4,7	4,7	—
	90	9,0	5,3	5,3	5,3	5,3	5,3	5,3	5,3	—
	≥ 100	10,0	5,8	5,8	5,8	5,8	5,8	5,8	5,8	—
$N_{R,k,II}$ [kN]		1,39	2,86	4,32	5,79	7,25	8,71	8,71	8,71	—

No additional regulations.

Self drilling screw

Hilti S-CDH 53 C 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 4

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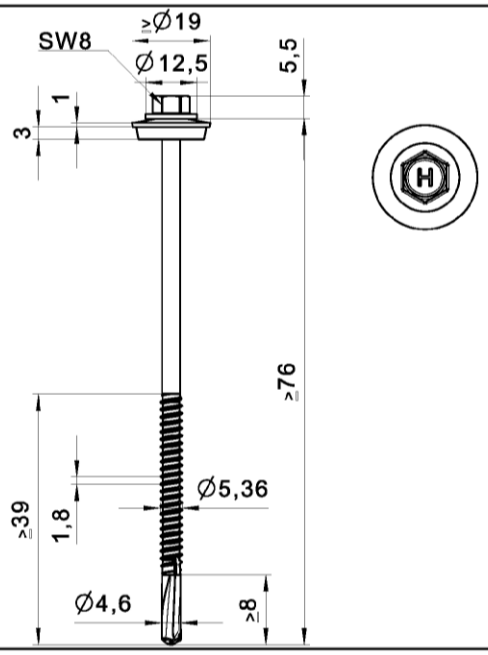

Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	3,50	4,00	4,50	5,00	—
$V_{R,k}$ [kN]	0,40	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	1,19	1,19	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	2,05	2,05	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	2,29	2,29	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	2,51	2,51	—
$N_{R,k}$ [kN]	0,40	1,39	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,50	1,39	1,79	1,79	1,79	1,79	1,79	1,79	1,79	—
	0,55	1,39	2,20	2,20	2,20	2,20	2,20	2,20	2,20	—
	0,60	1,39	2,61	2,61	2,61	2,61	2,61	2,61	2,61	—
	0,63	1,39	2,86	2,86	2,86	2,86	2,86	2,86	2,86	—
	0,75	1,39	2,86	3,85	3,85	3,85	3,85	3,85	3,85	—
	0,88	1,39	2,86	4,15	4,15	4,15	4,15	4,15	4,15	—
	1,00	1,39	2,86	4,32	4,42	4,42	4,42	4,42	4,42	—
u [mm]	40	4,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	—
	50	5,0	2,8	2,8	2,8	2,8	2,8	2,8	2,8	—
	60	6,0	3,5	3,5	3,5	3,5	3,5	3,5	3,5	—
	70	7,0	4,1	4,1	4,1	4,1	4,1	4,1	4,1	—
	80	8,0	4,7	4,7	4,7	4,7	4,7	4,7	4,7	—
	90	9,0	5,3	5,3	5,3	5,3	5,3	5,3	5,3	—
	≥ 100	10,0	5,8	5,8	5,8	5,8	5,8	5,8	5,8	—
$N_{R,k,II}$ [kN]		1,39	2,86	4,32	5,79	7,25	8,71	8,71	8,71	—

No additional regulations.

Self drilling screw

Hilti S-CDH 63 C 5,5 x L
Hilti S-CDH 73 C 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 5

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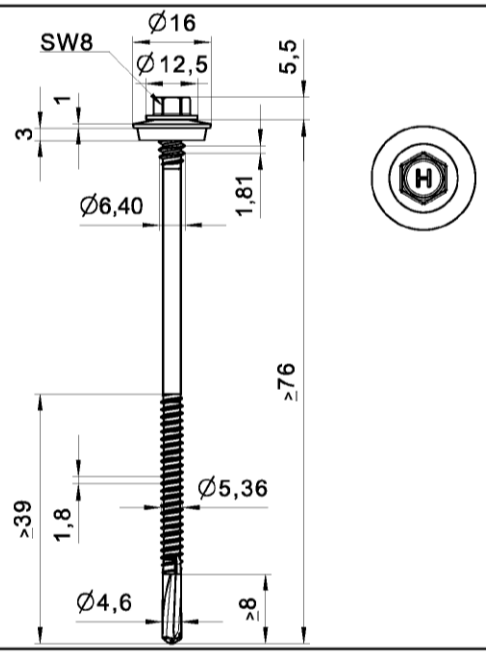


Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	3,50	4,00	4,50	5,00	—
$V_{R,k}$ [kN]	0,40	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	1,19	1,19	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	2,05	2,05	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	2,29	2,29	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	2,51	2,51	—
$N_{R,k}$ [kN]	0,40	1,39	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,50	1,39	1,63	1,63	1,63	1,63	1,63	1,63	1,63	—
	0,55	1,39	2,03	2,03	2,03	2,03	2,03	2,03	2,03	—
	0,60	1,39	2,43	2,43	2,43	2,43	2,43	2,43	2,43	—
	0,63	1,39	2,68	2,68	2,68	2,68	2,68	2,68	2,68	—
	0,75	1,39	2,86	3,64	3,64	3,64	3,64	3,64	3,64	—
	0,88	1,39	2,86	4,04	4,04	4,04	4,04	4,04	4,04	—
	1,00	1,39	2,86	4,32	4,41	4,41	4,41	4,41	4,41	—
u [mm]	40	4,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	—
	50	5,0	2,8	2,8	2,8	2,8	2,8	2,8	2,8	—
	60	6,0	3,5	3,5	3,5	3,5	3,5	3,5	3,5	—
	70	7,0	4,1	4,1	4,1	4,1	4,1	4,1	4,1	—
	80	8,0	4,7	4,7	4,7	4,7	4,7	4,7	4,7	—
	90	9,0	5,3	5,3	5,3	5,3	5,3	5,3	5,3	—
	≥ 100	10,0	5,8	5,8	5,8	5,8	5,8	5,8	5,8	—
$N_{R,k,II}$ [kN]		1,39	2,86	4,32	5,79	7,25	8,71	8,71	8,71	—

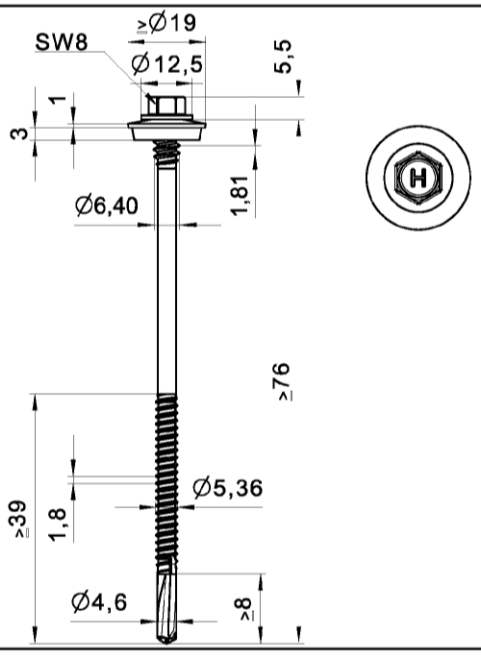
No additional regulations.

Self drilling screw

Hilti S-CD 53 C 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 6

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	3,50	4,00	4,50	5,00	—
$V_{R,k}$ [kN]	0,40	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	1,19	1,19	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	2,05	2,05	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	2,29	2,29	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	2,51	2,51	—
$N_{R,k}$ [kN]	0,40	1,39	1,53	1,53	1,53	1,53	1,53	1,53	1,53	—
	0,50	1,39	1,79	1,79	1,79	1,79	1,79	1,79	1,79	—
	0,55	1,39	2,20	2,20	2,20	2,20	2,20	2,20	2,20	—
	0,60	1,39	2,61	2,61	2,61	2,61	2,61	2,61	2,61	—
	0,63	1,39	2,86	2,86	2,86	2,86	2,86	2,86	2,86	—
	0,75	1,39	2,86	3,85	3,85	3,85	3,85	3,85	3,85	—
	0,88	1,39	2,86	4,15	4,15	4,15	4,15	4,15	4,15	—
	1,00	1,39	2,86	4,32	4,42	4,42	4,42	4,42	4,42	—
u [mm]	40	4,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	—
	50	5,0	2,8	2,8	2,8	2,8	2,8	2,8	2,8	—
	60	6,0	3,5	3,5	3,5	3,5	3,5	3,5	3,5	—
	70	7,0	4,1	4,1	4,1	4,1	4,1	4,1	4,1	—
	80	8,0	4,7	4,7	4,7	4,7	4,7	4,7	4,7	—
	90	9,0	5,3	5,3	5,3	5,3	5,3	5,3	5,3	—
	≥ 100	10,0	5,8	5,8	5,8	5,8	5,8	5,8	5,8	—
$N_{R,k,II}$ [kN]		1,39	2,86	4,32	5,79	7,25	8,71	8,71	8,71	—

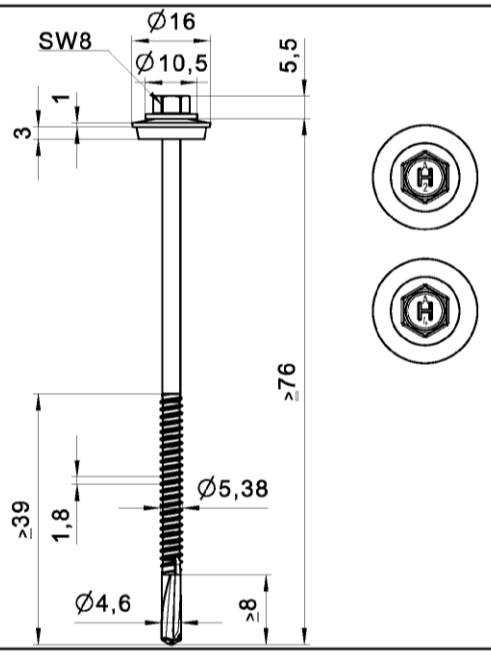
No additional regulations.

Self drilling screw

Hilti S-CD 63 C 5,5 x L
Hilti S-CD 73 C 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 7

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,65	0,65	0,65	0,65	0,65	0,65	—	—	—
	0,50	1,17	1,17	1,17	1,17	1,17	1,17	—	—	—
	0,55	1,36	1,36	1,36	1,36	1,36	1,36	—	—	—
	0,60	1,54	1,54	1,54	1,54	1,54	1,54	—	—	—
	0,63	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,75	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,88	2,40	2,40	2,40	2,40	2,40	2,40	—	—	—
	1,00	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,80	1,92	1,92	1,92	1,92	1,92	—	—	—
	0,55	1,80	2,19	2,19	2,19	2,19	2,19	—	—	—
	0,60	1,80	2,48	2,48	2,48	2,48	2,48	—	—	—
	0,63	1,80	2,65	2,65	2,65	2,65	2,65	—	—	—
	0,75	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
	0,88	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
	1,00	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
u [mm]	40	18,0	8,0	7,0	6,0	5,0	3,0	—	—	—
	50	22,0	10,5	9,0	7,5	6,5	4,3	—	—	—
	60	26,0	13,0	11,0	9,0	8,0	5,5	—	—	—
	70	29,5	16,5	14,0	12,0	11,5	6,8	—	—	—
	80	33,0	20,0	17,5	15,0	14,0	8,0	—	—	—
	100	33,0	20,0	17,5	15,0	14,0	10,0	—	—	—
	120	33,0	20,0	17,5	15,0	14,0	12,0	—	—	—
	≥ 140	33,0	20,0	17,5	15,0	14,0	14,0	—	—	—
$N_{R,k,II}$ [kN]		1,94	2,84	3,83	4,89	7,18	7,18	—	—	—

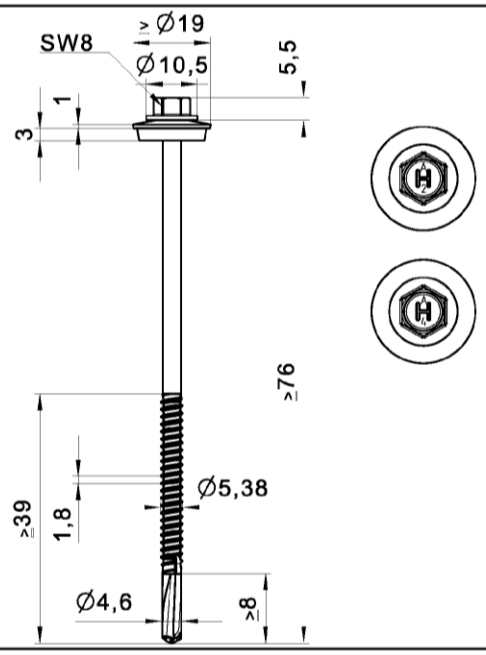
If component t_{N1} resp. t_{N2} is made of steel grade higher than S280GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} resp. t_{N2} and t_{II} are made of steel grade higher than S280GD all values $V_{R,k}$ and $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of steel grade higher than S235 or S280GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CDH 53 S 5,5 x L
Hilti S-CDH 53 SS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 8

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

	t_{N1}, t_{N2}, d, D [mm]	t_{II} [mm] 1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,65	0,65	0,65	0,65	0,65	0,65	—	—	—
	0,50	1,17	1,17	1,17	1,17	1,17	1,17	—	—	—
	0,55	1,36	1,36	1,36	1,36	1,36	1,36	—	—	—
	0,60	1,54	1,54	1,54	1,54	1,54	1,54	—	—	—
	0,63	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,75	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,88	2,40	2,40	2,40	2,40	2,40	2,40	—	—	—
	1,00	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,80	2,60	2,60	2,60	2,60	2,60	—	—	—
	0,55	1,80	2,80	3,00	3,00	3,00	3,00	—	—	—
	0,60	1,80	2,80	3,25	3,25	3,25	3,25	—	—	—
	0,63	1,80	2,80	3,40	3,40	3,40	3,40	—	—	—
	0,75	1,80	2,80	3,80	4,20	4,20	4,20	—	—	—
	0,88	1,80	2,80	3,80	4,50	4,50	4,50	—	—	—
	1,00	1,80	2,80	3,80	4,50	4,50	4,50	—	—	—
u [mm]	40	18,0	8,0	7,0	6,0	5,0	3,0	—	—	—
	50	22,0	10,5	9,0	7,5	6,5	4,3	—	—	—
	60	26,0	13,0	11,0	9,0	8,0	5,5	—	—	—
	70	29,5	16,5	14,0	12,0	11,5	6,8	—	—	—
	80	33,0	20,0	17,5	15,0	14,0	8,0	—	—	—
	100	33,0	20,0	17,5	15,0	14,0	10,0	—	—	—
	120	33,0	20,0	17,5	15,0	14,0	12,0	—	—	—
	≥ 140	33,0	20,0	17,5	15,0	14,0	14,0	—	—	—
$N_{R,k,II}$ [kN]		1,94	2,84	3,83	4,89	7,18	7,18	—	—	—

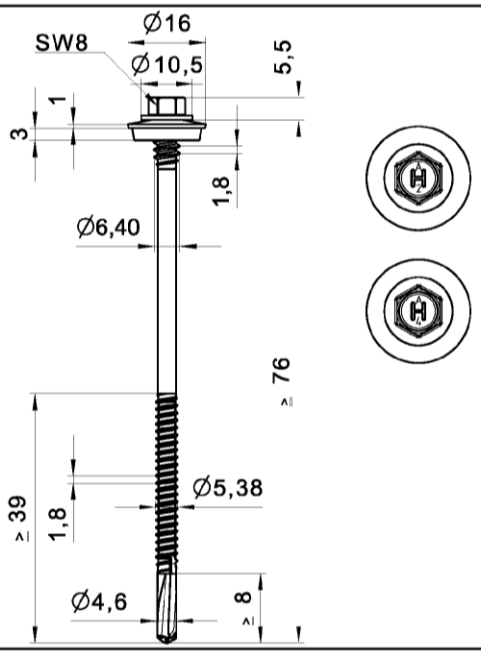
If component t_{N1} resp. t_{N2} is made of steel grade higher than S280GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} resp. t_{N2} and t_{II} are made of steel grade higher than S280GD all values $V_{R,k}$ and $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of steel grade higher than S235 or S280GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CDH 63 S 5,5 x L
Hilti S-CDH 63 SS 5,5 x L
Hilti S-CDH 73 S 5,5 x L
Hilti S-CDH 73 SS 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 9

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm] 1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,65	0,65	0,65	0,65	0,65	0,65	—	—	—
	0,50	1,17	1,17	1,17	1,17	1,17	1,17	—	—	—
	0,55	1,36	1,36	1,36	1,36	1,36	1,36	—	—	—
	0,60	1,54	1,54	1,54	1,54	1,54	1,54	—	—	—
	0,63	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,75	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,88	2,40	2,40	2,40	2,40	2,40	2,40	—	—	—
	1,00	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,80	1,92	1,92	1,92	1,92	1,92	—	—	—
	0,55	1,80	2,19	2,19	2,19	2,19	2,19	—	—	—
	0,60	1,80	2,48	2,48	2,48	2,48	2,48	—	—	—
	0,63	1,80	2,65	2,65	2,65	2,65	2,65	—	—	—
	0,75	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
	0,88	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
	1,00	1,80	2,80	3,57	3,57	3,57	3,57	—	—	—
u [mm]	40	18,0	8,0	7,0	6,0	5,0	3,0	—	—	—
	50	22,0	10,5	9,0	7,5	6,5	4,3	—	—	—
	60	26,0	13,0	11,0	9,0	8,0	5,5	—	—	—
	70	29,5	16,5	14,0	12,0	11,5	6,8	—	—	—
	80	33,0	20,0	17,5	15,0	14,0	8,0	—	—	—
	100	33,0	20,0	17,5	15,0	14,0	10,0	—	—	—
	120	33,0	20,0	17,5	15,0	14,0	12,0	—	—	—
	≥ 140	33,0	20,0	17,5	15,0	14,0	14,0	—	—	—
$N_{R,k,II}$ [kN]		1,94	2,84	3,83	4,89	7,18	7,18	—	—	—

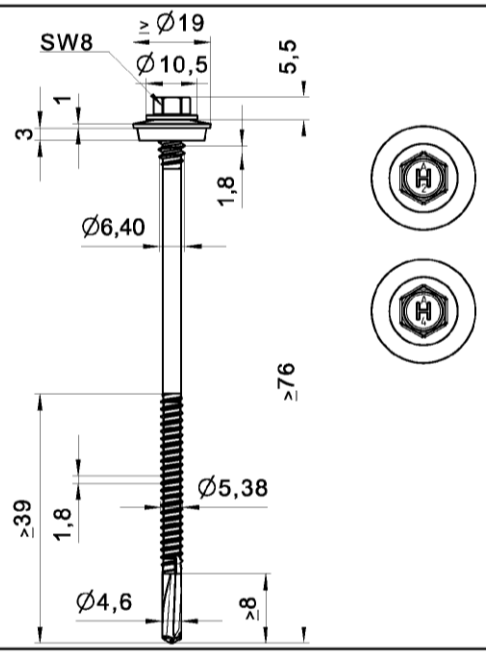
If component t_{N1} resp. t_{N2} is made of steel grade higher than S280GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} resp. t_{N2} and t_{II} are made of steel grade higher than S280GD all values $V_{R,k}$ and $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of steel grade higher than S235 or S280GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CD 53 S 5,5 x L
Hilti S-CD 53 SS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 10

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346
Component II:	S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 6{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm] 1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,65	0,65	0,65	0,65	0,65	0,65	—	—	—
	0,50	1,17	1,17	1,17	1,17	1,17	1,17	—	—	—
	0,55	1,36	1,36	1,36	1,36	1,36	1,36	—	—	—
	0,60	1,54	1,54	1,54	1,54	1,54	1,54	—	—	—
	0,63	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,75	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,88	2,40	2,40	2,40	2,40	2,40	2,40	—	—	—
	1,00	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,80	2,60	2,60	2,60	2,60	2,60	—	—	—
	0,55	1,80	2,80	3,00	3,00	3,00	3,00	—	—	—
	0,60	1,80	2,80	3,25	3,25	3,25	3,25	—	—	—
	0,63	1,80	2,80	3,40	3,40	3,40	3,40	—	—	—
	0,75	1,80	2,80	3,80	4,20	4,20	4,20	—	—	—
	0,88	1,80	2,80	3,80	4,50	4,50	4,50	—	—	—
	1,00	1,80	2,80	3,80	4,50	4,50	4,50	—	—	—
u [mm]	40	18,0	8,0	7,0	6,0	5,0	3,0	—	—	—
	50	22,0	10,5	9,0	7,5	6,5	4,3	—	—	—
	60	26,0	13,0	11,0	9,0	8,0	5,5	—	—	—
	70	29,5	16,5	14,0	12,0	11,5	6,8	—	—	—
	80	33,0	20,0	17,5	15,0	14,0	8,0	—	—	—
	100	33,0	20,0	17,5	15,0	14,0	10,0	—	—	—
	120	33,0	20,0	17,5	15,0	14,0	12,0	—	—	—
	≥ 140	33,0	20,0	17,5	15,0	14,0	14,0	—	—	—
$N_{R,k,II}$ [kN]		1,94	2,84	3,83	4,89	7,18	7,18	—	—	—

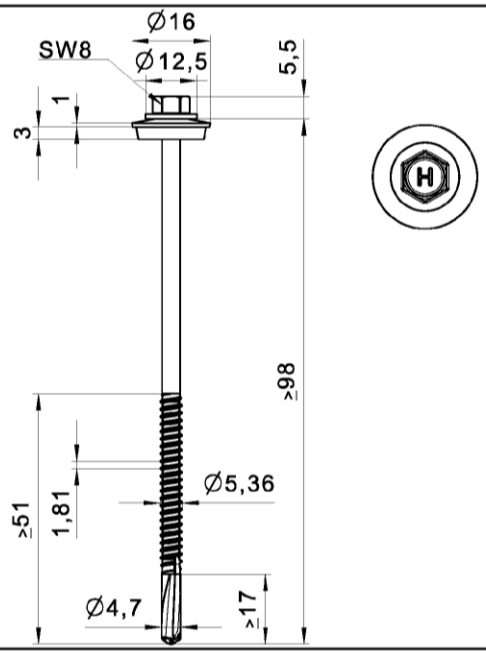
If component t_{N1} resp. t_{N2} is made of steel grade higher than S280GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} resp. t_{N2} and t_{II} are made of steel grade higher than S280GD all values $V_{R,k}$ and $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of steel grade higher than S235 or S280GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CD 63 S 5,5 x L
Hilti S-CD 63 SS 5,5 x L
Hilti S-CD 73 S 5,5 x L
Hilti S-CD 73 SS 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 11

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	**5,00**	**6,00**	**7,00**	**8,00**	**≥ 10,0**	**—**	**—**	**—**
$V_{R,k}$ [kN]	**0,40**	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	—	—	—
$N_{R,k}$ [kN]	**0,40**	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,50	1,63	1,63	1,63	1,63	1,63	1,63	—	—	—
	0,55	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,60	2,43	2,43	2,43	2,43	2,43	2,43	—	—	—
	0,63	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
	0,75	3,64	3,64	3,64	3,64	3,64	3,64	—	—	—
	0,88	4,04	4,04	4,04	4,04	4,04	4,04	—	—	—
	1,00	4,41	4,41	4,41	4,41	4,41	4,41	—	—	—
u [mm]	**40**	2,0	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	≥ 100	6,7	6,7	6,7	6,7	6,7	6,7	—	—	—
$N_{R,k,II}$ [kN]		7,94	7,94	7,94	7,94	7,94	7,94	—	—	—

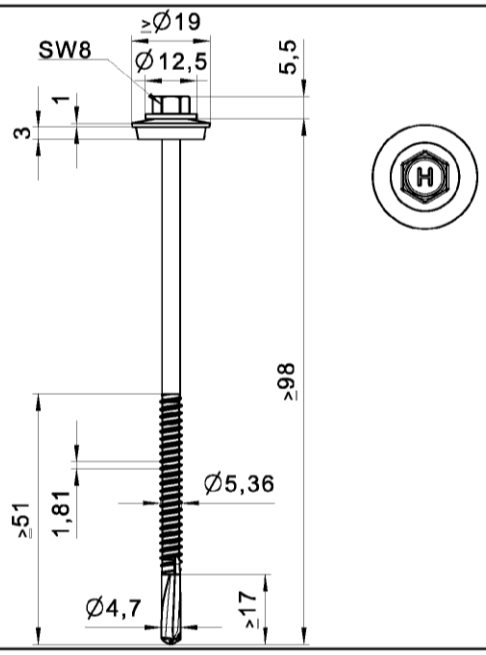
No additional regulations.

Self drilling screw

Hilti S-CDH 55 C 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 12

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	—	—	—
$N_{R,k}$ [kN]	0,40	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,50	1,79	1,79	1,79	1,79	1,79	1,79	—	—	—
	0,55	2,20	2,20	2,20	2,20	2,20	2,20	—	—	—
	0,60	2,61	2,61	2,61	2,61	2,61	2,61	—	—	—
	0,63	2,86	2,86	2,86	2,86	2,86	2,86	—	—	—
	0,75	3,85	3,85	3,85	3,85	3,85	3,85	—	—	—
	0,88	4,15	4,15	4,15	4,15	4,15	4,15	—	—	—
	1,00	4,42	4,42	4,42	4,42	4,42	4,42	—	—	—
u [mm]	40	2,0	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	≥ 100	6,7	6,7	6,7	6,7	6,7	6,7	—	—	—
$N_{R,k,II}$ [kN]		7,94	7,94	7,94	7,94	7,94	7,94	—	—	—

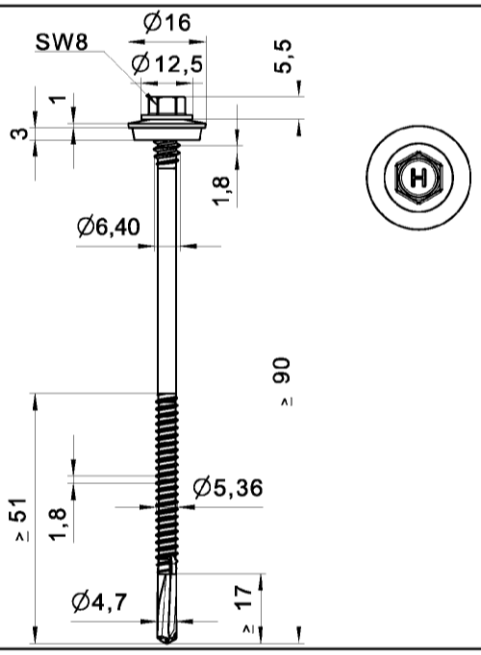
No additional regulations.

Self drilling screw

Hilti S-CDH 65 C 5,5 x L
Hilti S-CDH 75 C 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 13

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	—	—	—
$N_{R,k}$ [kN]	0,40	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,50	1,63	1,63	1,63	1,63	1,63	1,63	—	—	—
	0,55	2,03	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,60	2,43	2,43	2,43	2,43	2,43	2,43	—	—	—
	0,63	2,68	2,68	2,68	2,68	2,68	2,68	—	—	—
	0,75	3,64	3,64	3,64	3,64	3,64	3,64	—	—	—
	0,88	4,04	4,04	4,04	4,04	4,04	4,04	—	—	—
	1,00	4,41	4,41	4,41	4,41	4,41	4,41	—	—	—
u [mm]	40	2,0	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	≥ 100	6,7	6,7	6,7	6,7	6,7	6,7	—	—	—
$N_{R,k,II}$ [kN]		7,94	7,94	7,94	7,94	7,94	7,94	—	—	—

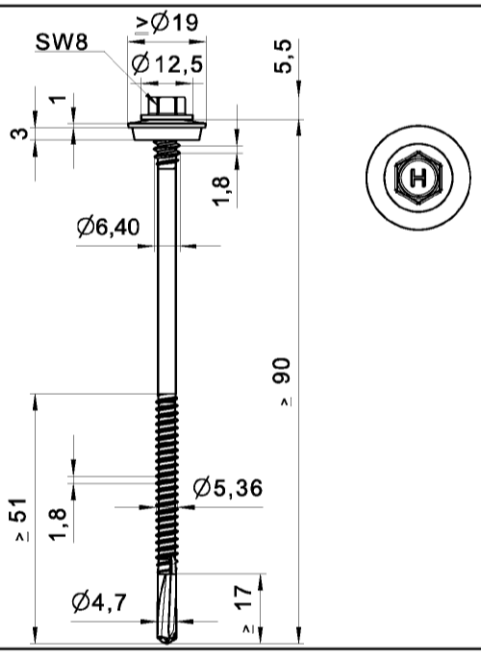
No additional regulations.

Self drilling screw

Hilti S-CD 55 C 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 14

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	carbon steel, case hardened and coated
Washer:	aluminium alloy EN AW-5754 - EN 485
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	**5,00**	**6,00**	**7,00**	**8,00**	**≥ 10,0**	—	—	—
$V_{R,k}$ [kN]	**0,40**	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	2,51	2,51	2,51	2,51	2,51	2,51	—	—	—
$N_{R,k}$ [kN]	**0,40**	1,53	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,50	1,79	1,79	1,79	1,79	1,79	1,79	—	—	—
	0,55	2,20	2,20	2,20	2,20	2,20	2,20	—	—	—
	0,60	2,61	2,61	2,61	2,61	2,61	2,61	—	—	—
	0,63	2,86	2,86	2,86	2,86	2,86	2,86	—	—	—
	0,75	3,85	3,85	3,85	3,85	3,85	3,85	—	—	—
	0,88	4,15	4,15	4,15	4,15	4,15	4,15	—	—	—
	1,00	4,42	4,42	4,42	4,42	4,42	4,42	—	—	—
u [mm]	**40**	2,0	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	≥ 100	6,7	6,7	6,7	6,7	6,7	6,7	—	—	—
$N_{R,k,II}$ [kN]		7,94	7,94	7,94	7,94	7,94	7,94	—	—	—

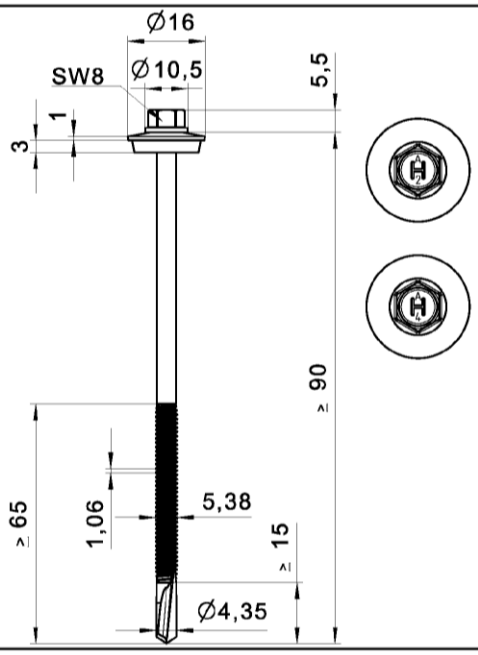
No additional regulations.

Self drilling screw

Hilti S-CD 65 C 5,5 x L
Hilti S-CD 75 C 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 15

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235 - EN 10025-1 S280GD, S320GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 12{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	≥ 12,0
$V_{R,k}$ [kN]	0,40	0,99	0,99	0,99	0,99	0,99	0,99	0,99	0,99	—
	0,50	1,46	1,46	1,46	1,46	1,46	1,46	1,46	1,46	—
	0,55	1,62	1,62	1,62	1,62	1,62	1,62	1,62	1,62	—
	0,60	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	—
	0,63	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90	—
	0,75	2,37	2,37	2,37	2,37	2,37	2,37	2,37	2,37	—
	0,88	2,94	2,94	2,94	2,94	2,94	2,94	2,94	2,94	—
	1,00	3,52	3,52	3,52	3,52	3,52	3,52	3,52	3,52	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	—
	0,55	2,25	2,25	2,25	2,25	2,25	2,25	2,25	2,25	—
	0,60	2,57	2,57	2,57	2,57	2,57	2,57	2,57	2,57	—
	0,63	2,76	2,76	2,76	2,76	2,76	2,76	2,76	2,76	—
	0,75	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
	0,88	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
	1,00	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
u [mm]	40	6,0	5,5	5,0	4,0	4,0	4,0	4,0	4,0	—
	50	8,0	7,5	7,0	6,0	6,0	6,0	6,0	6,0	—
	60	10,0	9,5	9,0	8,0	8,0	8,0	8,0	8,0	—
	70	12,5	11,5	11,0	9,5	9,5	9,5	9,5	9,5	—
	80	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	100	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	120	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	≥ 140	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
$N_{R,k,II}$ [kN]		4,65	6,40	7,74	8,36	8,36	8,36	8,36	8,36	—

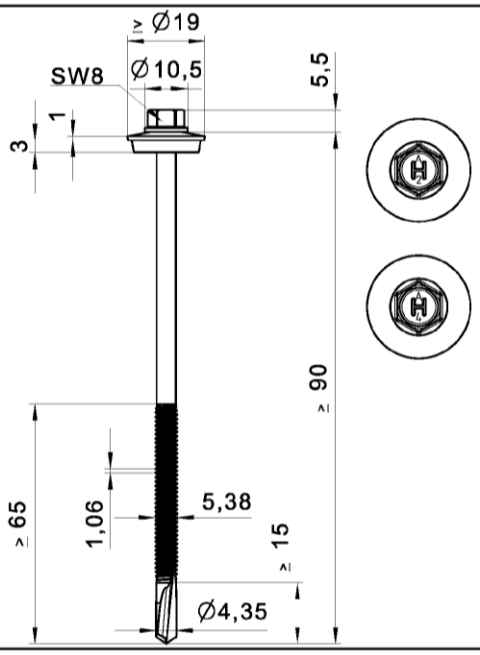
If component t_{N1} resp. t_{N2} is made of S320GD or S350GD the grey highlighted values may be increased by 8,3%.
If component t_{II} is made of S275, S355, S320GD or S350GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CDH 55 S 5,5 x L
Hilti S-CDH 55 SS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 16

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235 - EN 10025-1 S280GD, S320GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 12{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	≥ 12,0
$V_{R,k}$ [kN]	0,40	0,99	0,99	0,99	0,99	0,99	0,99	0,99	0,99	—
	0,50	1,46	1,46	1,46	1,46	1,46	1,46	1,46	1,46	—
	0,55	1,62	1,62	1,62	1,62	1,62	1,62	1,62	1,62	—
	0,60	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	—
	0,63	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90	—
	0,75	2,37	2,37	2,37	2,37	2,37	2,37	2,37	2,37	—
	0,88	2,94	2,94	2,94	2,94	2,94	2,94	2,94	2,94	—
	1,00	3,52	3,52	3,52	3,52	3,52	3,52	3,52	3,52	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	—
	0,55	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	—
	0,60	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,75	—
	0,63	2,90	2,90	2,90	2,90	2,90	2,90	2,90	2,90	—
	0,75	3,70	3,70	3,70	3,70	3,70	3,70	3,70	3,70	—
	0,88	4,50	4,60	4,60	4,60	4,60	4,60	4,60	4,60	—
	1,00	4,50	5,20	5,20	5,20	5,20	5,20	5,20	5,20	—
u [mm]	40	6,0	5,5	5,0	4,0	4,0	4,0	4,0	4,0	—
	50	8,0	7,5	7,0	6,0	6,0	6,0	6,0	6,0	—
	60	10,0	9,5	9,0	8,0	8,0	8,0	8,0	8,0	—
	70	12,5	11,5	11,0	9,5	9,5	9,5	9,5	9,5	—
	80	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	100	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	120	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	≥ 140	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
$N_{R,k,II}$ [kN]		4,65	6,40	7,74	8,36	8,36	8,36	8,36	8,36	—

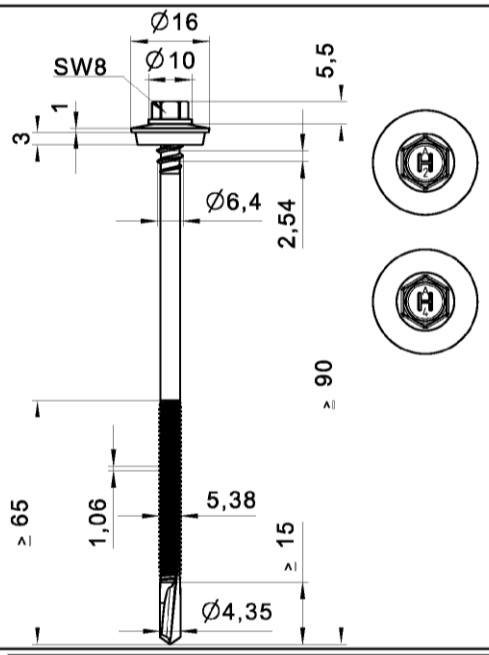
If component t_{N1} resp. t_{N2} is made of S320GD or S350GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} and t_{II} are made of S320GD or S350GD the values $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of S275, S355, S320GD or S350GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CDH 65 S 5,5 x L
Hilti S-CDH 65 SS 5,5 x L
Hilti S-CDH 75 S 5,5 x L
Hilti S-CDH 75 SS 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 17

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235 - EN 10025-1 S280GD, S320GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 12{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	≥ 12,0
$V_{R,k}$ [kN]	0,40	0,99	0,99	0,99	0,99	0,99	0,99	0,99	0,99	—
	0,50	1,46	1,46	1,46	1,46	1,46	1,46	1,46	1,46	—
	0,55	1,62	1,62	1,62	1,62	1,62	1,62	1,62	1,62	—
	0,60	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	—
	0,63	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90	—
	0,75	2,37	2,37	2,37	2,37	2,37	2,37	2,37	2,37	—
	0,88	2,94	2,94	2,94	2,94	2,94	2,94	2,94	2,94	—
	1,00	3,52	3,52	3,52	3,52	3,52	3,52	3,52	3,52	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	—
	0,55	2,25	2,25	2,25	2,25	2,25	2,25	2,25	2,25	—
	0,60	2,57	2,57	2,57	2,57	2,57	2,57	2,57	2,57	—
	0,63	2,76	2,76	2,76	2,76	2,76	2,76	2,76	2,76	—
	0,75	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
	0,88	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
	1,00	3,49	3,49	3,49	3,49	3,49	3,49	3,49	3,49	—
u [mm]	40	6,0	5,5	5,0	4,0	4,0	4,0	4,0	4,0	—
	50	8,0	7,5	7,0	6,0	6,0	6,0	6,0	6,0	—
	60	10,0	9,5	9,0	8,0	8,0	8,0	8,0	8,0	—
	70	12,5	11,5	11,0	9,5	9,5	9,5	9,5	9,5	—
	80	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	100	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	120	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	≥ 140	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
$N_{R,k,II}$ [kN]		4,65	6,40	7,74	8,36	8,36	8,36	8,36	8,36	—

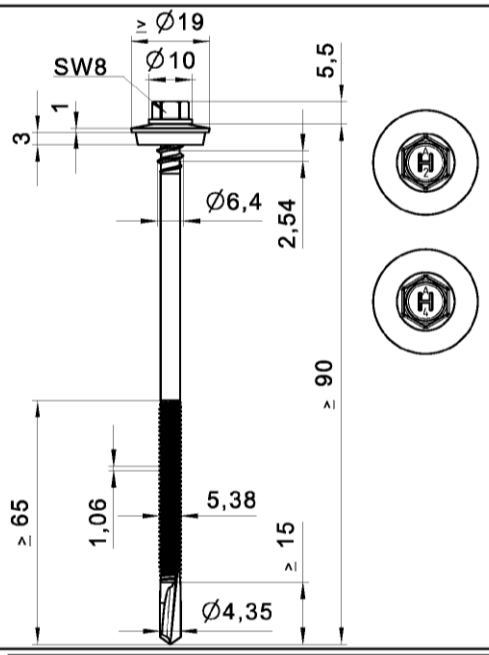
If component t_{N1} resp. t_{N2} is made of S320GD or S350GD the grey highlighted values may be increased by 8,3%.
If component t_{II} is made of S275, S355, S320GD or S350GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CD 55 S 5,5 x L
Hilti S-CD 55 SS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 18

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235 - EN 10025-1 S280GD, S320GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 12{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	≥ 12,0
$V_{R,k}$ [kN]	0,40	0,99	0,99	0,99	0,99	0,99	0,99	0,99	0,99	—
	0,50	1,46	1,46	1,46	1,46	1,46	1,46	1,46	1,46	—
	0,55	1,62	1,62	1,62	1,62	1,62	1,62	1,62	1,62	—
	0,60	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	—
	0,63	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90	—
	0,75	2,37	2,37	2,37	2,37	2,37	2,37	2,37	2,37	—
	0,88	2,94	2,94	2,94	2,94	2,94	2,94	2,94	2,94	—
	1,00	3,52	3,52	3,52	3,52	3,52	3,52	3,52	3,52	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	—
	0,55	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	—
	0,60	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,75	—
	0,63	2,90	2,90	2,90	2,90	2,90	2,90	2,90	2,90	—
	0,75	3,70	3,70	3,70	3,70	3,70	3,70	3,70	3,70	—
	0,88	4,50	4,60	4,60	4,60	4,60	4,60	4,60	4,60	—
	1,00	4,50	5,20	5,20	5,20	5,20	5,20	5,20	5,20	—
u [mm]	40	6,0	5,5	5,0	4,0	4,0	4,0	4,0	4,0	—
	50	8,0	7,5	7,0	6,0	6,0	6,0	6,0	6,0	—
	60	10,0	9,5	9,0	8,0	8,0	8,0	8,0	8,0	—
	70	12,5	11,5	11,0	9,5	9,5	9,5	9,5	9,5	—
	80	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	100	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	120	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
	≥ 140	15,0	14,0	13,0	11,0	11,0	11,0	11,0	11,0	—
$N_{R,k,II}$ [kN]		4,65	6,40	7,74	8,36	8,36	8,36	8,36	8,36	—

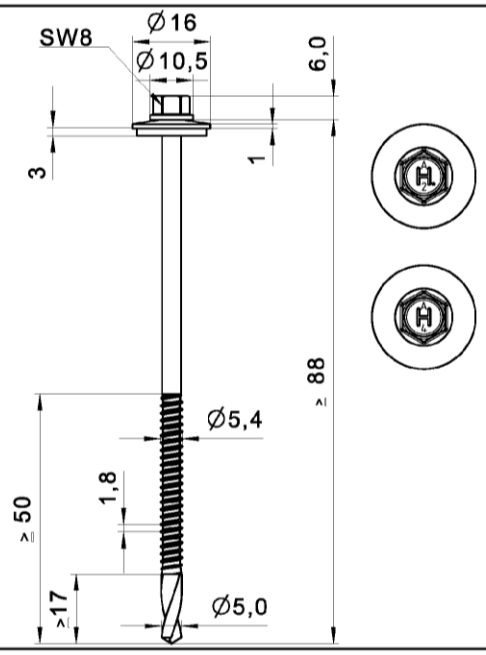
If component t_{N1} resp. t_{N2} is made of S320GD or S350GD the grey highlighted values may be increased by 8,3%.If both components t_{N1} and t_{II} are made of S320GD or S350GD the values $N_{R,k}$ may be increased by 8,3%.
If component t_{II} is made of S275, S355, S320GD or S350GD the values $N_{R,k,II}$ may be increased by 8,3%.

Self drilling screw

Hilti S-CD 65 S 5,5 x L
Hilti S-CD 65 SS 5,5 x L
Hilti S-CD 75 S 5,5 x L
Hilti S-CD 75 SS 5,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 19

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	0,93	0,93	0,93	0,93	0,93	—	—	—
	0,55	1,12	1,12	1,12	1,12	1,12	1,12	—	—	—
	0,60	1,31	1,31	1,31	1,31	1,31	1,31	—	—	—
	0,63	1,42	1,42	1,42	1,42	1,42	1,42	—	—	—
	0,75	1,88	1,88	1,88	1,88	1,88	1,88	—	—	—
	0,88	2,33	2,33	2,33	2,33	2,33	2,33	—	—	—
	1,00	2,74	2,74	2,74	2,74	2,74	2,74	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	3,84	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

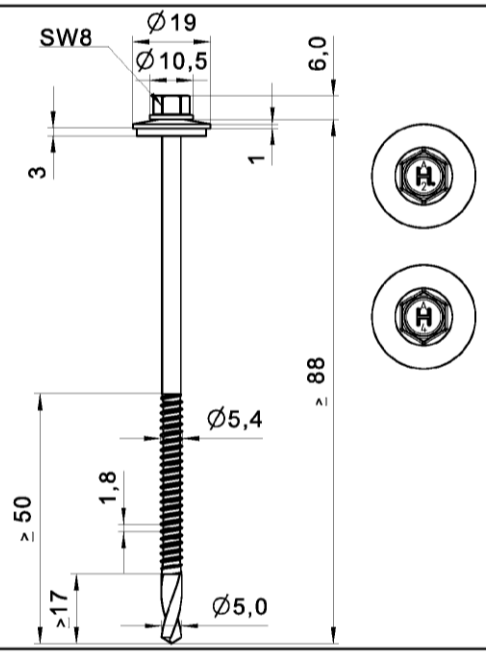
No additional regulations.

Self drilling screw

Hilti S-CDH 55 GS 5,5 x L
Hilti S-CDH 55 GSS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 20

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	3,84	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

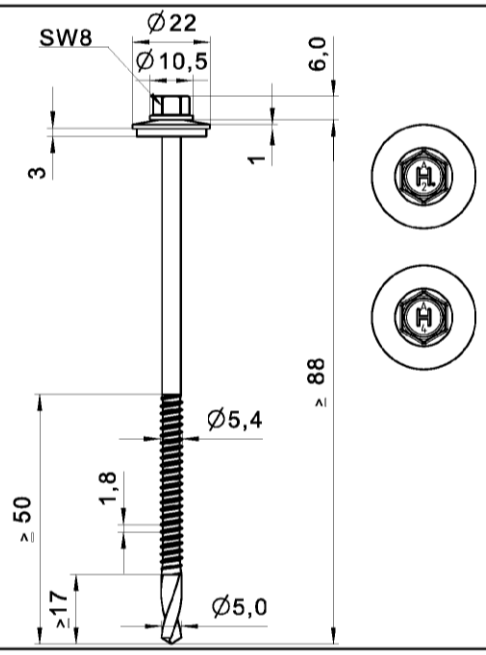
No additional regulations.

Self drilling screw

Hilti S-CDH 65 GS 5,5 x L
Hilti S-CDH 65 GSS 5,5 x L
with hexagon head and sealing washer Ø19 mm

Annex 21

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,50	1,77	1,77	1,77	1,77	1,77	1,77	—	—	—
	0,55	2,26	2,26	2,26	2,26	2,26	2,26	—	—	—
	0,60	2,74	2,74	2,74	2,74	2,74	2,74	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—
	0,75	3,92	4,20	4,20	4,20	4,20	4,20	—	—	—
	0,88	3,92	4,32	4,32	4,32	4,32	4,32	—	—	—
	1,00	3,92	4,44	4,44	4,44	4,44	4,44	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

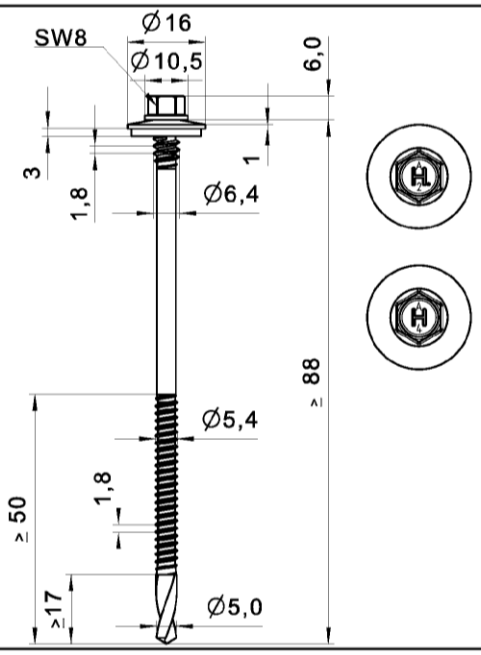
No additional regulations.

Self drilling screw

Hilti S-CDH 75 GS 5,5 x L
Hilti S-CDH 75 GSS 5,5 x L
with hexagon head and sealing washer Ø22 mm

Annex 22

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	0,93	0,93	0,93	0,93	0,93	—	—	—
	0,55	1,12	1,12	1,12	1,12	1,12	1,12	—	—	—
	0,60	1,31	1,31	1,31	1,31	1,31	1,31	—	—	—
	0,63	1,42	1,42	1,42	1,42	1,42	1,42	—	—	—
	0,75	1,88	1,88	1,88	1,88	1,88	1,88	—	—	—
	0,88	2,33	2,33	2,33	2,33	2,33	2,33	—	—	—
	1,00	2,74	2,74	2,74	2,74	2,74	2,74	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	3,84	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

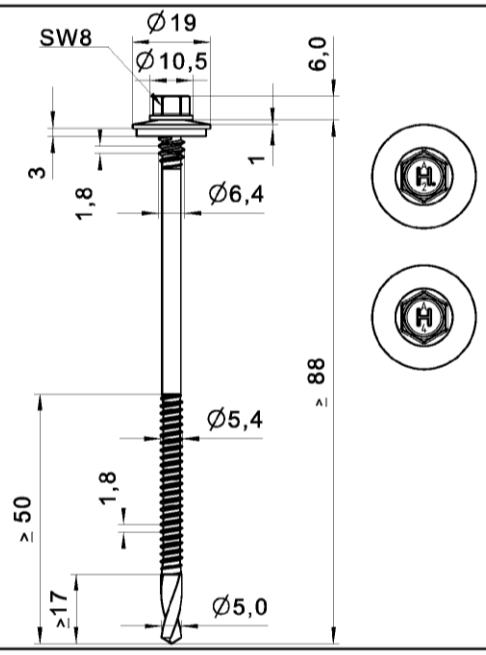
No additional regulations.

Self drilling screw

Hilti S-CD 55 GS 5,5 x L
Hilti S-CD 55 GSS 5,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 23

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	3,84	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

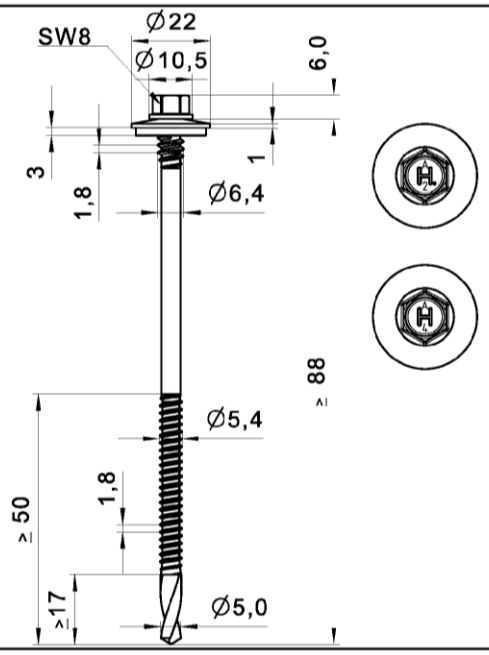
No additional regulations.

Self drilling screw

Hilti S-CD 65 GS 5,5 x L
Hilti S-CD 65 GSS 5,5 x L
with hexagon head and sealing washer Ø19 mm

Annex 24

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Drilling capacity: $\Sigma t_i \leq 15{,}00$ mm

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		4,00	5,00	6,00	7,00	8,00	≥ 10,0	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,65	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,50	1,77	1,77	1,77	1,77	1,77	1,77	—	—	—
	0,55	2,26	2,26	2,26	2,26	2,26	2,26	—	—	—
	0,60	2,74	2,74	2,74	2,74	2,74	2,74	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—
	0,75	3,92	4,20	4,20	4,20	4,20	4,20	—	—	—
	0,88	3,92	4,32	4,32	4,32	4,32	4,32	—	—	—
	1,00	3,92	4,44	4,44	4,44	4,44	4,44	—	—	—
u [mm]	40	3,0	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	10,1	—	—	—
	≥ 100	11,5	11,5	11,5	11,5	11,5	11,5	—	—	—
$N_{R,k,II}$ [kN]		3,92	4,92	5,91	6,22	6,52	6,52	—	—	—

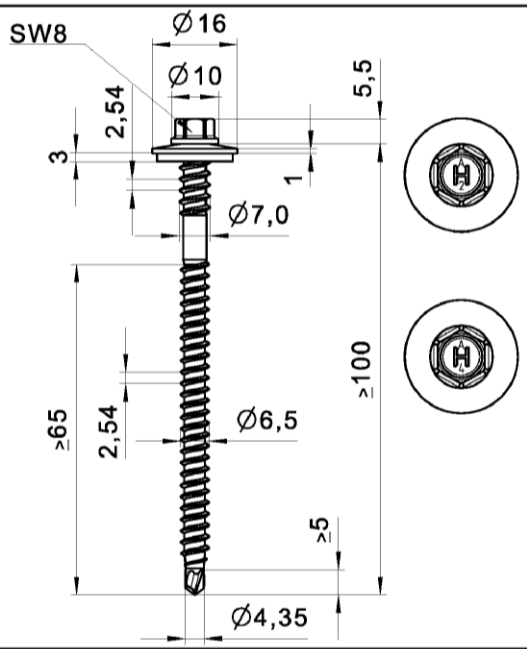
No additional regulations.

Self drilling screw

Hilti S-CD 75 GS 5,5 x L
Hilti S-CD 75 GSS 5,5 x L
with hexagon head and sealing washer Ø22 mm

Annex 25

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD - EN 10346
Component II:	Structural timber - EN 14081

Drilling capacity: $\Sigma t_i \leq 2{,}00$ mm

Timber substructures:

performance determined with

$M_{y,Rk}$ = 9,741 Nm
$f_{ax,k}$ = 10,769 N/mm² for $l_{ef} \geq 50{,}0$ mm

t_{N1}, t_{N2} [mm]		d, D [mm]								
		30	40	50	60	70	80	100	120	≥ 140
$V_{R,k}$ [kN]	0,40	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
	0,50	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98
	0,55	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
	0,60	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37
	0,63	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
	0,75	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	1,00	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	1,72	1,72	1,72	1,72	1,72	1,72	1,72	1,72	1,72
	0,55	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96
	0,60	2,12	2,12	2,12	2,12	2,12	2,12	2,12	2,12	2,12
	0,63	2,21	2,21	2,21	2,21	2,21	2,21	2,21	2,21	2,21
	0,75	2,73	2,73	2,73	2,73	2,73	2,73	2,73	2,73	2,73
	0,88	3,32	3,32	3,32	3,32	3,32	3,32	3,32	3,32	3,32
	1,00	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
u [mm]		—	5,0	7,0	9,0	11,0	13,0	18,0	18,0	18,0
$N_{R,k,II}$ [kN]		3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50

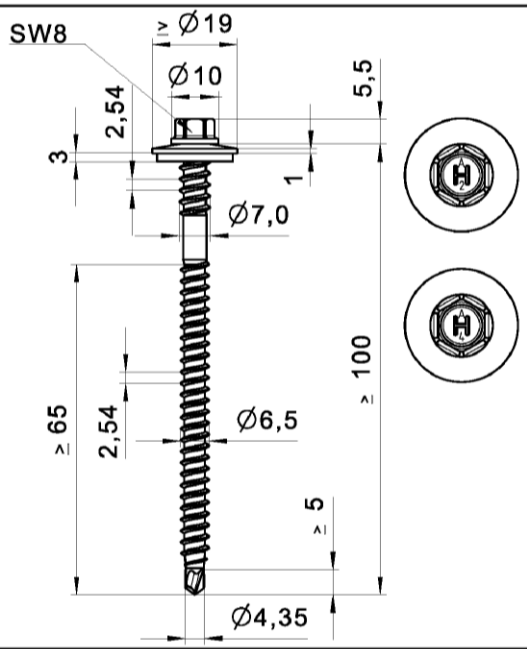
If component t_{N1} resp. t_{N2} is made of S320GD the grey highlighted values may be increased by 8,3%.
The values listed above in dependence on the screw-in length l_{ef} and the values $N_{R,k,II}$ are valid for k_{mod} = 0,90 and timber strength grade C24 (ρ_a = 350 kg/m³). For other combinations of k_{mod} and timber strength grades see Annex 3.

Self drilling screw

Hilti S-CDW 51 S 6,5 x L
Hilti S-CDW 51 SS 6,5 x L
with hexagon head and sealing washer Ø16 mm

Annex 26

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD - EN 10346
Component II:	Structural timber - EN 14081

Drilling capacity: $\Sigma t_i \leq 2{,}00$ mm

Timber substructures:

performance determined with

$M_{y,Rk}$ = 9,741 Nm
$f_{ax,k}$ = 10,769 N/mm² for $l_{ef} \geq 50{,}0$ mm

	t_{N1}, t_{N2} [mm]	d, D [mm]								
		30	40	50	60	70	80	100	120	≥ 140
$V_{R,k}$ [kN]	0,40	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
	0,50	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98
	0,55	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
	0,60	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37
	0,63	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
	0,75	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	1,00	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—	—
	0,50	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60
	0,55	3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10
	0,60	3,35	3,35	3,35	3,35	3,35	3,35	3,35	3,35	3,35
	0,63	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	0,75	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	0,88	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	1,00	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
u [mm]		—	5,0	7,0	9,0	11,0	13,0	18,0	18,0	18,0
$N_{R,k,II}$ [kN]		3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50

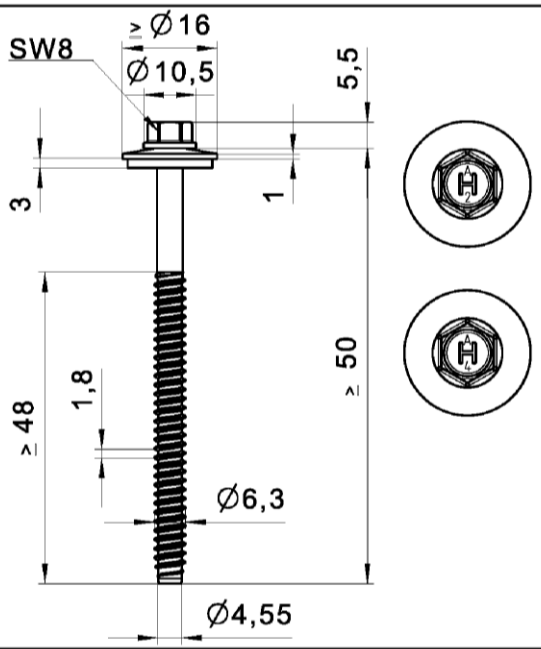
If component t_{N1} resp. t_{N2} is made of S320GD the grey highlighted values may be increased by 8,3%.
The values listed above in dependence on the screw-in length l_{ef} and the values $N_{R,k,II}$ are valid for k_{mod} = 0,90 and timber strength grade C24 (ρ_a = 350 kg/m³). For other combinations of k_{mod} and timber strength grades see Annex 3.

Self drilling screw

Hilti S-CDW 61 S 6,5 x L
Hilti S-CDW 61 SS 6,5 x L
Hilti S-CDW 71 S 6,5 x L
Hilti S-CDW 71 SS 6,5 x L
with hexagon head and sealing washer ≥ Ø19 mm

Annex 27

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301 - EN 10088)
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235 - EN 10025-1 S280GD, S320GD - EN 10346

Predrill diameter: see Table below

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86
	0,50	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35
	0,55	1,60	1,60	1,60	1,60	1,60	1,60	1,60	1,60	1,60
	0,60	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85
	0,63	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
	0,75	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60
	0,88	3,20	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	1,00	3,20	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
$N_{R,k}$ [kN]	0,40	1,59	1,59	1,59	1,59	1,59	1,59	1,59	1,59	1,59
	0,50	1,88	1,88	1,88	1,88	1,88	1,88	1,88	1,88	1,88
	0,55	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
	0,60	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
	0,63	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80
	0,75	3,60	3,60	3,60	3,60	3,60	3,60	3,60	3,60	3,60
	0,88	3,60	4,10	4,40	4,40	4,40	4,40	4,40	4,40	4,40
	1,00	3,60	4,10	4,45	4,80	4,90	4,90	4,90	4,90	4,90
u [mm]	30	12,0	5,0	5,0	5,0	4,0	4,0	4,0	4,0	4,0
	40	13,5	7,0	7,0	7,0	5,0	5,0	5,0	4,5	4,5
	50	15,0	9,0	9,0	9,0	6,0	6,0	6,0	6,0	6,0
	60	17,5	11,0	11,0	11,0	7,0	7,0	7,0	7,0	7,0
	70	20,0	13,0	13,0	13,0	8,0	8,0	8,0	8,0	8,0
	80	22,5	14,5	14,5	14,5	9,0	9,0	9,0	9,0	9,0
	≥ 100	22,5	14,5	14,5	14,5	9,0	9,0	9,0	9,0	9,0
$N_{R,k,II}$ [kN]		—	—	—	—	—	—	—	—	—
d_{pd} [mm]		Ø5,0	Ø5,3					Ø5,5	Ø5,7	

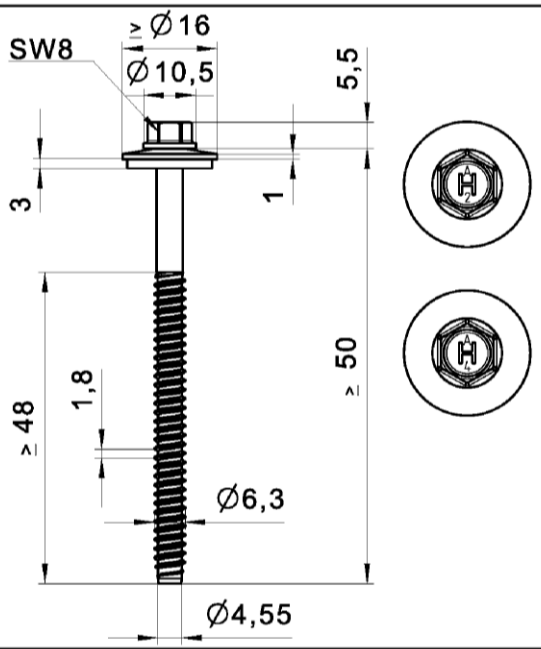
If component t_{N1} resp. t_{N2} is made of S320GD or S350GD the grey highlighted values may be increased by 8%.

Self tapping screw

Hilti S-MP 52 S 6,3 x L Hilti S-MP 52 SS 6,3 x L
Hilti S-MP 62 S 6,3 x L Hilti S-MP 62 SS 6,3 x L
Hilti S-MP 72 S 6,3 x L Hilti S-MP 72 SS 6,3 x L
with hexagon head and sealing washer ≥ Ø16 mm

Annex 28

Deutsches Institut für Bautechnik DIBt



Material:

Fastener:	stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088
Washer:	stainless Steel (1.4301) - EN 10088
Component I:	S280GD, S320GD, S350GD - EN 10346
Component II:	S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346

Predrill diameter: see Table below

Timber substructures:

no performance determined

t_{N1}, t_{N2}, d, D [mm]		t_{II} [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	1,14	1,14	1,14	1,14	1,14	1,14	1,14	1,14	1,14
	0,50	1,54	1,54	1,54	1,54	1,54	1,54	1,54	1,54	1,54
	0,55	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70
	0,60	1,83	1,83	1,83	1,83	1,83	1,83	1,83	1,83	1,83
	0,63	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90	1,90
	0,75	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
	0,88	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
	1,00	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
$N_{R,k}$ [kN]	0,40	1,51	1,51	1,51	1,51	1,51	1,51	1,51	1,51	1,51
	0,50	1,51	1,51	1,51	1,51	1,51	1,51	1,51	1,51	1,51
	0,55	1,59	1,91	1,91	1,91	1,91	1,91	1,91	1,91	1,91
	0,60	1,59	2,47	2,47	2,47	2,47	2,47	2,47	2,47	2,47
	0,63	1,59	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80
	0,75	1,59	3,43	3,60	3,60	3,60	3,60	3,60	3,60	3,60
	0,88	1,59	3,43	3,80	3,80	3,80	3,80	3,80	3,80	3,80
	1,00	1,59	3,43	4,00	4,00	4,00	4,00	4,00	4,00	4,00
u [mm]	30	20,0	12,0	4,0	4,0	3,0	3,0	3,0	3,0	3,0
	40	25,0	13,5	5,0	5,0	3,5	3,5	3,5	3,5	3,5
	50	33,0	15,5	6,5	6,5	4,0	4,0	4,0	4,0	4,0
	60	40,0	18,0	8,0	8,0	5,0	5,0	5,0	5,0	5,0
	70	40,0	20,5	10,0	10,0	6,0	6,0	6,0	6,0	6,0
	80	40,0	24,0	12,0	12,0	6,5	6,5	6,5	6,5	6,5
	100	40,0	30,0	15,0	15,0	8,5	8,5	8,5	8,5	8,5
	120	40,0	36,0	18,0	18,0	10,0	10,0	10,0	10,0	10,0
	≥ 140	40,0	40,0	21,0	21,0	11,5	11,5	11,5	11,5	11,5
$N_{R,k,II}$ [kN]		1,59	3,43	4,63	5,82	8,23	8,23	8,23	8,23	8,23
d_{pd} [mm]		Ø5,0	Ø5,3				Ø5,5		Ø5,7	

No additional regulations.

Self tapping screw

Hilti S-MP 54 S 6,3 x L Hilti S-MP 54 SS 6,3 x L
Hilti S-MP 64 S 6,3 x L Hilti S-MP 64 SS 6,3 x L
Hilti S-MP 74 S 6,3 x L Hilti S-MP 74 SS 6,3 x L
with hexagon head and sealing washer ≥ Ø16 mm

Annex 29