

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-13/0179**  
**of 9 May 2019**

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  
Hilti AG, Plant 2855

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

This version replaces

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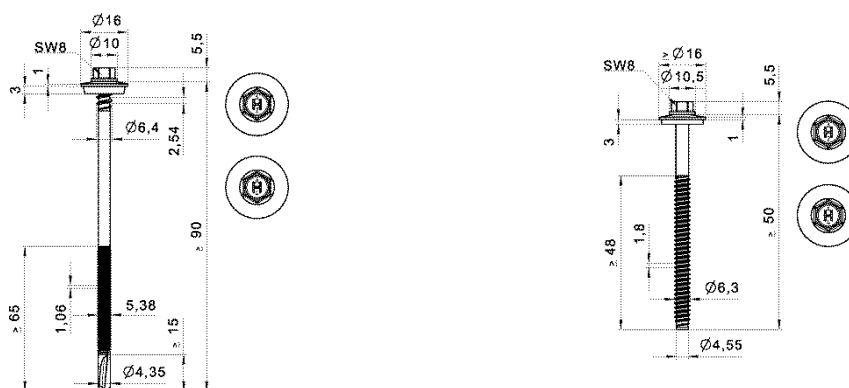
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## Specific Part

### 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 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
5	Hilti S-CDH 63 C 5,5xL Hilti S-CDH 73 C 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
6	Hilti S-CD 53 C 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø16 mm
7	Hilti S-CD 63 C 5,5xL Hilti S-CD 73 C 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
8	Hilti S-CDH 53 S 5,5xL Hilti S-CDH 53 SS 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	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 5,5xL Hilti S-CDH 63 SS 5,5xL Hilti S-CDH 73 S 5,5xL Hilti S-CDH 73 SS 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	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 5,5xL Hilti S-CD 53 SS 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
11	Hilti S-CD 63 S 5,5xL Hilti S-CD 63 SS 5,5xL Hilti S-CD 73 S 5,5xL Hilti S-CD 73 SS 5,5xL	Steel S280GD to S450GD	Steel S235 to S420 S280GD to S450GD	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 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
13	Hilti S-CDH 65 C 5,5xL Hilti S-CDH 75 C 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Carbon steel, w/o supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
14	Hilti S-CD 55 C 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø16 mm
15	Hilti S-CD 65 C 5,5xL Hilti S-CD 75 C 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Carbon steel, with supporting thread, with hexagon head and sealing washer Ø19 mm and Ø22 mm
16	Hilti S-CDH 55 S 5,5xL Hilti S-CDH 55 SS 5,5xL	Steel S280GD to S350GD	Steel S235 S280GD to S320GD	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø16 mm
17	Hilti S-CDH 65 S 5,5xL Hilti S-CDH 65 SS 5,5xL Hilti S-CDH 75 S 5,5xL Hilti S-CDH 75 SS 5,5xL	Steel S280GD to S350GD	Steel S235 S280GD to S320GD	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 5,5xL Hilti S-CD 55 SS 5,5xL	Steel S280GD to S350GD	Steel S235 S280GD to S320GD	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
19	Hilti S-CD 65 S 5,5xL Hilti S-CD 65 SS 5,5xL Hilti S-CD 75 S 5,5xL Hilti S-CD 75 SS 5,5xL	Steel S280GD to S350GD	Steel S235 S280GD to S320GD	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 5,5xL Hilti S-CDH 55 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	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 5,5xL Hilti S-CDH 65 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø19 mm
22	Hilti S-CDH 75 GS 5,5xL Hilti S-CDH 75 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Stainless steel A2 and A4, w/o supporting thread, with hexagon head and sealing washer Ø22 mm
23	Hilti S-CD 55 GS 5,5xL Hilti S-CD 55 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø16 mm
24	Hilti S-CD 65 GS 5,5xL Hilti S-CD 65 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø19 mm
25	Hilti S-CD 75 GS 5,5xL Hilti S-CD 75 GSS 5,5xL	Steel S280GD to S350GD	Steel S235 to S355 S280GD to S350GD	Stainless steel A2 and A4, with supporting thread, with hexagon head and sealing washer Ø22 mm
26	Hilti S-CDW 51 S 6,5xL Hilti S-CDW 51 SS 6,5xL	Steel S280GD to 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 6,5xL Hilti S-CDW 61 SS 6,5xL Hilti S-CDW 71 S 6,5xL Hilti S-CDW 71 SS 6,5xL	Steel S280GD to 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 6,3xL Hilti S-MP 52 SS 6,3xL Hilti S-MP 62 S 6,3xL Hilti S-MP 62 SS 6,3xL Hilti S-MP 72 S 6,3xL Hilti S-MP 72 SS 6,3xL	Steel S280GD to S350GD	Steel S235 S280GD to S320GD	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 6,3xL Hilti S-MP 54 SS 6,3xL Hilti S-MP 64 S 6,3xL Hilti S-MP 64 SS 6,3xL Hilti S-MP 74 S 6,3xL Hilti S-MP 74 SS 6,3xL	Steel S280GD to S420GD	Steel S235 to S355 S280GD to S420GD	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  $\geq C2$  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 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**

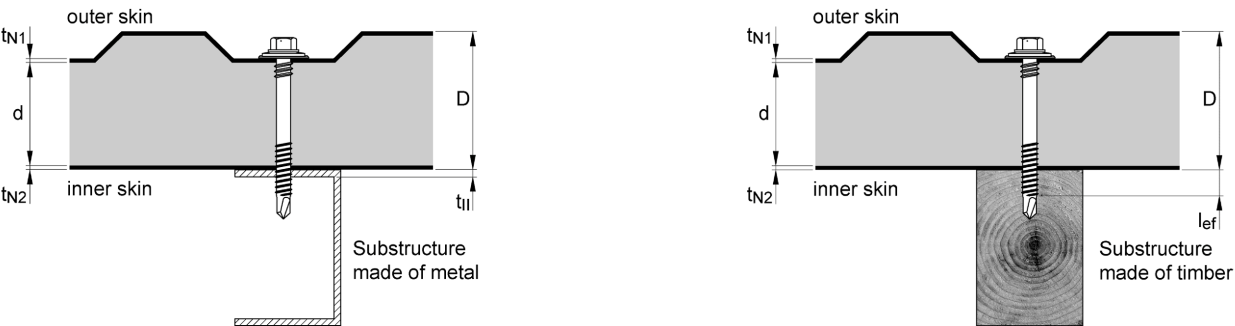
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 9 May 2019 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow  
Head of Department

*beglaubigt:*  
Hahn

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 fastener (outer skin and inner skin)
Component II	Material of the substructure
D, d	Thickness of component I
tN1	Thickness of the outer skin of component I
tN2	Thickness of the inner skin of component I
tII	Thickness of component II made of metal
l ef	Effective screw-in length in component II made of structural timber (without drill point)
d pd	Predrill diameter of component I and component II

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.

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 structural timber)
$f_{ax,k}$	Characteristic value of withdrawal strength for component II made of structural timber
$f_{h,k}$	Characteristic value of embedding strength for component II made of structural timber

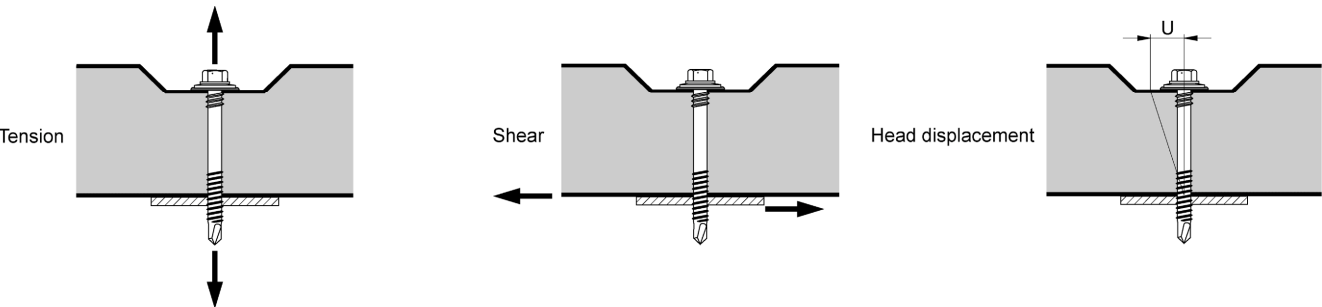
Terms and explanations

Fastening screws for sandwich panels

Annex 1



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  
 $\gamma_M$  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 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

Fastening screws for sandwich panels

Annex 2

**Component II made of timber**

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

$$N_{R,k} = \min \left\{ \begin{array}{l} N_{R,I,k} \\ N_{R,II,k} \cdot k_{mod} \end{array} \right. \qquad V_{R,k} = \min \left\{ \begin{array}{l} V_{R,I,k} \\ V_{R,II,k} \cdot k_{mod} \end{array} \right.$$

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

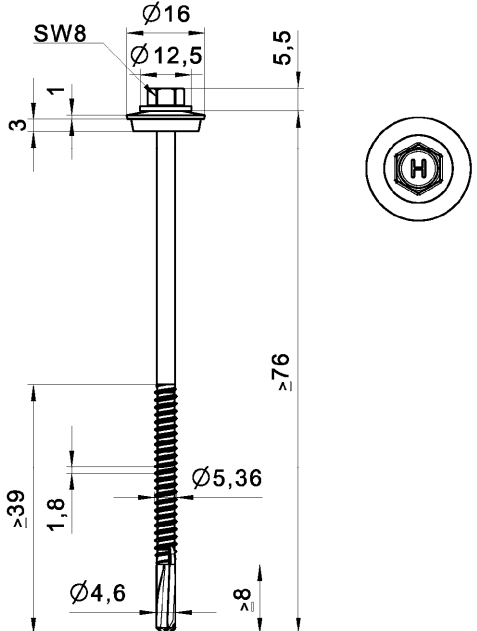
$N_{R,II,k}$  is determined according to EN 1995-1-1:2004 + A1:2008, equation (8.40a), with  $f_{ax,k}$  given in the Annex of the fastening screw.

$V_{R,II,k}$  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

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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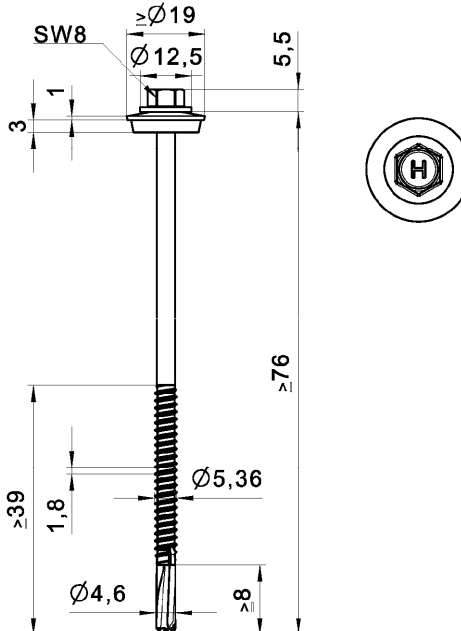
$t_{N1}, t_{N2}, d, D$ [mm]	$t_{II}$ [mm]									
	1,50	2,00	2,50	3,00	3,50	4,00	4,50	5,00	—	
$V_{R,k}$ [kN]	0,40	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	—
	0,50	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	—
	0,55	1,19	1,19	1,19	1,19	1,19	1,19	1,19	1,19	—
	0,60	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	—
	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	—
	$\geq 100$	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	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

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [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	—
	$\geq 100$	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	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  $\geq \varnothing 19 \text{ mm}$

Annex 5

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [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

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00</math> mm</p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [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  $\geq \varnothing 19$  mm

Annex 7

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	$\geq 10,0$
$V_{R,k}$ [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	—	—	—
	$\geq 140$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [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  $\geq \text{Ø}19 \text{ mm}$

Annex 9



	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	$\geq 10,0$
$V_{R,k}$ [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	—	—	—
	$\geq 140$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p>Component II: S235, S275, S355, S420 - EN 10025-1 S280GD, S320GD, S350GD, S390GD, S420GD, S450GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 6,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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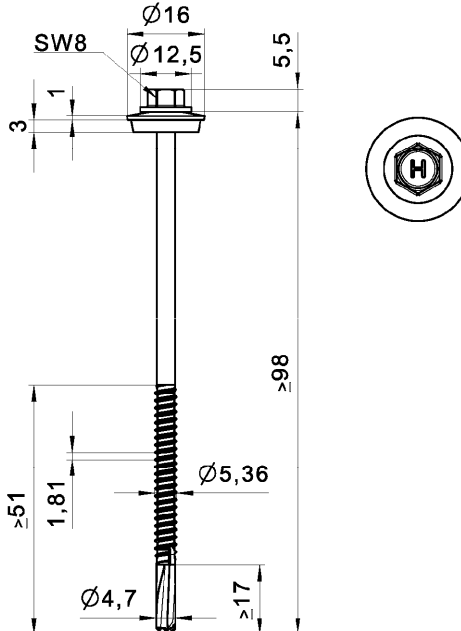
$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	≥ 10,0
$V_{R,k}$ [kN]	0,40	0,65	0,65	0,65	0,65	0,65	0,65	—	—	—
	0,50	1,17	1,17	1,17	1,17	1,17	1,17	—	—	—
	0,55	1,36	1,36	1,36	1,36	1,36	1,36	—	—	—
	0,60	1,54	1,54	1,54	1,54	1,54	1,54	—	—	—
	0,63	1,65	1,65	1,65	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  $\geq \varnothing 19 \text{ mm}$

Annex 11

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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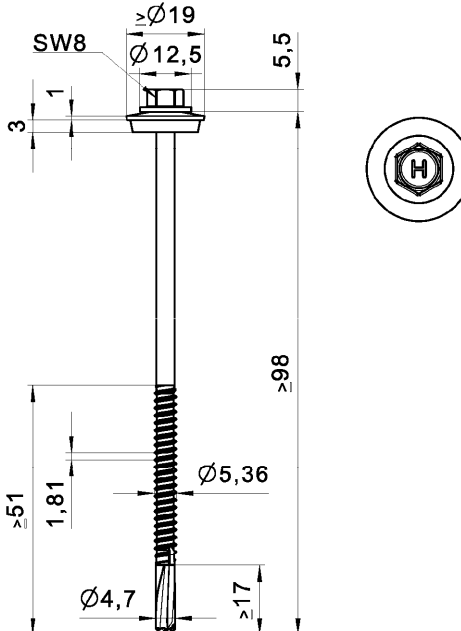
$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	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	—	—	—
	0,50	1,63	1,63	1,63	1,63	1,63	—	—	—
	0,55	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,60	2,43	2,43	2,43	2,43	2,43	—	—	—
	0,63	2,68	2,68	2,68	2,68	2,68	—	—	—
	0,75	3,64	3,64	3,64	3,64	3,64	—	—	—
	0,88	4,04	4,04	4,04	4,04	4,04	—	—	—
	1,00	4,41	4,41	4,41	4,41	4,41	—	—	—
$u$ [mm]	40	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	—	—	—
	$\geq 100$	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

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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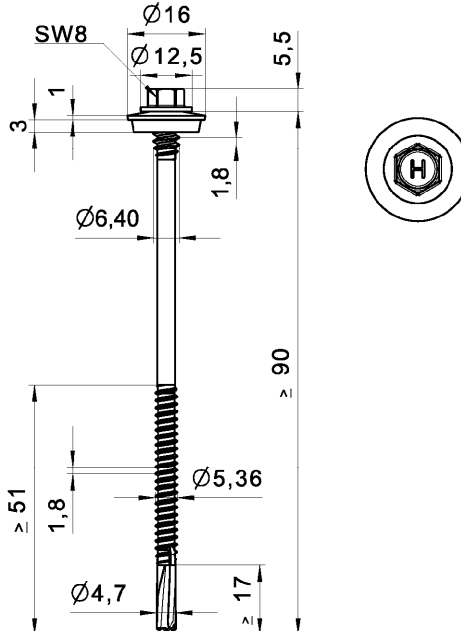
$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	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	—	—	—
	0,50	1,79	1,79	1,79	1,79	1,79	—	—	—
	0,55	2,20	2,20	2,20	2,20	2,20	—	—	—
	0,60	2,61	2,61	2,61	2,61	2,61	—	—	—
	0,63	2,86	2,86	2,86	2,86	2,86	—	—	—
	0,75	3,85	3,85	3,85	3,85	3,85	—	—	—
	0,88	4,15	4,15	4,15	4,15	4,15	—	—	—
	1,00	4,42	4,42	4,42	4,42	4,42	—	—	—
$u$ [mm]	40	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	—	—	—
	$\geq 100$	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	—	—	—

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  $\geq \varnothing 19 \text{ mm}$

Annex 13

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,80	0,80	0,80	0,80	0,80	—	—	—
	0,50	0,97	0,97	0,97	0,97	0,97	—	—	—
	0,55	1,19	1,19	1,19	1,19	1,19	—	—	—
	0,60	1,40	1,40	1,40	1,40	1,40	—	—	—
	0,63	1,53	1,53	1,53	1,53	1,53	—	—	—
	0,75	2,05	2,05	2,05	2,05	2,05	—	—	—
	0,88	2,29	2,29	2,29	2,29	2,29	—	—	—
	1,00	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	—	—	—
	0,50	1,63	1,63	1,63	1,63	1,63	—	—	—
	0,55	2,03	2,03	2,03	2,03	2,03	—	—	—
	0,60	2,43	2,43	2,43	2,43	2,43	—	—	—
	0,63	2,68	2,68	2,68	2,68	2,68	—	—	—
	0,75	3,64	3,64	3,64	3,64	3,64	—	—	—
	0,88	4,04	4,04	4,04	4,04	4,04	—	—	—
	1,00	4,41	4,41	4,41	4,41	4,41	—	—	—
$u$ [mm]	40	2,0	2,0	2,0	2,0	2,0	—	—	—
	50	3,0	3,0	3,0	3,0	3,0	—	—	—
	60	4,0	4,0	4,0	4,0	4,0	—	—	—
	70	4,7	4,7	4,7	4,7	4,7	—	—	—
	80	5,3	5,3	5,3	5,3	5,3	—	—	—
	90	6,0	6,0	6,0	6,0	6,0	—	—	—
	$\geq 100$	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	—	—	—

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

	<p><u>Material:</u></p> <p>Fastener: carbon steel, case hardened and coated</p> <p>Washer: aluminium alloy EN AW-5754 - EN 485</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{li}$ [mm]								
		4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [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	—	—	—
	$\geq 100$	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  $\geq \text{Ø}19 \text{ mm}$

Annex 15

	<div> <div>Material:</div> <div>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</div> <div>Washer: stainless Steel (1.4301) - EN 10088</div> <div>Component I: S280GD, S320GD, S350GD - EN 10346</div> <div>Component II: S235 - EN 10025-1 S280GD, S320GD - EN 10346</div> </div> <div> <div>Drilling capacity:</div> <div><math>\Sigma t_i \leq 12,00 \text{ mm}</math></div> </div> <div> <div>Timber substructures:</div> <div>no performance determined</div> </div>
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$t_{N1}, t_{N2}, d, D$ [mm]	3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	$\geq 12,0$
$V_{R,k}$ [kN]	0,40	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	—
	0,55	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	—
	0,63	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	—
	0,88	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	—
$N_{R,k}$ [kN]	0,40	—	—	—	—	—	—	—	—
	0,50	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	—
	0,60	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	—
	0,75	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	—
	1,00	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	—
	50	8,0	7,5	7,0	6,0	6,0	6,0	6,0	—
	60	10,0	9,5	9,0	8,0	8,0	8,0	8,0	—
	70	12,5	11,5	11,0	9,5	9,5	9,5	9,5	—
	80	15,0	14,0	13,0	11,0	11,0	11,0	11,0	—
	100	15,0	14,0	13,0	11,0	11,0	11,0	11,0	—
	120	15,0	14,0	13,0	11,0	11,0	11,0	11,0	—
	$\geq 140$	15,0	14,0	13,0	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 S320GD the values  $N_{R,k,II}$  may be increased by 8,3%.

Self drilling screw		Annex 16	
<div> <div>Hilti S-CDH 55 S 5,5 x L</div> <div>Hilti S-CDH 55 SS 5,5 x L</div> <div>with hexagon head and sealing washer Ø16 mm</div> </div>			

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 12,00</math> mm</p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	$\geq 12,0$
$V_{R,k}$ [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	—
	$\geq 140$	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 S320GD 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  $\geq \varnothing 19$  mm

Annex 17



	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 12,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	$\geq 12,0$
$V_{R,k}$ [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	—
	$\geq 140$	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 S320GD 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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 12,00</math> mm</p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]		$t_{II}$ [mm]								
		3,00	4,00	5,00	6,00	8,00	9,00	10,0	11,0	$\geq 12,0$
$V_{R,k}$ [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	—
	$\geq 140$	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 S320GD 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  $\geq \varnothing 19$  mm

Annex 19

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00</math> mm</p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	0,93	0,93	0,93	0,93	—	—	—
	0,55	1,12	1,12	1,12	1,12	1,12	—	—	—
	0,60	1,31	1,31	1,31	1,31	1,31	—	—	—
	0,63	1,42	1,42	1,42	1,42	1,42	—	—	—
	0,75	1,88	1,88	1,88	1,88	1,88	—	—	—
	0,88	2,33	2,33	2,33	2,33	2,33	—	—	—
	1,00	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	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	—	—	—
$u$ [mm]	40	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	—	—	—
	$\geq 100$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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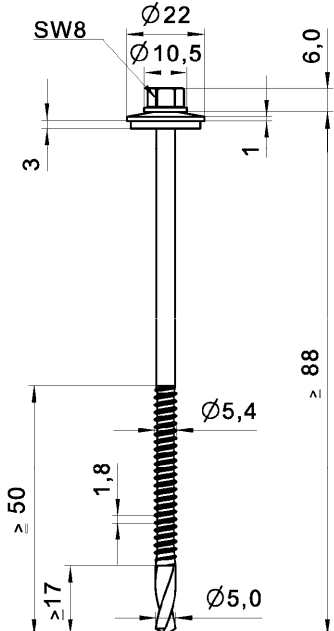
$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	—	—	—
$u$ [mm]	40	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	—	—	—
	$\geq 100$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,65	1,65	1,65	1,65	1,65	—	—	—
	0,50	1,77	1,77	1,77	1,77	1,77	—	—	—
	0,55	2,26	2,26	2,26	2,26	2,26	—	—	—
	0,60	2,74	2,74	2,74	2,74	2,74	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	—	—	—
	0,75	3,92	4,20	4,20	4,20	4,20	—	—	—
	0,88	3,92	4,32	4,32	4,32	4,32	—	—	—
	1,00	3,92	4,44	4,44	4,44	4,44	—	—	—
$u$ [mm]	40	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	—	—	—
	$\geq 100$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	0,93	0,93	0,93	0,93	—	—	—
	0,55	1,12	1,12	1,12	1,12	1,12	—	—	—
	0,60	1,31	1,31	1,31	1,31	1,31	—	—	—
	0,63	1,42	1,42	1,42	1,42	1,42	—	—	—
	0,75	1,88	1,88	1,88	1,88	1,88	—	—	—
	0,88	2,33	2,33	2,33	2,33	2,33	—	—	—
	1,00	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	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	—	—	—
$u$ [mm]	40	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	—	—	—
	$\geq 100$	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	—	—	—

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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,40	0,82	0,82	0,82	0,82	0,82	—	—	—
	0,50	0,93	1,12	1,30	1,30	1,30	—	—	—
	0,55	1,12	1,28	1,44	1,44	1,44	—	—	—
	0,60	1,31	1,45	1,58	1,58	1,58	—	—	—
	0,63	1,42	1,54	1,66	1,66	1,66	—	—	—
	0,75	1,88	1,94	2,00	2,00	2,00	—	—	—
	0,88	2,33	2,57	2,81	2,81	2,81	—	—	—
	1,00	2,74	3,15	3,56	3,56	3,56	—	—	—
$N_{R,k}$ [kN]	0,40	1,46	1,46	1,46	1,46	1,46	—	—	—
	0,50	1,89	1,89	1,89	1,89	1,89	—	—	—
	0,55	2,21	2,21	2,21	2,21	2,21	—	—	—
	0,60	2,53	2,53	2,53	2,53	2,53	—	—	—
	0,63	2,73	2,73	2,73	2,73	2,73	—	—	—
	0,75	3,50	3,50	3,50	3,50	3,50	—	—	—
	0,88	3,68	3,68	3,68	3,68	3,68	—	—	—
	1,00	3,84	3,84	3,84	3,84	3,84	—	—	—
$u$ [mm]	40	3,0	3,0	3,0	3,0	3,0	—	—	—
	50	4,5	4,5	4,5	4,5	4,5	—	—	—
	60	6,0	6,0	6,0	6,0	6,0	—	—	—
	70	7,4	7,4	7,4	7,4	7,4	—	—	—
	80	8,8	8,8	8,8	8,8	8,8	—	—	—
	90	10,1	10,1	10,1	10,1	10,1	—	—	—
	$\geq 100$	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

	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD, S350GD - EN 10346</p> <p>Component II: S235, S275, S355 - EN 10025-1 S280GD, S320GD, S350GD - EN 10346</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 15,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> no performance determined</p>
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$t_{N1}, t_{N2}, d, D$ [mm]	4,00	5,00	6,00	7,00	8,00	$\geq 10,0$	—	—	—
$V_{R,k}$ [kN]	0,82	0,82	0,82	0,82	0,82	0,82	—	—	—
$N_{R,k}$ [kN]	0,40	0,50	0,55	0,60	0,63	0,75	0,88	1,00	—
$u$ [mm]	40	50	60	70	80	90	$\geq 100$	$N_{R,k,II}$ [kN]	3,92
$N_{R,k,II}$ [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



	<p><u>Material:</u></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD - EN 10346</p> <p>Component II: Structural timber - EN 14081</p> <p><u>Drilling capacity:</u> <math>\Sigma t_i \leq 2,00 \text{ mm}</math></p> <p><u>Timber substructures:</u> performance determined with</p> <p><math>M_{y,Rk} = 9,741 \text{ Nm}</math> <math>f_{ax,k} = 10,769 \text{ N/mm}^2</math> for <math>l_{ef} \geq 50,0 \text{ mm}</math></p>
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$t_{N1}, t_{N2}$ [mm]		d, D [mm]								
		30	40	50	60	70	80	100	120	≥ 140
$V_{R,I,k}$ [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
$N_{R,I,k}$ [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]		3,15	3,15	3,15	3,15	3,15	3,15	3,15	3,15	3,15

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 ( $\rho_a = 350 \text{ kg/m}^3$ ). 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

	<p><b>Material:</b></p> <p>Fastener: stainless Steel (1.4301, 1.4401, 1.4571) - EN 10088</p> <p>Washer: stainless Steel (1.4301) - EN 10088</p> <p>Component I: S280GD, S320GD - EN 10346</p> <p>Component II: Structural timber - EN 14081</p> <p><b>Drilling capacity:</b> <math>\Sigma t_i \leq 2,00 \text{ mm}</math></p> <p><b>Timber substructures:</b> performance determined with</p> <p><math>M_{y,Rk} = 9,741 \text{ Nm}</math> <math>f_{ax,k} = 10,769 \text{ N/mm}^2</math> for <math>l_{ef} \geq 50,0 \text{ mm}</math></p>
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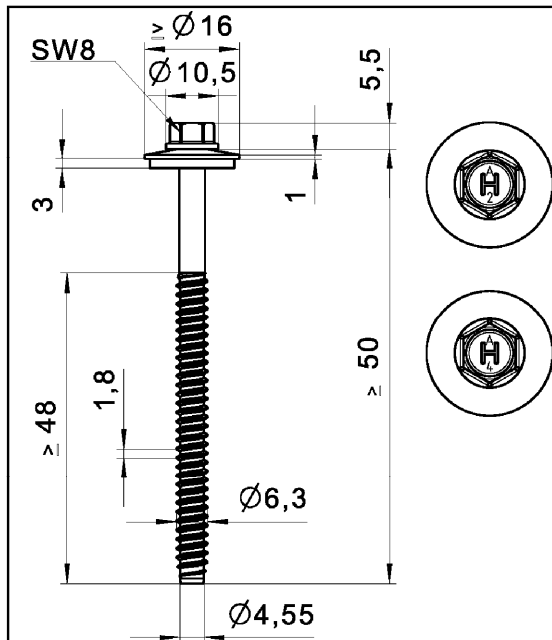
$t_{N1}, t_{N2}$ [mm]		d, D [mm]								
		30	40	50	60	70	80	100	120	≥ 140
$V_{R,i,k}$ [kN]	0,40	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
	0,50	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98	0,98
	0,55	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
	0,60	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37	1,37
	0,63	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
$N_{R,i,k}$ [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]		3,15	3,15	3,15	3,15	3,15	3,15	3,15	3,15	3,15

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 ( $\rho_a = 350 \text{ kg/m}^3$ ). 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  $\geq \text{Ø}19 \text{ mm}$

Annex 27



Material:

Fastener: stainless Steel (1.4301, 1.4404, 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

Pre-drill diameter: see Table below

Timber substructures:

no performance determined

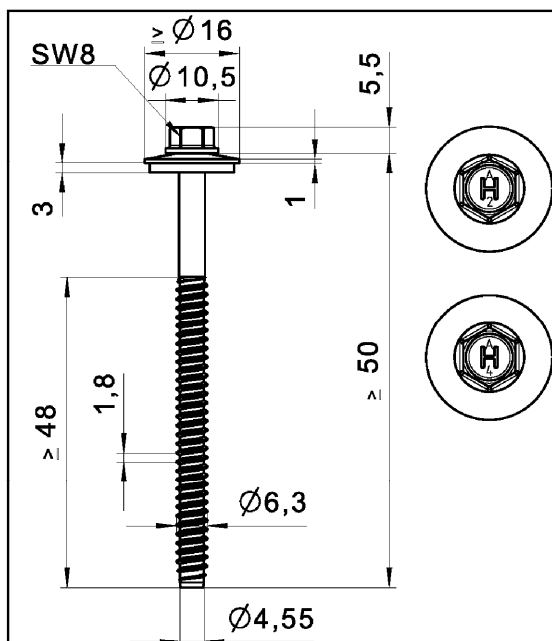
$t_{N1}, t_{N2}, d, D$ [mm]	1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	$\geq 10,0$
$V_{R,k}$ [kN]	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86
$N_{R,k}$ [kN]	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35
$u$ [mm]	1,60	1,60	1,60	1,60	1,60	1,60	1,60	1,60	1,60
	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85
	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60	2,60
	3,20	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	3,20	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
	1,59	1,59	1,59	1,59	1,59	1,59	1,59	1,59	1,59
	1,88	1,88	1,88	1,88	1,88	1,88	1,88	1,88	1,88
	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00	2,00
	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80
	3,60	3,60	3,60	3,60	3,60	3,60	3,60	3,60	3,60
	3,60	4,10	4,40	4,40	4,40	4,40	4,40	4,40	4,40
	3,60	4,10	4,45	4,80	4,90	4,90	4,90	4,90	4,90
	12,0	5,0	5,0	5,0	4,0	4,0	4,0	4,0	4,0
	13,5	7,0	7,0	7,0	5,0	5,0	5,0	4,5	4,5
	15,0	9,0	9,0	9,0	6,0	6,0	6,0	6,0	6,0
	17,5	11,0	11,0	11,0	7,0	7,0	7,0	7,0	7,0
	20,0	13,0	13,0	13,0	8,0	8,0	8,0	8,0	8,0
	22,5	14,5	14,5	14,5	9,0	9,0	9,0	9,0	9,0
	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  $\geq \text{Ø}16$  mm

Annex 28



Material:

Fastener: stainless Steel (1.4301, 1.4404, 1.4571) - EN 10088

Washer: stainless Steel (1.4301) - EN 10088

Component I: S280GD, S320GD, S350GD, S390GD, S420GD - EN 10346

Component II: S235, S275, S355 - EN 10025-1  
S280GD, S320GD, S350GD, S390GD, S420GD - EN 10346

Predrill diameter: see Table below

Timber substructures:

no performance determined

$t_{N1}, t_{N2}, d, D$ [mm]	1,50	2,00	2,50	3,00	4,00	5,00	6,00	8,00	$\geq 10,0$
$V_{R,k}$ [kN]	0,40	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
	0,55	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
	0,63	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
	0,88	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
$N_{R,k}$ [kN]	1,00	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
	0,40	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
	0,55	1,59	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
	0,63	1,59	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
$u$ [mm]	0,88	1,59	3,43	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
	30	20,0	12,0	4,0	4,0	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
	50	33,0	15,5	6,5	6,5	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
	70	40,0	20,5	10,0	10,0	6,0	6,0	6,0	6,0
$N_{R,k,II}$ [kN]	80	40,0	24,0	12,0	12,0	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
	120	40,0	36,0	18,0	18,0	10,0	10,0	10,0	10,0
$\geq 140$	40,0	40,0	21,0	21,0	11,5	11,5	11,5	11,5	11,5
$d_{pd}$ [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  $\geq \text{Ø}16$  mm

Annex 29