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to Article 29 of the Regulation (EU)
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MEMBER OF EOTA



European Technical Assessment ETA-22/0568 of 2023/08/24

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the
construction product:

BiGHTY BIM DSS, BiGHTY DSS, BiGHTY BIM HF
and BiGHTY BIM DBS DSS Screws

Product family to which the
above construction product
belongs:

Fastening screws for metal members and sheeting

Manufacturer:

EuroTec GmbH
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DE-58099 Hagen
Telephone +49 2331 62450
Internet: www.eurotec.team

Manufacturing plant:

HSW 42, HSW 51

This European Technical
Assessment contains:

48 pages including 42 annexes which form an integral
part of the document

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

EAD 330046-01-0602 – Fastening screws for metal
members and sheeting

This version replaces:

The ETA with the same number issued on 2022-12-22

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II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

The BiGHTY BIM DSS, BiGHTY DSS, BiGHTY BIM HF and BiGHTY BIM DBS DSS Screws are self-drilling and self-tapping screws listed in Table 1. The fastening screws are made of carbon steel, austenitic stainless steel or a bimetal combination with drill bits made of galvanized/painted carbon steel. They are normally partly completed with metallic washers and EPDM sealing rings.

The components identified in Table 1 have the geometrical characteristics defined in the Annexes and are factory produced by different manufacturing plants.

Screw	washer	Material of components		Annex
		comp I	comp II	
BiGHTY BIM DSS 4,8 x L, reduced drill bit	≥ 14,0 mm	steel	steel	4
	≥ 16,0 mm	steel	steel	5
BiGHTY DSS 4,8 x L, reduced drill bit	≥ 14,0 mm	steel	steel	6
	≥ 16,0 mm	steel	steel	7
BiGHTY BIM DSS 4,8 x L	≥ 14,0 mm	steel	steel	8
	≥ 16,0 mm	steel	steel	9
BiGHTY DSS 4,8 x L	≥ 14,0 mm	steel	steel	10
	≥ 16,0 mm	steel	steel	11
BiGHTY BIM DSS 5,5 x L	≥ 14,0 mm	steel	steel	12
	≥ 16,0 mm	steel	steel	13
	≥ 19,0 mm	steel	steel	14
BiGHTY DSS 5,5 x L	≥ 14,0 mm	steel	steel	15
	≥ 16,0 mm	steel	steel	16
	≥ 19,0 mm	steel	steel	17
BiGHTY BIM DSS 5,5 x L	≥ 14,0 mm	steel	steel	18
	≥ 16,0 mm	steel	steel	19
	≥ 19,0 mm	steel	steel	20
BiGHTY DSS 5,5 x L	≥ 14,0 mm	steel	steel	21
	≥ 16,0 mm	steel	steel	22
	≥ 19,0 mm	steel	steel	23
BiGHTY BIM DSS 6,3 x L	≥ 14,0 mm	steel	steel	24
	≥ 16,0 mm	steel	steel	25
	≥ 19,0 mm	steel	steel	26
BiGHTY DSS 6,3 x L	≥ 14,0 mm	steel	steel	27
	≥ 16,0 mm	steel	steel	28
	≥ 19,0 mm	steel	steel	29
BiGHTY BIM DSS 6,5 x L	≥ 14,0 mm	steel	timber	30
	≥ 16,0 mm	steel	timber	31
	≥ 19,0 mm	steel	timber	32
BiGHTY DSS 6,5 x L	≥ 14,0 mm	steel	timber	33
	≥ 16,0 mm	steel	timber	34
	≥ 19,0 mm	steel	timber	35

Screw	washer	Material of components		Annex
		comp I	comp II	
BiGHTY BIM DBS DSS 4,5	≥ 14,0 mm	steel	steel	36
	≥ 14,0 mm	aluminum	aluminum	37
	≥ 14,0 mm	aluminum	steel	38
BiGHTY BIM DBS DSS 6,0	≥ 16,0 mm	steel	steel	39
	≥ 16,0 mm	aluminum	aluminum	40
	≥ 16,0 mm	aluminum	steel	41
BiGHTY BIM HF 5,5 x 60	-	aluminum	aluminum	42

Table 1: Fastening screws included in this ETA.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The BiGHTY BIM DSS, BiGHTY DSS, BiGHTY BIM HF and BiGHTY BIM DBS DSS Screws are intended to be used for fastening metal sheeting to metal or timber supporting substructures. The sheeting can either be used as wall or roof cladding or as load bearing wall and roof element. The intended use comprises fastening screws and connections for indoor and outdoor applications. Fastening screws which are intended to be used in external environments with \geq C2 corrosion according to the standard EN ISO 12944-2 are made of stainless steel. Furthermore the intended use comprises connections with predominantly static loads (e.g., wind loads, dead loads).

The fastening screws for metal members and sheeting are not intended for re-use.

The installation should be carried out according to the ETA holder's specifications, using the specific kit components, manufactured by suppliers of the ETA holder and carried out by appropriately qualified staff with supervision of the technical responsible of the site.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of at least 25 years, that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met.

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 product 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.

Characteristic	Assessment of characteristic
3.1 Mechanical resistance and stability (BWR 1)	
Shear resistance of the connection	See information in annex 4-41
Tension resistance of the connection	See information in annex 4-41
Design resistance in case of combined tension and shear forces (interaction)	See annex 2 for calculation
Check of deformation capacity in case of constraining forces due to temperature	No performance assessed
Durability	No testing needed for stainless steel screws For the corrosion protection the rules given in EN 1993-1-3, EN 1993-1-4 and EN 1999-1-4 shall be taken into account. Fastening screws which are intended to be used in external environments with $\geq C2$ corrosion according to the standard EN ISO 12944-2 shall be made of stainless steel, see table 1 Fastening screws which are intended to be used internal environments with C1 corrosion according to the standard EN ISO 12944-2 shall be made of carbon steel case hardened and galvanized, see table 1
3.2 Safety in case of fire (BWR 2)	
Reaction to fire	The BiGHTY BIM DSS, BiGHTY DSS, BiGHTY BIM HF and BiGHTY BIM DBS DSS Screws are classified as Euroclass A1 in accordance with EN 13501-1 and Commission Delegated Regulation 2016/364 on the basis of EC Decision 96/603/EC (as amended) without the need for further testing.
3.8 Methods of verification	
The product is fully covered by EAD EAD 330046-01-0602.	
3.9 General aspects related to the fitness for use of the product.	
The European Technical Assessment is issued for the product based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.	
The BiGHTY BIM DSS, BiGHTY DSS, BiGHTY BIM HF and BiGHTY BIM DBS DSS Screws are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.	

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

4.1 AVCP system

According to the decision 1998/214/ECEC of the European Commission, as amended by 2001/596/EC, the system(s) of assessment and verification of constancy of performance (see Annex III to Regulation (EU) No 305/2011) is 2+.

5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD.

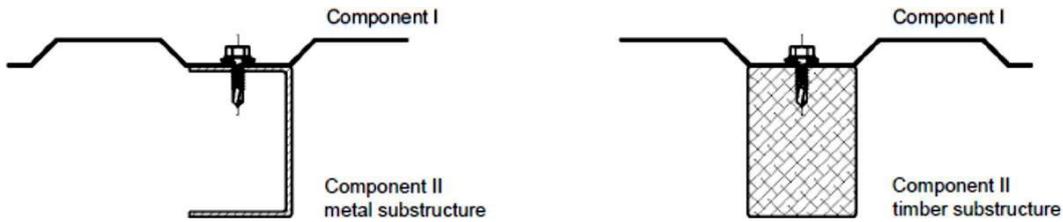
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2023-08-24 by



Thomas Bruun
Managing Director, ETA-Danmark

Examples of execution of a connection



Terms for materials

Fastener	Fastening screw
Washer	Sealing washer
Component I	Metal member or sheeting
Component II	Substructure

Terms for dimensions

t_I	Thickness of metal member or sheeting
t_{II}	Thickness of metal substructure
$\Sigma(t_i)$	Sum of the thicknesses of all components
l_{ef}	Effective screw-in length in timber substructure (without drill point)
d_{dp}	Pre-drill diameter of metal member or sheeting and substructure
$d_{dp,I}$	Pre-drill diameter of metal member or sheeting

Terms for performances

$V_{R,k}$	Characteristic value of shear resistance of the connection
$N_{R,k}$	Characteristic value of tension resistance of the connection
$V_{R,I,k}$	Characteristic value of shear resistance of metal member or sheeting
$N_{R,I,k}$	Characteristic value of tension resistance (pull-through) of metal member or sheeting
$N_{R,II,k}$	Characteristic value of tension resistance (pull-out) of the substructure

Additionally for timber substructure the following terms are used:

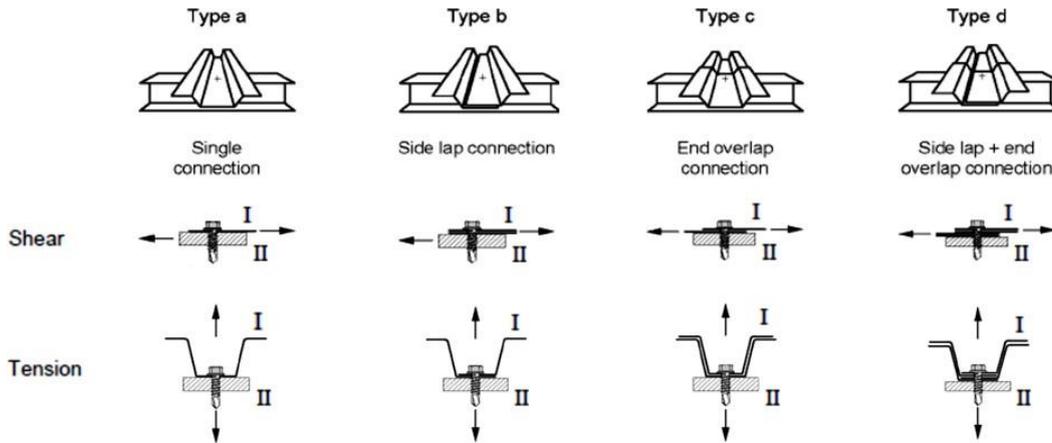
$M_{y,Rk}$	Characteristic value of yield moment
$f_{ax,k}$	Characteristic value of withdrawal strength
$f_{h,k}$	Characteristic value of embedding strength

Used terms in the Annexes

Fastening screws for metal members and sheeting

Annex 1

Types of connection and occurred loadings



Determination of Design Values

The design value of tension and shear resistance has to be determined as follows:

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

The characteristic values $N_{R,k}$ and $V_{R,k}$ are given in the Annexes. For intermediate dimension of metal member or sheeting or substructure the characteristic value of the thinner dimension is used.

The recommended partial safety factor $\gamma_M = 1,33$ is used, provided no partial safety factor is given in national regulations or national Annexes to Eurocode 3.

For the types of connection (a, b, c, d) listed in the Annexes it is not necessary to take into account the effect of constrains due to temperature. Otherwise this has to be considered unless constrains due to temperature do not occur or are not significant (e.g. sufficient flexibility of the substructure).

For asymmetric metal substructures with thickness $t_{II} < 5$ mm (for instance Z- or C-shaped profiles), the characteristic value $N_{R,k}$ given in the Annexes has to be reduced to 70%.

In case of combined tension and shear forces the following interaction equation is taken into account:

$$\frac{N_{S,d}}{N_{R,d}} + \frac{V_{S,d}}{V_{R,d}} \leq 1,0$$

$N_{S,d}$ and $V_{S,d}$ indicates the design values of applied tension and shear forces.

Installation conditions

The installation is carried out according to the manufacturer's instructions.

The fastening screws are screwed-in with electric screw driver. The use of impact wrenches is not allowed.

The fastening screws are fixed rectangular to the surface of the metal member or sheeting.

The metal member or sheeting and substructure are in contact to each other. The use of compression resistant thermal insulation strips up to a thickness of 3 mm is allowed.

The thickness (or minimum thickness) of metal substructure needs to be covered by the clamping length of the fastening screw. Otherwise only the screwed-in clamping length of the fastening screw may be considered.

Basics for the design	Annex 2
Fastening screws for metal members and sheeting	

Timber substructures

Characteristic values of tension and shear resistance of the connection for other k_{mod} or ρ_k as indicated in the Annexes can be determined as follows:

$$N_{R,k} = \min \left\{ \frac{N_{R,I,k}}{F_{ax,Rk}} * k_{mod} \quad V_{R,k} = \min \left\{ \frac{V_{R,I,k}}{F_{v,Rk}} * k_{mod} \right. \right.$$

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

$F_{ax,Rk}$ indicates the characteristic value of tension resistance of timber substructure. The value has to be determined according to EN 1995-1-1:2004 + A1:2008, equation (8.40a) with $f_{ax,k}$ given in the corresponding Annex of the fastening screw.

$F_{v,Rk}$ indicates the characteristic shear resistance of timber substructure. The value has to be determined according to EN 1995-1-1:2004 + A1:2008, equation (8.9) with $M_{y,Rk}$ and $f_{h,k}$ given in the corresponding Annex of the fastening screw.

Aluminium members and sheeting

Characteristic values of tension resistance of the connection can be determined as follows:

$$N_{R,k} = \min \left\{ \begin{array}{l} N_{R,I,k} \\ N_{R,II,k} \end{array} \right.$$

The characteristic value $N_{R,I,k}$ has to be determined according to EN 1999-1-4:2007 + AC:2009, equation (8.13).

The characteristic value $N_{R,II,k}$ is given in the corresponding Annex of the fastening screw.

Specific notes to the Annexes	Annex 3
Fastening screws for metal members and sheeting	

Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

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

Timber substructures

for timber substructures no performance determined

	$t_{N,II} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50
$V_{R,k}$ für $t_{N,I} =$	0,40	0,64 ^{a)} —									
	0,50	0,64 ^{a)} —	0,91 ^{a)} —								
	0,55	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	— —						
	0,63	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	— —					
	0,75	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	— —				
	0,88	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	— —	— —
	1,00	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,80 ^{a)} —	— —	— —	— —
	1,13	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	— —	— —	— —	— —
	1,25	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	— —	— —	— —	— —	— —
	1,50	0,64 ^{a)} —	0,91 ^{a)} —	— —	— —	— —	— —	— —	— —	— —	— —
$N_{R,k}$ für $t_{N,I} =$	0,40	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,25 ^{a)} —				
	0,50	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,70 ^{a)} —	1,70 ^{a)} —	1,70 ^{a)} —
	0,55	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,92 —	1,92 ^{a)} —	— —
	0,63	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	2,24 —	— —
	0,75	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	2,27 —	— —
	0,88	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	— —	— —
	1,00	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	— —	— —	— —
	1,13	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	— —	— —	— —	— —
	1,25	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	— —	— —	— —	— —	— —
	1,50	0,45 ^{a)} —	0,55 ^{a)} —	— —	— —	— —	— —	— —	— —	— —	— —

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 4
BiGHTY BIM DSS 4,8 x L, reduced drill bit with hexagon head or round head with Torx® drive system and seal washer ≥ Ø14 mm	

Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity $\Sigma t_i \leq 2,00$ mm

Timber substructures

for timber substructures no performance determined

$t_{N,II} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50
$V_{R,k}$ für $t_{N,I} =$	0,40	0,64 ^{a)} —	0,64 ^{a)} —	0,64 ^{a)}	0,64 ^{a)} —					
	0,50	0,64 ^{a)} —	0,91 ^{a)} —	— 0,91 ^{a)}	0,91 ^{a)} —					
	0,55	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,03 ^{a)} —	— —				
	0,63	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	— —				
	0,75	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	— —
	0,88	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	— —
	1,00	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,80 ^{a)} —	— —	— —
	1,13	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	— —	— —	— —
	1,25	0,64 ^{a)} —	0,91 ^{a)} —	— 1,03 ^{a)}	1,22 ^{a)} —	1,53 ^{a)} —	— —	— —	— —	— —
	1,50	0,64 ^{a)} —	0,91 ^{a)} —	— —	— —	— —	— —	— —	— —	— —
$N_{R,k}$ für $t_{N,I} =$	0,40	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,40 ^{a)} —	1,40 ^{a)} —	1,40 ^{a)} —
	0,50	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,83 ^{a)} —	1,83 ^{a)} —
	0,55	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,92 ^{a)} —	2,04 ^{a)} —
	0,63	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	— —
	0,75	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	— —
	0,88	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	— —
	1,00	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	— —	— —
	1,13	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	— —	— —	— —
	1,25	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	— —	— —	— —	— —
	1,50	0,45 ^{a)} —	0,55 ^{a)} —	— —	— —	— —	— —	— —	— —	— —

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 5
BiGHTY BIM DSS 4,8 x L, reduced drill bit with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 16$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity $\Sigma t_i \leq 2,00$ mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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$t_{N,II} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50
$V_{R,k}$ für $t_{N,I} =$	0,40	0,64 ^{a)} —								
	0,50	0,64 ^{a)} —	0,91 ^{a)} —							
	0,55	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	— —					
	0,63	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	— —				
	0,75	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	1,53 ^{a)} —	— —
	0,88	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	— —
	1,00	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,80 ^{a)} —	— —	— —
	1,13	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	— —	— —	— —
	1,25	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	— —	— —	— —	— —
	1,50	0,64 ^{a)} —	0,91 ^{a)} —	— —	— —	— —	— —	— —	— —	— —
$N_{R,k}$ für $t_{N,I} =$	0,40	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,25 ^{a)} —	1,25 ^{a)} —	1,25 ^{a)} —	1,25 ^{a)} —
	0,50	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,70 ^{a)} —	1,70 ^{a)} —
	0,55	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,92 ^{a)} —	— —
	0,63	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	2,24 ^{a)} —
	0,75	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	2,27 ^{a)} —
	0,88	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 ^{a)} —	— —
	1,00	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	— —	— —
	1,13	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	— —	— —	— —
	1,25	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	— —	— —	— —	— —
	1,50	0,45 ^{a)} —	0,55 ^{a)} —	— —	— —	— —	— —	— —	— —	— —

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 6
BiGHTY DSS 4,8 x L, reduced drill bit with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}14$ mm	

Materials

Fastener: carbon steel quenched, tempered and galvanized

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

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

Timber substructures

for timber substructures no performance determined

$t_{N,II} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50
$V_{R,k}$ für $t_{N,I} =$	0,40	0,64 ^{a)} —								
	0,50	0,64 ^{a)} —	0,91 ^{a)} —							
	0,55	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —						
	0,63	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —					
	0,75	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —				
	0,88	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —	2,17 ^{a)} —
	1,00	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	2,80 ^{a)} —	---	---
	1,13	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	2,17 ^{a)} —	---	---	---
	1,25	0,64 ^{a)} —	0,91 ^{a)} —	1,03 ^{a)} —	1,22 ^{a)} —	1,53 ^{a)} —	---	---	---	---
	1,50	0,64 ^{a)} —	0,91 ^{a)} —	---	---	---	---	---	---	---
	$N_{R,k}$ für $t_{N,I} =$	0,40	0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,40 ^{a)} —	1,40 ^{a)} —
0,50		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,83 —	1,83 ^{a)} —
0,55		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,92 —	2,04 ^{a)} —
0,63		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	2,27 —
0,75		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	2,27 —
0,88		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	1,96 —	---
1,00		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	1,64 ^{a)} —	---	---
1,13		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	1,36 ^{a)} —	---	---	---
1,25		0,45 ^{a)} —	0,55 ^{a)} —	0,66 ^{a)} —	0,82 ^{a)} —	1,08 ^{a)} —	---	---	---	---
1,50		0,45 ^{a)} —	0,55 ^{a)} —	---	---	---	---	---	---	---

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 7
BiGHTY DSS 4,8 x L, reduced drill bit with hexagon head or round head with Torx® drive system and seal washer ≥ Ø16 mm	

Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity $\Sigma t_i \leq 3,00$ mm

Timber substructures

for timber substructures no performance determined

	tN,II =	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00
VR,k für tN,I =	0,40	0,56 ^{a)}											
	0,50	0,56 ^{a)}	0,74 ^{a)}										
	0,55	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}									
	0,63	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,50 ^{a)}							
	0,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}							
	0,88	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}						
	1,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}					
	1,13	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}					
	1,25	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---				
	1,50	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---
	1,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---	---
	2,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---	---	---	---	---
	NR,k für tN,I =	0,40	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}
0,50		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	1,70 ^{a)}	1,70 ^{a)}	1,70 ^{a)}
0,55		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	1,92 ^{a)}	1,92 ^{a)}	1,92 ^{a)}
0,63		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,24	2,24 ^{a)}	2,24 ^{a)}
0,75		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,78	2,78 ^{a)}
0,88		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90	3,46
1,00		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90	3,52
1,13		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90	---
1,25		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90	---
1,50		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	---	---
1,75		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	---	---	---
2,00		0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	---	---	---	---	---

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 8
BiGHTY BIM DSS 4,8 x L with hexagon head or round head with Torx® drive system and seal washer ≥ Ø14 mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 3,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00
VR,k für $t_{N,j} =$	0,40	0,56 ^{a)}										
	0,50	0,56 ^{a)}	0,74 ^{a)}									
	0,55	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}								
	0,63	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,50 ^{a)}						
	0,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}						
	0,88	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}					
	1,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,13	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,25	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,50	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---
	1,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---
	2,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---	---	---	---
NR,k für $t_{N,j} =$	0,40	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,40 ^{a)}	1,40 ^{a)}	1,40 ^{a)}	1,40 ^{a)}
	0,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	1,83 ^{a)}	1,83 ^{a)}
	0,55	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,04 ^{a)}	2,04 ^{a)}
	0,63	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,37 ^{a)}
	0,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,88 ^{a)}
	0,88	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}
	1,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	3,46 ^{a)}
	1,13	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}
	1,25	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}
	1,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	---
	1,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	---	---
	2,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	---	---	---	---

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 9
BiGHTY BIM DSS 4,8 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}16$ mm	

Materials

Fastener: carbon steel quenched, tempered and galvanized

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity $\Sigma t_i \leq 3,00$ mm

Timber substructures

for timber substructures no performance determined

tN,II =	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00
VR,k für tN,I =	0,40	0,56 ^{a)}										
	0,50	0,56 ^{a)}	0,74 ^{a)}									
	0,55	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}								
	0,63	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,50 ^{a)}						
	0,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}						
	0,88	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}					
	1,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,13	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,25	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}				
	1,50	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---
	1,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---
	2,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---	---	---	---
NR,k für tN,I =	0,40	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}
	0,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	1,70 ^{a)}	1,70 ^{a)}
	0,55	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	1,92 ^{a)}	1,92 ^{a)}
	0,63	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	---	2,24 ^{a)}
	0,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,24	2,24 ^{a)}
	0,88	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,78 ^{a)}
	1,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90
	1,13	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	2,90
	1,25	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	---
	1,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	2,28	---
	1,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42	1,64	---	---
	2,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	---	---	---	---

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 10
BIGHTY DSS 4,8 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 14$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 3,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

	tN _{II} =	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00
VR,k für tN _I =	0,40	0,56 ^{a)}											
	0,50	0,56 ^{a)}	0,74 ^{a)}										
	0,55	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}									
	0,63	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,50 ^{a)}							
	0,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}							
	0,88	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}						
	1,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}					
	1,13	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---				
	1,25	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---				
	1,50	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---
1,75	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	2,40 ^{a)}	---	---	---	
2,00	0,56 ^{a)}	0,74 ^{a)}	0,86 ^{a)}	1,05 ^{a)}	1,35 ^{a)}	1,88 ^{a)}	2,40 ^{a)}	---	---	---	---	---	
NR,k für tN _I =	0,40	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,40 ^{a)}				
	0,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	1,83 ^{a)}	1,83 ^{a)}	1,83 ^{a)}
	0,55	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,04 ^{a)}	2,04 ^{a)}	2,04 ^{a)}
	0,63	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,37 ^{a)}	2,37 ^{a)}
	0,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,88 ^{a)}	2,88 ^{a)}
	0,88	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}	3,46 ^{a)}
	1,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}	3,52 ^{a)}
	1,13	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}	---
	1,25	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	2,90 ^{a)}	---
	1,50	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	2,28 ^{a)}	---	---
1,75	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	1,42 ^{a)}	1,64 ^{a)}	---	---	---	
2,00	0,30 ^{a)}	0,42 ^{a)}	0,48 ^{a)}	0,57 ^{a)}	0,71 ^{a)}	0,96 ^{a)}	1,20 ^{a)}	---	---	---	---	---	

If both components I and II are made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

<p>self drilling screw</p>	<p>Annex 11</p>
<p>BIGHTY DSS 4,8 x L with hexagon head or round head with Torx® drive system and seal washer ≥ Ø16 mm</p>	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	1,50	1,75	2,00	3,00	4,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,41 ^{a)} ac				
	0,55	1,68 —	1,68 ^{a)} ac	1,68 ^{a)} ac	1,68 ^{a)} ac	1,68 ^{a)} a
	0,63	1,89 —	2,09 ^{a)} —	2,09 ^{a)} ac	2,09 ^{a)} ac	2,09 ^{a)} a
	0,75	1,89 —	2,24 —	2,52 —	2,52 ^{a)} ac	2,52 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	2,99 ^{a)} ac	2,99 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	3,44 ^{a)} ac	3,44 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	3,89 ^{a)} —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,29 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

<p>self drilling screw</p>	<p>Annex 12</p>
<p>BiGHTY BIM DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}14$ mm</p>	

Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity Σt_i ≤ 5,00 mm

Timber substructures

for timber substructures no performance determined

	t _{N,II} =	1,50	1,75	2,00	3,00	4,00
V _{R,k} für t _{N,I} =	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
N _{R,k} für t _{N,I} =	0,50	1,60 ^{a)} ac	1,61 ^{a)} ac	1,61 ^{a)} ac	1,61 ^{a)} ac	1,61 ^{a)} ac
	0,55	1,79 —	1,91 ^{a)} ac	1,91 ^{a)} ac	1,91 ^{a)} ac	1,91 ^{a)} a
	0,63	1,89 —	2,24 —	2,37 ^{a)} ac	2,37 ^{a)} ac	2,37 ^{a)} a
	0,75	1,89 —	2,24 —	2,58 —	3,13 ^{a)} ac	3,13 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	3,61 ^{a)} ac	3,61 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	4,08 ^{a)} ac	4,08 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	4,84 —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 13
BiGHTY BIM DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer ≥ Ø16 mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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$t_{N,II} =$	1,50	1,75	2,00	3,00	4,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,85 ac	1,85 ac	1,85 ^{a)} ac	1,85 ^{a)} ac	1,85 ^{a)} ac
	0,55	1,89 —	2,20 ac	2,20 ac	2,20 ^{a)} ac	2,20 ^{a)} a
	0,63	1,89 —	2,24 —	2,58 ac	2,73 ^{a)} ac	2,73 ^{a)} a
	0,75	1,89 —	2,24 —	2,58 —	3,60 ^{a)} ac	3,60 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	4,15 ^{a)} ac	4,15 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	4,69 ac	4,69 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 14
BiGHTY BIM DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 19$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
<p>Drilling capacity</p>	<p>$\Sigma t_i \leq 5,00$ mm</p>
<p>Timber substructures</p>	<p>for timber substructures no performance determined</p>

$t_{N,II} =$	1,50	1,75	2,00	3,00	4,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,41 ^{a)} ac				
	0,55	1,68 —	1,68 ^{a)} ac	1,68 ^{a)} ac	1,68 ^{a)} ac	1,68 ^{a)} a
	0,63	1,89 —	2,09 ^{a)} —	2,09 ^{a)} ac	2,09 ^{a)} ac	2,09 ^{a)} a
	0,75	1,89 —	2,24 —	2,52 —	2,52 ^{a)} ac	2,52 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	2,99 ^{a)} ac	2,99 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	3,44 ^{a)} ac	3,44 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	3,89 ^{a)} —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,29 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

<p>self drilling screw</p>	<p>Annex 15</p>
<p>BIGHTY DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 14$ mm</p>	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	1,50	1,75	2,00	3,00	4,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,61 ^{a)} ac				
	0,55	1,89 —	1,91 ^{a)} ac	1,91 ^{a)} ac	1,91 ^{a)} ac	1,91 ^{a)} a
	0,63	1,89 —	2,24 —	2,37 ^{a)} ac	2,37 ^{a)} ac	2,37 ^{a)} a
	0,75	1,89 —	2,24 —	2,58 —	3,13 ^{a)} ac	3,13 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	3,61 ^{a)} ac	3,61 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	4,08 ^{a)} ac	4,08 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	4,84 —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

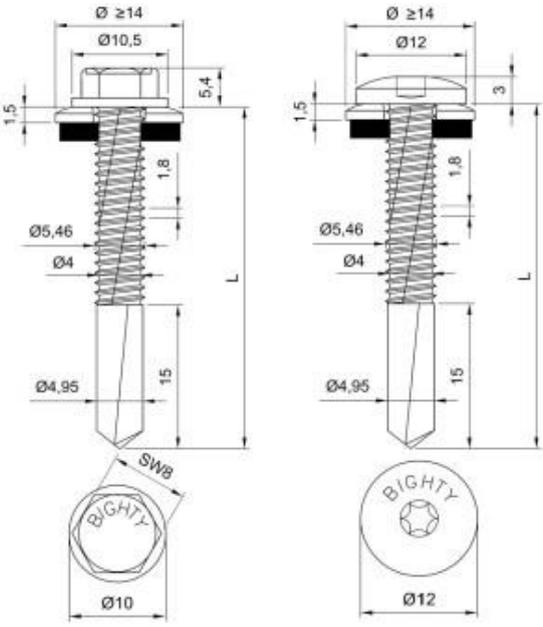
self drilling screw	Annex 16
BiGHTY DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 16$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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$t_{N,II} =$	1,50	1,75	2,00	3,00	4,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,57 ^{a)} ac				
	0,55	1,72 ^{a)} —	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} ac	1,72 ^{a)} a
	0,63	1,94 ^{a)} —	1,94 ^{a)} —	1,94 ^{a)} ac	1,94 ^{a)} ac	1,94 ^{a)} a
	0,75	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} —	2,31 ^{a)} ac	2,31 ^{a)} a
	0,88	2,65 ^{a)} —	2,75 ^{a)} —	2,85 ^{a)} —	3,25 ^{a)} ac	3,25 ^{a)} a
	1,00	2,98 ^{a)} —	3,18 ^{a)} —	3,38 ^{a)} —	4,18 ^{a)} ac	4,18 ^{a)} a
	1,13	3,47 —	3,62 —	3,77 —	4,37 —	— —
	1,25	3,96 —	4,06 —	4,16 —	4,56 —	— —
	1,50	4,94 —	4,94 —	4,94 —	4,94 —	— —
	1,75	4,94 —	4,94 —	4,94 —	4,94 —	— —
	2,00	4,94 —	4,94 —	4,94 —	4,94 —	— —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,85 ac	1,85 ac	1,85 ^{a)} ac	1,85 ^{a)} ac	1,85 ^{a)} ac
	0,55	1,89 —	2,20 ac	2,20 ac	2,20 ^{a)} ac	2,20 ^{a)} a
	0,63	1,89 —	2,24 —	2,58 ac	2,73 ^{a)} ac	2,73 ^{a)} a
	0,75	1,89 —	2,24 —	2,58 —	3,60 ^{a)} ac	3,60 ^{a)} a
	0,88	1,89 —	2,24 —	2,58 —	4,15 ^{a)} ac	4,15 ^{a)} a
	1,00	1,89 —	2,24 —	2,58 —	4,69 ac	4,69 ^{a)} a
	1,13	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,25	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,50	1,89 —	2,24 —	2,58 —	4,88 —	— —
	1,75	1,89 —	2,24 —	2,58 —	4,88 —	— —
	2,00	1,89 —	2,24 —	2,58 —	4,88 —	— —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

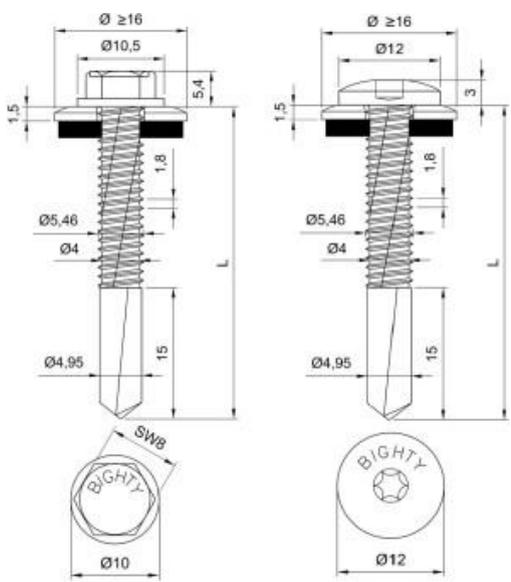
self drilling screw	Annex 17
BIGHTY DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}19$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
<p>Drilling capacity $\Sigma t_i \leq 12,00$ mm</p>	
<p>Timber substructures</p> <p>for timber substructures no performance determined</p>	

$t_{N,II} =$	4,00	5,00	6,00	8,00	10,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,62 ^{a)} ac				
	0,55	1,90 ^{a)} ac				
	0,63	2,33 ^{a)} ac				
	0,75	3,04 ^{a)} ac				
	0,88	3,74 ^{a)} ac				
	1,00	4,45 ^{a)} ac				
	1,13	4,45 ^{a)} —				
	1,25	4,45 ^{a)} —				
	1,50	4,45 ^{a)} —				
	1,75	4,45 ^{a)} —				
	2,00	4,45 ^{a)} —				
$N_{R,k}$ für $t_{N,I} =$	0,50	1,60 ^{a)} ac	1,60 ^{a)} ac	1,60 ^{a)} ac	1,60 ^{a)} ac	1,41 ^{a)} ac
	0,55	1,79 ^{a)} ac	1,79 ^{a)} ac	1,79 ^{a)} ac	1,79 ^{a)} ac	1,68 ^{a)} a
	0,63	2,07 ^{a)} ac	2,07 ^{a)} ac	2,07 ^{a)} ac	2,07 ^{a)} ac	2,09 ^{a)} a
	0,75	2,52 ^{a)} ac	2,52 ^{a)} ac	2,52 ^{a)} ac	2,52 ^{a)} ac	2,52 ^{a)} a
	0,88	2,99 ^{a)} ac	2,99 ^{a)} ac	2,99 ^{a)} ac	2,99 ^{a)} ac	2,99 ^{a)} a
	1,00	3,44 ^{a)} ac	3,44 ^{a)} ac	3,44 ^{a)} ac	3,44 ^{a)} ac	3,44 ^{a)} a
	1,13	3,89 ^{a)} —	3,89 ^{a)} —	3,89 ^{a)} —	3,89 ^{a)} —	3,89 ^{a)} a
	1,25	4,29 ^{a)} —	4,29 ^{a)} —	4,29 ^{a)} —	4,29 ^{a)} —	4,29 ^{a)} a
	1,50	5,23 ^{a)} —				
	1,75	5,23 ^{a)} —				
	2,00	5,23 ^{a)} —				

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 18
<p>BiGHTY BIM DSS 5,5 x L</p> <p>with hexagon head or round head with Torx® drive system and seal washer $\geq \varnothing 14$ mm</p>	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 12,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	4,00	5,00	6,00	8,00	10,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,62 ^{a)} ac				
	0,55	1,90 ^{a)} ac				
	0,63	2,33 ^{a)} ac				
	0,75	3,04 ^{a)} ac				
	0,88	3,74 ^{a)} ac				
	1,00	4,45 ^{a)} ac				
	1,13	4,45 ^{a)} —				
	1,25	4,45 ^{a)} —				
	1,50	4,45 ^{a)} —				
	1,75	4,45 ^{a)} —				
2,00	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	
$N_{R,k}$ für $t_{N,I} =$	0,50	1,61 ^{a)} ac				
	0,55	1,91 ^{a)} ac				
	0,63	2,37 ^{a)} ac				
	0,75	3,13 ^{a)} ac				
	0,88	3,61 ^{a)} ac				
	1,00	4,08 ^{a)} ac				
	1,13	4,84 ^{a)} —				
	1,25	5,60 ^{a)} —				
	1,50	5,98 ^{a)} —				
	1,75	5,98 ^{a)} —				
2,00	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 19
<p>BiGH TY BIM DSS 5,5 x L</p> <p>with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}16$ mm</p>	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 12,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	4,00	5,00	6,00	8,00	10,00
$V_{R,k}$ für $t_{N,I} =$	0,50	1,62 ^{a)} ac	1,62 ^{a)} ac	1,62 ^{a)} ac	1,62 ^{a)} ac
	0,55	1,90 ^{a)} ac	1,90 ^{a)} ac	1,90 ^{a)} ac	1,90 ^{a)} ac
	0,63	2,33 ^{a)} ac	2,33 ^{a)} ac	2,33 ^{a)} ac	2,33 ^{a)} ac
	0,75	3,04 ^{a)} ac	3,04 ^{a)} ac	3,04 ^{a)} ac	3,04 ^{a)} ac
	0,88	3,74 ^{a)} ac	3,74 ^{a)} ac	3,74 ^{a)} ac	3,74 ^{a)} ac
	1,00	4,45 ^{a)} ac	4,45 ^{a)} ac	4,45 ^{a)} ac	4,45 ^{a)} ac
	1,13	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —
	1,25	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —
	1,50	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —
	1,75	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —
	2,00	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —
$N_{R,k}$ für $t_{N,I} =$	0,50	1,85 ^{a)} ac	1,85 ^{a)} ac	1,85 ^{a)} ac	1,85 ^{a)} ac
	0,55	2,20 ^{a)} ac	2,20 ^{a)} ac	2,20 ^{a)} ac	2,20 ^{a)} ac
	0,63	2,73 ^{a)} ac	2,73 ^{a)} ac	2,73 ^{a)} ac	2,73 ^{a)} ac
	0,75	3,60 ^{a)} ac	3,60 ^{a)} ac	3,60 ^{a)} ac	3,60 ^{a)} ac
	0,88	4,15 ^{a)} ac	4,15 ^{a)} ac	4,15 ^{a)} ac	4,15 ^{a)} ac
	1,00	4,69 ^{a)} ac	4,69 ^{a)} ac	4,69 ^{a)} ac	4,69 ^{a)} ac
	1,13	5,57 ^{a)} —	5,57 ^{a)} —	5,57 ^{a)} —	5,57 ^{a)} —
	1,25	5,82 ^{a)} —	5,82 ^{a)} —	5,82 ^{a)} —	5,82 ^{a)} —
	1,50	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —
	1,75	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —
	2,00	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 20
<p>BiGHTY BIM DSS 5,5 x L</p> <p>with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}19$ mm</p>	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
<p>Drilling capacity $\Sigma t_i \leq 12,00$ mm</p>	
<p>Timber substructures</p> <p>for timber substructures no performance determined</p>	

$t_{N,II} =$	4,00	5,00	6,00	8,00	10,00	
$V_{R,k}$ für $t_{N,I} =$	0,50	1,62 ^{a)} ac				
	0,55	1,90 ^{a)} ac				
	0,63	2,33 ^{a)} ac				
	0,75	3,04 ^{a)} ac				
	0,88	3,74 ^{a)} ac				
	1,00	4,45 ^{a)} ac				
	1,13	4,45 ^{a)} —				
	1,25	4,45 ^{a)} —				
	1,50	4,45 ^{a)} —				
	1,75	4,45 ^{a)} —				
	2,00	4,45 ^{a)} —				
$N_{R,k}$ für $t_{N,I} =$	0,50	1,41 ^{a)} ac				
	0,55	1,68 ^{a)} a				
	0,63	2,09 ^{a)} a				
	0,75	2,52 ^{a)} a				
	0,88	2,99 ^{a)} a				
	1,00	3,44 ^{a)} a				
	1,13	3,89 ^{a)} a				
	1,25	4,29 ^{a)} a				
	1,50	5,23 ^{a)} —				
	1,75	5,23 ^{a)} —				
	2,00	5,23 ^{a)} —				

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

<p>self drilling screw</p>	<p>Annex 21</p>
<p>BiGHTY DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}14$ mm</p>	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 12,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

$t_{N,II} =$	4,00	5,00	6,00	8,00	10,00	
$M_{t,nom} =$	---					
$V_{R,k}$ für $t_{N,I} =$	0,50	1,62 ^{a)} ac				
	0,55	1,90 ^{a)} ac				
	0,63	2,33 ^{a)} ac				
	0,75	3,04 ^{a)} ac				
	0,88	3,74 ^{a)} ac				
	1,00	4,45 ^{a)} ac				
	1,13	4,45 ^{a)} —				
	1,25	4,45 ^{a)} —				
	1,50	4,45 ^{a)} —				
	1,75	4,45 ^{a)} —				
2,00	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	4,45 ^{a)} —	
$N_{R,k}$ für $t_{N,I} =$	0,50	1,61 ^{a)} ac				
	0,55	1,91 ^{a)} ac				
	0,63	2,37 ^{a)} ac				
	0,75	3,13 ^{a)} ac				
	0,88	3,61 ^{a)} ac				
	1,00	4,08 ^{a)} ac				
	1,13	4,84 ^{a)} —				
	1,25	5,60 —	5,60 ^{a)} —	5,60 ^{a)} —	5,60 ^{a)} —	5,60 ^{a)} —
	1,50	5,98 —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —
	1,75	5,98 —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —
2,00	5,98 —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	5,98 ^{a)} —	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

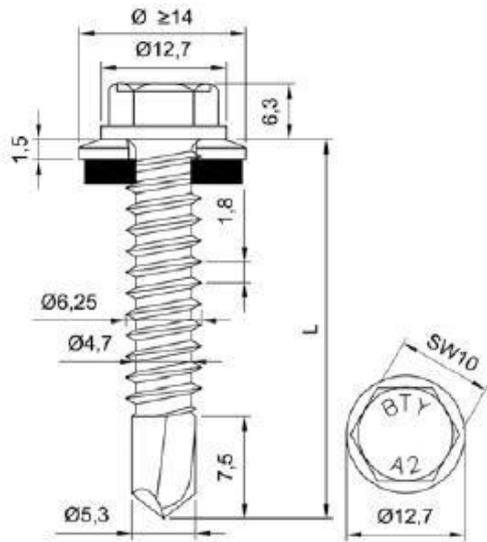
<p>self drilling screw</p>	<p>Annex 22</p>
<p>BiGHTY DSS 5,5 x L with hexagon head or round head with Torx® drive system and seal washer $\geq \text{Ø}16$ mm</p>	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity Σt_i ≤ 12,00 mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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t _{N,II} =	4,00	5,00	6,00	8,00	10,00	
V _{R,k} für t _{N,I} =	0,50	1,62 ^{a)} ac				
	0,55	1,90 ^{a)} ac				
	0,63	2,33 ^{a)} ac				
	0,75	3,04 ^{a)} ac				
	0,88	3,74 ^{a)} ac				
	1,00	4,45 ^{a)} ac				
	1,13	4,45 ^{a)} —				
	1,25	4,45 ^{a)} —				
	1,50	4,45 ^{a)} —				
	1,75	4,45 ^{a)} —				
	2,00	4,45 ^{a)} —				
N _{R,k} für t _{N,I} =	0,50	1,85 ^{a)} ac				
	0,55	2,20 ^{a)} ac				
	0,63	2,73 ^{a)} ac				
	0,75	3,60 ^{a)} ac				
	0,88	4,15 ^{a)} ac				
	1,00	4,69 ^{a)} ac				
	1,13	5,57 ^{a)} —				
	1,25	5,82 ^{a)} —				
	1,50	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —
	1,75	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —
	2,00	5,99 ^{a)} —	6,53 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —	6,88 ^{a)} —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 23
<p style="text-align: center;">BiGHTY DSS 5,5 x L</p> <p style="text-align: center;">with hexagon head or round head with Torx® drive system and seal washer ≥ Ø19 mm</p>	



Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity

$\Sigma t_i \leq 5,00$ mm

Timber substructures

for timber substructures no performance determined

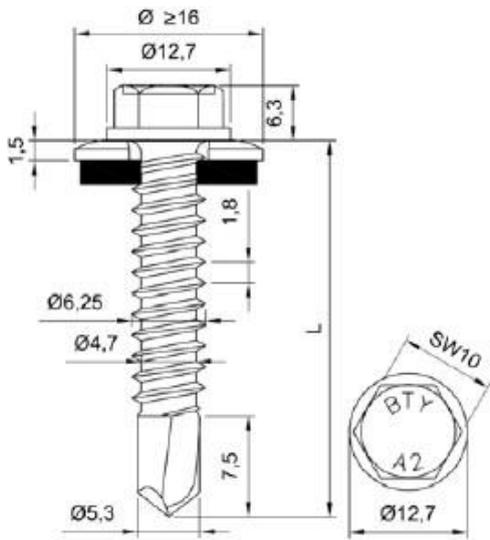
$t_{N,II} =$	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00
$V_{R,k}$ für $t_{N,I} =$	0,50	0,87 ^{a)}									
	0,55	0,87 ^{a)}	0,91 ^{a)}	0,97 ^{a)}	1,02 ^{a)}	1,08 ^{a)}	1,13 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}
	0,63	0,87 ^{a)}	0,97 ^{a)}	1,11 ^{a)}	1,25 ^{a)}	1,39 ^{a)}	1,53 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}
	0,75	0,87 ^{a)}	1,06 ^{a)}	1,35 ^{a)}	1,63 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}
	0,88	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	1,86 ^{a)}	2,23	2,56	3,17	3,17	3,17	3,17
	1,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,52	2,90	3,55	3,55	3,55	3,55
	1,13	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,27	3,95	3,95	3,95	3,95
	1,25	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	4,35	4,35	4,35	4,35
	1,50	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
	1,75	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
	2,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
	$N_{R,k}$ für $t_{N,I} =$	0,50	0,56	0,81	1,03	1,25	1,43	1,60	1,60 ^{a)}	1,60 ^{a)}	1,60 ^{a)}
0,55		0,56	0,81	1,03	1,25	1,43	1,61	1,79 ^{a)}	1,79 ^{a)}	1,79 ^{a)}	1,79 ^{a)}
0,63		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,07 ^{a)}	2,07 ^{a)}	2,07 ^{a)}
0,75		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,52	2,52 ^{a)}	2,52 ^{a)}
0,88		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	2,99	2,99 ^{a)}
1,00		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	3,44 ^{a)}
1,13		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	3,89 ^{a)}
1,25		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,29
1,50		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59
1,75		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	5,23 ^{a)}
2,00		0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	5,95

f component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw

BiGHTY BIM DSS 6,3 x L
with hexagon head and seal washer $\geq \text{Ø}14$ mm

Annex 24



Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity

$\Sigma t_i \leq 5,00$ mm

Timber substructures

for timber substructures no performance determined

tN,II =	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00
VR,k für tN,I =	0,50	0,87 ^{a)}									
	0,55	0,87 ^{a)}	0,91 ^{a)}	0,97 ^{a)}	1,02 ^{a)}	1,08 ^{a)}	1,13 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}
	0,63	0,87 ^{a)}	0,97 ^{a)}	1,11 ^{a)}	1,25 ^{a)}	1,39 ^{a)}	1,53 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}
	0,75	0,87 ^{a)}	1,06 ^{a)}	1,35 ^{a)}	1,63 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}
	0,88	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	1,86 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}
	1,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,23	2,56	3,17	3,17	3,17	3,17
	1,13	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,52	2,90	3,55	3,55	3,55	3,55
	1,25	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,27	3,95	3,95	3,95	3,95
	1,50	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	4,35	4,35	4,35	4,35
	1,75	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
	2,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
NR,k für tN,I =	0,50	0,56	0,81	1,03	1,25	1,43	1,61	1,80 ^{a)}	1,80 ^{a)}	1,80 ^{a)}	1,80 ^{a)}
	0,55	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,09 ^{a)}	2,09 ^{a)}	2,09 ^{a)}
	0,63	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,52	2,52 ^{a)}	2,52 ^{a)}
	0,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22 ^{a)}	3,24 ^{a)}
	0,88	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	3,24 ^{a)}
	1,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,12 ^{a)}
	1,13	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59
	1,25	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59
	1,50	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59
	1,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59
	2,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw

BiGHTY BIM DSS 6,3 x L
with hexagon head and seal washer $\geq \text{Ø}16$ mm

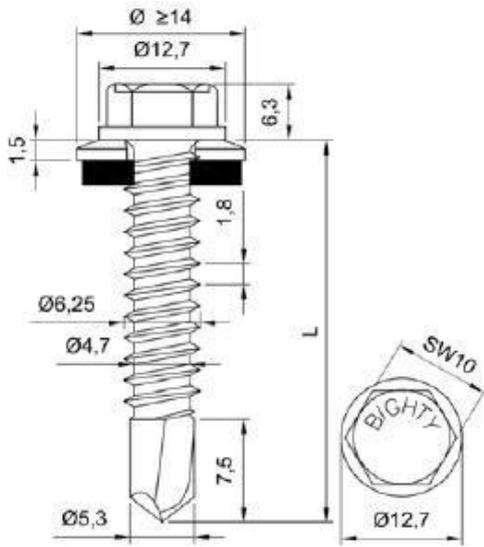
Annex 25

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

tN,II =	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00	
VR,k für tN,I =	0,50	0,87 ^{a)} ac	0,87 ^{a)} ac	0,87 ^{a)} ac	0,87 ^{a)} ac							
	0,55	0,87 ^{a)}	0,91 ^{a)}	0,97 ^{a)}	1,02 ^{a)}	1,08 ^{a)}	1,13 ^{a)}	1,25 ^{a)} ac	1,25 ^{a)} ac	1,25 ^{a)} ac	1,25 ^{a)} ac	
	0,63	0,87 ^{a)}	0,97 ^{a)}	1,11 ^{a)}	1,25 ^{a)}	1,39 ^{a)}	1,53 ^{a)}	1,82 ^{a)} ac	1,82 ^{a)} ac	1,82 ^{a)} ac	1,82 ^{a)} ac	
	0,75	0,87 ^{a)}	1,06 ^{a)}	1,35 ^{a)}	1,63 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)} ac	2,76 ^{a)} ac	2,76 ^{a)} ac	2,76 ^{a)} ac	
	0,88	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	1,86 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)} ac	2,76 ^{a)} ac	2,76 ^{a)} ac	2,76 ^{a)} ac	
	1,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,23	2,56	3,17	3,17	3,17	3,17	3,17
	1,13	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,52	2,90	3,55	3,55	3,55	3,55	3,55
	1,25	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,27	3,95	3,95	3,95	3,95	3,95
	1,50	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	4,35	4,35	4,35	4,35	4,35
	1,75	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14	5,14
	2,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14	5,14
NR,k für tN,I =	0,50	0,56	0,81	1,03	1,25	1,43	1,61	1,97 ac	2,17 ^{a)} ac	2,17 ^{a)} ac	2,17 ^{a)} ac	
	0,55	0,56	0,81	1,03	1,25	1,43	1,61	1,97 ac	2,43 ac	2,43 ac	2,43 ac	
	0,63	0,56	0,81	1,03	1,25	1,43	1,61	1,97 ac	2,60 ac	2,81 ^{a)} ac	2,81 ^{a)} ac	
	0,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97 ac	2,60 ac	3,22 ac	3,42 ^{a)} ac	
	0,88	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22 ac	3,42 ^{a)} ac	
	1,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,12 ^{a)}	
	1,13	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59	
	1,25	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59	
	1,50	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59	
	1,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59	
	2,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,60	3,22	4,59	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 26
BiGHTY BIM DSS 6,3 x L with hexagon head and seal washer ≥ Ø19 mm	



Materials

Fastener: carbon steel quenched, tempered and galvanized

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD or S350GD - EN 10346

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity

$\Sigma t_i \leq 5,00$ mm

Timber substructures

for timber substructures no performance determined

	tN,II =	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00
VR,k für tN,I =	0,50	0,87 ^{a)} —	0,87 ^{a)} ac									
	0,55	0,87 ^{a)} —	0,91 ^{a)} —	0,97 ^{a)} —	1,02 ^{a)} —	1,08 ^{a)} —	1,13 ^{a)} —	1,25 ^{a)} ac				
	0,63	0,87 ^{a)} —	0,97 ^{a)} —	1,11 ^{a)} —	1,25 ^{a)} —	1,39 ^{a)} —	1,53 ^{a)} —	1,82 ^{a)} ac				
	0,75	0,87 ^{a)} —	1,06 ^{a)} —	1,35 ^{a)} —	1,63 ^{a)} —	1,91 ^{a)} —	2,19 ^{a)} —	2,76 ^{a)} ac				
	0,88	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	1,86 ^{a)} —	2,23 —	2,56 —	3,17 —	3,17 —	3,17 —	3,17 —	3,17 —
	1,00	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,52 —	2,90 —	3,55 —	3,55 —	3,55 —	3,55 —	3,55 —
	1,13	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,27 —	3,95 —	3,95 —	3,95 —	3,95 —	3,95 —
	1,25	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	4,35 —	4,35 —	4,35 —	4,35 —	4,35 —
	1,50	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —
	1,75	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —
	2,00	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —
NR,k für tN,I =	0,50	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,60 —	1,60 ^{a)} ac				
	0,55	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,79 ^{a)} ac				
	0,63	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,07 ^{a)} ac	2,07 ^{a)} ac	2,07 ^{a)} ac	2,07 ^{a)} ac
	0,75	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,52 ac	2,52 ^{a)} ac	2,52 ^{a)} ac	2,52 ^{a)} ac
	0,88	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	2,99 —	2,99 ^{a)} —	2,99 ^{a)} —
	1,00	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	3,44 ^{a)} —	3,44 ^{a)} —
	1,13	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	3,89 ^{a)} —	3,89 ^{a)} —
	1,25	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,29 —	4,29 ^{a)} —
	1,50	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,23 ^{a)} —
	1,75	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —
	2,00	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw

BiGHTY DSS 6,3 x L
with hexagon head and seal washer $\geq \varnothing 14$ mm

Annex 27

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

tN,II =	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00
VR,k für tN,I =	0,50	0,87 ^{a)}									
	0,55	0,87 ^{a)}	0,91 ^{a)}	0,97 ^{a)}	1,02 ^{a)}	1,08 ^{a)}	1,13 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}	1,25 ^{a)}
	0,63	0,87 ^{a)}	0,97 ^{a)}	1,11 ^{a)}	1,25 ^{a)}	1,39 ^{a)}	1,53 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}	1,82 ^{a)}
	0,75	0,87 ^{a)}	1,06 ^{a)}	1,35 ^{a)}	1,63 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}
	0,88	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	1,86 ^{a)}	1,91 ^{a)}	2,19 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}	2,76 ^{a)}
	1,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,23	2,56	3,17	3,17	3,17	3,17
	1,13	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,52	2,90	3,55	3,55	3,55	3,55
	1,25	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,27	3,95	3,95	3,95	3,95
	1,50	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	4,35	4,35	4,35	4,35
	1,75	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
	2,00	0,87 ^{a)}	1,06 ^{a)}	1,57 ^{a)}	2,07 ^{a)}	2,84	3,61	5,14	5,14	5,14	5,14
NR,k für tN,I =	0,50	0,56	0,81	1,03	1,25	1,43	1,61	1,80 ^{a)}	1,80 ^{a)}	1,80 ^{a)}	1,80 ^{a)}
	0,55	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,09 ^{a)}	2,09 ^{a)}	2,09 ^{a)}
	0,63	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,52	2,52	2,52
	0,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	3,24 ^{a)}
	0,88	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	3,24 ^{a)}
	1,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,12 ^{a)}
	1,13	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,52
	1,25	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,52
	1,50	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,52
	1,75	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,52
	2,00	0,56	0,81	1,03	1,25	1,43	1,61	1,97	2,53	3,09	4,52

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

self drilling screw	Annex 28
BIGHTY DSS 6,3 x L with hexagon head and seal washer $\geq \text{Ø}16$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

	tN,II =	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	2,50	3,00	
VR,k für tN,I =	0,50	0,87 ^{a)} —	0,87 ^{a)} ac										
	0,55	0,87 ^{a)} —	0,91 ^{a)} —	0,97 ^{a)} —	1,02 ^{a)} —	1,08 ^{a)} —	1,13 ^{a)} —	1,25 ^{a)} ac					
	0,63	0,87 ^{a)} —	0,97 ^{a)} —	1,11 ^{a)} —	1,25 ^{a)} —	1,39 ^{a)} —	1,53 ^{a)} —	1,82 ^{a)} ac					
	0,75	0,87 ^{a)} —	1,06 ^{a)} —	1,35 ^{a)} —	1,63 ^{a)} —	1,91 ^{a)} —	2,19 ^{a)} —	2,76 ^{a)} ac					
	0,88	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	1,86 ^{a)} —	1,91 ^{a)} —	2,19 ^{a)} —	2,76 ^{a)} ac					
	1,00	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,23 —	2,56 —	3,17 —	3,17 —	3,17 —	3,17 —	3,17 —	3,17 —
	1,13	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,52 —	2,90 —	3,55 —	3,55 —	3,55 —	3,55 —	3,55 —	3,55 —
	1,25	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,27 —	3,95 —	3,95 —	3,95 —	3,95 —	3,95 —	3,95 —
	1,50	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	4,35 —	4,35 —	4,35 —	4,35 —	4,35 —	4,35 —
	1,75	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —
	2,00	0,87 ^{a)} —	1,06 ^{a)} —	1,57 ^{a)} —	2,07 ^{a)} —	2,84 —	3,61 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —	5,14 —
NR,k für tN,I =	0,50	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,17 ^{a)} ac	2,17 ^{a)} ac	2,17 ^{a)} ac	2,17 ^{a)} ac	
	0,55	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,43 ac	2,43 ^{a)} ac	2,43 ^{a)} ac	2,43 ^{a)} ac	
	0,63	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,53 ac	2,81 ^{a)} ac	2,81 ^{a)} ac	2,81 ^{a)} ac	
	0,75	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 ac	2,53 ac	3,09 ac	3,42 ^{a)} ac	3,42 ^{a)} ac	
	0,88	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,12 ^{a)} —	4,12 ^{a)} —	
	1,00	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 ^{a)} —	4,99 ^{a)} —	
	1,13	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,62 —	
	1,25	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —	
	1,50	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —	
	1,75	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —	
	2,00	0,56 —	0,81 —	1,03 —	1,25 —	1,43 —	1,61 —	1,97 —	2,53 —	3,09 —	4,52 —	5,95 —	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%.

<p>self drilling screw</p>	<p>Annex 29</p>
<p>BIGHTY DSS 6,3 x L with hexagon head and seal washer $\geq \text{Ø}19$ mm</p>	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD oder S350GD - EN 10346</p> <p>Component II: Timber — EN 14081</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures for timber substructures performance determined with $M_{y,Rk} = 12,227$ Nm $f_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm</p>

$l_g =$	40	44	48	52	56	60	64	68	72		
VR,k für tN,I =	0,50	1,27 ^{a)}	Lochleibungsstragfähigkeit Bauteil I								
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,36 ^{a)}									
	0,88	2,36 ^{a)}									
	1,00	2,36 ^{a)}									
	1,13	2,36 ^{a)}									
	1,25	2,36 ^{a)}									
	1,50	2,36 ^{a)}									
	1,75	2,36 ^{a)}									
2,00	2,36 ^{a)}										
NR,k für tN,I =	0,50	1,38	1,41	1,41 ^{a)}	Durchknöpftragfähigkeit Bauteil I						
	0,55	1,38	1,55	1,68 ^{a)}							
	0,63	1,38	1,55	1,72	1,89	2,06	2,09 ^{a)}	2,09 ^{a)}	2,09 ^{a)}	2,09 ^{a)}	
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,52 ^{a)}	2,52 ^{a)}	
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74		

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($p_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

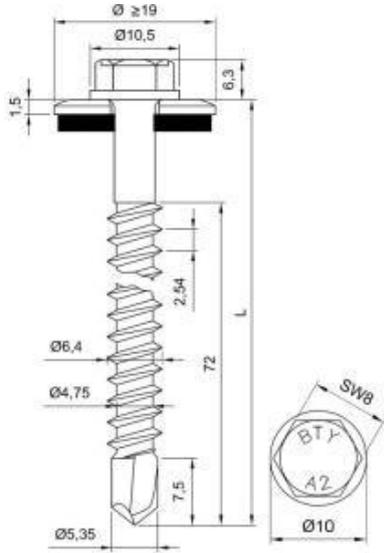
self drilling screw	Annex 30
BIGHTY BIM DSS 6,5 x L with hexagon head and seal washer $\geq \text{Ø}14$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD oder S350GD - EN 10346</p> <p>Component II: Timber — EN 14081</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures for timber substructures performance determined with</p> <p>$M_{y,Rk} = 12,227$ Nm</p> <p>$F_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm</p>

	$l_g =$	40	44	48	52	56	60	64	68	72	
VR,k für tN,I =	0,50	1,27 ^{a)}									
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,28	2,32	2,36 ^{a)}							
	0,88	2,28	2,32	2,36 ^{a)}							
	1,00	2,28	2,32	2,36 ^{a)}							
	1,13	2,28	2,32	2,36 ^{a)}							
	1,25	2,28	2,32	2,36 ^{a)}							
	1,50	2,28	2,32	2,36 ^{a)}							
	1,75	2,28	2,32	2,36 ^{a)}							
2,00	2,28	2,32	2,36 ^{a)}								
NR,k für tN,I =	0,50	1,38	1,55	1,61	1,61 ^{a)}						
	0,55	1,38	1,55	1,72	1,89	1,91 ^{a)}					
	0,63	1,38	1,55	1,72	1,89	2,06	2,23	2,37	2,37 ^{a)}	2,37 ^{a)}	2,37 ^{a)}
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	3,13 ^{a)}
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	3,61 ^{a)}
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	4,08 ^{a)}
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	4,84 ^{a)}
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,60 ^{a)}
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,98 ^{a)}
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,98 ^{a)}
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,98 ^{a)}	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($p_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

self drilling screw	Annex 31
BIGHTY BIM DSS 6,5 x L with hexagon head and seal washer $\geq \varnothing 16$ mm	



Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: S280GD, S320GD oder S350GD - EN 10346

Component II: Timber — EN 14081

Drilling capacity $\Sigma t_i \leq 5,00$ mm

Timber substructures

for timber substructures performance determined with

$M_{y,Rk} = 12,227$ Nm

$F_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm

	$l_g =$	40	44	48	52	56	60	64	68	72	
VR,k für tN,I =	0,50	1,27 ^{a)}	Lochleibungstragfähigkeit Bauteil I								
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,28	2,32	2,36 ^{a)}							
	0,88	2,28	2,32	2,36 ^{a)}							
	1,00	2,28	2,32	2,36 ^{a)}							
	1,13	2,28	2,32	2,36 ^{a)}							
	1,25	2,28	2,32	2,36 ^{a)}							
	1,50	2,28	2,32	2,36 ^{a)}							
	1,75	2,28	2,32	2,36 ^{a)}							
2,00	2,28	2,32	2,36 ^{a)}								
NR,k für tN,I =	0,50	1,38	1,55	1,72	1,85	1,85	1,85	1,85 ^{a)}	1,85 ^{a)}	1,85 ^{a)}	Durchknöpfragfähigkeit Bauteil I
	0,55	1,38	1,55	1,72	1,89	2,06	2,20	2,20	2,20 ^{a)}	2,20 ^{a)}	
	0,63	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,73 ^{a)}	
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74		

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($\rho_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

self drilling screw

BiGHTY BIM DSS 6,5 x L
with hexagon head and seal washer $\geq \varnothing 19$ mm

Annex 32

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: Timber — EN 14081</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures for timber substructures performance determined with</p> <p>$M_{y,Rk} = 17,691$ Nm</p> <p>$F_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm</p>

	$l_g =$	40	44	48	52	56	60	64	68	72	
VR,k für tN,I =	0,50	1,27 ^{a)}									
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,28	2,32	2,36 ^{a)}							
	0,88	2,28	2,32	2,36 ^{a)}							
	1,00	2,28	2,32	2,36 ^{a)}							
	1,13	2,28	2,32	2,36 ^{a)}							
	1,25	2,28	2,32	2,36 ^{a)}							
	1,50	2,28	2,32	2,36 ^{a)}							
	1,75	2,28	2,32	2,36 ^{a)}							
2,00	2,28	2,32	2,36 ^{a)}	Lochleibungsstragfähigkeit Bauteil I							
NR,k für tN,I =	0,50	1,38	1,41	1,41 ^{a)}							
	0,55	1,38	1,55	1,68 ^{a)}							
	0,63	1,38	1,55	1,72	1,89	2,06	2,09 ^{a)}				
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,52 ^{a)}	2,52 ^{a)}	2,52 ^{a)}
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	2,99 ^{a)}
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	3,44 ^{a)}
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	3,89 ^{a)}
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	4,29 ^{a)}
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,23 ^{a)}
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,23 ^{a)}
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,23 ^{a)}	Durchknipfstragfähigkeit Bauteil I

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($p_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

self drilling screw	Annex 33
BiGHTY DSS 6,5 x L with hexagon head and seal washer $\geq \text{Ø}14$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: Timber — EN 14081</p>
	<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>
	<p>Timber substructures for timber substructures performance determined with</p> <p>$M_{y,Rk} = 17,691$ Nm</p> <p>$F_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm</p>

$l_g =$	40	44	48	52	56	60	64	68	72		
VR,k für tN,l =	0,50	1,27 ^{a)}	Lochleibungstragfähigkeit Bauteil I								
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,36 ^{a)}									
	0,88	2,36 ^{a)}									
	1,00	2,36 ^{a)}									
	1,13	2,36 ^{a)}									
	1,25	2,36 ^{a)}									
	1,50	2,36 ^{a)}									
	1,75	2,36 ^{a)}									
2,00	2,36 ^{a)}										
NR,k für tN,l =	0,50	1,38	1,55	1,61	1,61 ^{a)}	Durchknöpfragfähigkeit Bauteil I					
	0,55	1,38	1,55	1,72	1,89	1,91 ^{a)}					
	0,63	1,38	1,55	1,72	1,89	2,06	2,23	2,37	2,37 ^{a)}	2,37 ^{a)}	
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74		

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($p_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

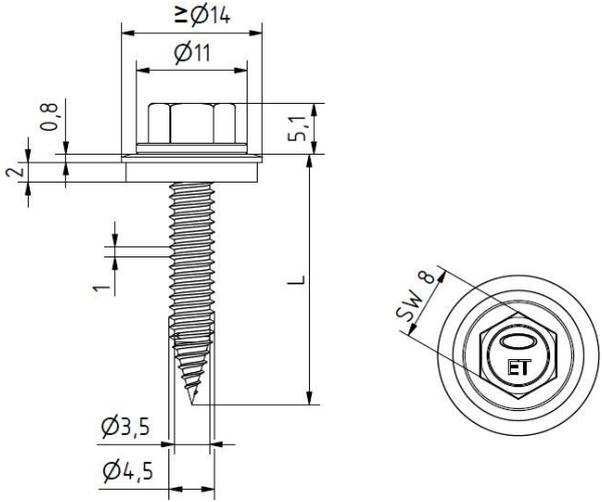
self drilling screw	Annex 34
BIGHTY DSS 6,5 x L with hexagon head and seal washer $\geq \varnothing 16$ mm	

	<p>Materials</p> <p>Fastener: carbon steel quenched, tempered and galvanized</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: Timber — EN 14081</p>
<p>Drilling capacity $\Sigma t_i \leq 5,00$ mm</p>	
<p>Timber substructures for timber substructures performance determined with</p> <p>$M_{y,Rk} = 17,691$ Nm</p> <p>$F_{ax,k} = 8,575$ N/mm² für $l_{ef} \geq 32,5$ mm</p>	

	$l_g =$	40	44	48	52	56	60	64	68	72	
VR,k für tN,I =	0,50	1,27 ^{a)}									
	0,55	1,49 ^{a)}									
	0,63	1,82 ^{a)}									
	0,75	2,28	2,32	2,36 ^{a)}							
	0,88	2,28	2,32	2,36 ^{a)}							
	1,00	2,28	2,32	2,36 ^{a)}							
	1,13	2,28	2,32	2,36 ^{a)}							
	1,25	2,28	2,32	2,36 ^{a)}							
	1,50	2,28	2,32	2,36 ^{a)}							
	1,75	2,28	2,32	2,36 ^{a)}							
2,00	2,28	2,32	2,36 ^{a)}								
NR,k für tN,I =	0,50	1,38	1,55	1,72	1,85	1,85	1,85	1,85 ^{a)}	1,85 ^{a)}	1,85 ^{a)}	1,85 ^{a)}
	0,55	1,38	1,55	1,72	1,89	2,06	2,20	2,20	2,20	2,20 ^{a)}	2,20 ^{a)}
	0,63	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,73	2,73 ^{a)}
	0,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	3,60 ^{a)}
	0,88	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	4,15 ^{a)}
	1,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	4,69 ^{a)}
	1,13	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,57 ^{a)}
	1,25	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	5,82 ^{a)}
	1,50	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	7,10 ^{a)}
	1,75	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	7,10 ^{a)}
2,00	1,38	1,55	1,72	1,89	2,06	2,23	2,40	2,57	2,74	7,10 ^{a)}	

If component I is made of S320GD or S350GD, the values marked with ^{a)} may be increased by 8,3%. The above mentioned values, based on the screw depth l_g , are valid of $k_{mod} = 0,9$ and for timber strength category C24 ($\rho_a = 350$ kg/m³). For further values of k_{mod} and timber strength category see chapter 4.2.2.

<p>self drilling screw</p>	<p>Annex 35</p>
<p>BiGHTY DSS 6,5 x L with hexagon head and seal washer $\geq \varnothing 19$ mm</p>	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity $\Sigma t_i \leq 2.00$ mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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t_i [mm]	t_{ii} [mm]						
	0.50	0.55	0.63	0.75	0.88	1.00	
$V_{R,k}$ [kN]	0.50	1.12	1.12	1.12	1.12	1.12	1.12
	0.55	1.12	1.42	1.42	1.42	1.42	1.42
	0.63	1.12	1.42	1.91	1.91	1.91	1.91
	0.75	1.12	1.42	1.91	2.64	2.64	2.64
	0.88	1.12	1.42	1.91	2.64	3.04	3.04
	1.00	1.12	1.42	1.91	2.64	3.04	3.40
$N_{R,k}$ [kN]	0.50	0.70	0.82	1.02	1.32	1.56	1.78
	0.55	0.70	0.82	1.02	1.32	1.56	1.78
	0.63	0.70	0.82	1.02	1.32	1.56	1.78
	0.75	0.70	0.82	1.02	1.32	1.56	1.78
	0.88	0.70	0.82	1.02	1.32	1.56	1.78
	1.00	0.70	0.82	1.02	1.32	1.56	1.78
$N_{R,II,k}$ [kN]	0.70	0.82	1.02	1.32	1.56	1.78	1.78

If both components I and II are made of S320GD or S350GD, the values marked may be increased by 8,3%.

self drilling screw	Annex 36
BiGHTY BIM DBS DSS 4,5 x L with hexagon head sealing washer $\geq \text{Ø}14$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: aluminum alloy – EN 573</p> <p>Component II: aluminum alloy – EN 573</p>
<p>Drilling capacity $\Sigma t_i \leq 2.40$ mm</p>	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

Component I & II: Aluminum alloy with $R_m \geq 165$ N/mm ²							
t_i [mm]	t_{ii} [mm]						
	0.50	0.60	0.70	0.80	1.00	1.20	
$V_{R,k}$ [kN]	0.23	0.23	0.23	0.23	0.23	0.23	0.23
0.50	0.23	0.68	0.68	0.68	0.68	0.68	0.68
0.60	0.23	0.68	1.12	1.12	1.12	1.12	1.12
0.70	0.23	0.68	1.12	1.57	1.57	1.57	1.57
0.80	0.23	0.68	1.12	1.57	1.57	1.57	1.57
1.00	0.23	0.68	1.12	1.57	1.57	1.57	1.57
1.20	0.23	0.68	1.12	1.57	1.57	1.57	1.57
$N_{R,II,k}$ [kN]	0.28	0.37	0.46	0.55	0.75	0.92	

Component I & II: Aluminum alloy with $R_m \geq 215$ N/mm ²							
t_i [mm]	t_{ii} [mm]						
	0.50	0.60	0.70	0.80	1.00	1.20	
$V_{R,k}$ [kN]	0.30	0.30	0.30	0.30	0.30	0.30	0.30
0.50	0.30	0.88	0.88	0.88	0.88	0.88	0.88
0.60	0.30	0.88	1.47	1.47	1.47	1.47	1.47
0.70	0.30	0.88	1.47	2.05	2.05	2.05	2.05
0.80	0.30	0.88	1.47	2.05	2.05	2.05	2.05
1.00	0.30	0.88	1.47	2.05	2.05	2.05	2.05
1.20	0.30	0.88	1.47	2.05	2.05	2.05	2.05
$N_{R,II,k}$ [kN]	0.36	0.48	0.60	0.72	0.97	1.19	

self drilling screw	Annex 37
BiGHTY BIM DBS DSS 4,5 x L with hexagon head sealing washer $\geq \text{Ø}14$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: aluminum alloy – EN 573</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p> <hr/> <p>Drilling capacity $\Sigma t_i \leq 2.20$ mm</p> <hr/> <p>Timber substructures</p> <p>for timber substructures no performance determined</p>
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Component I: Aluminum alloy with $R_m \geq 165$ N/mm ² Component II: S280GD to S350GD, S235							
t_i [mm]	t_{ii} [mm]						
	0.50	0.55	0.63	0.75	0.88	1.00	
$V_{R,k}$ [kN]	0.23	0.23	0.23	0.23	0.23	0.23	0.23
0.50	0.23	0.68	0.68	0.68	0.68	0.68	0.68
0.60	0.23	0.68	1.12	1.12	1.12	1.12	1.12
0.70	0.23	0.68	1.12	1.57	1.57	1.57	1.57
0.80	0.23	0.68	1.12	1.57	1.57	1.57	1.57
1.00	0.23	0.68	1.12	1.57	1.57	1.57	1.57
1.20	0.23	0.68	1.12	1.57	1.57	1.57	1.57
$N_{R,II,k}$ [kN]	0.70	0.82	1.02	1.32	1.56	1.78	

Component I: Aluminum alloy with $R_m \geq 215$ N/mm ² Component II: S280GD to S350GD, S235							
t_i [mm]	t_{ii} [mm]						
	0.50	0.55	0.63	0.75	0.88	1.00	
$V_{R,k}$ [kN]	0.30	0.30	0.30	0.30	0.30	0.30	0.30
0.50	0.30	0.88	0.88	0.88	0.88	0.88	0.88
0.60	0.30	0.88	1.47	1.47	1.47	1.47	1.47
0.70	0.30	0.88	1.47	2.05	2.05	2.05	2.05
0.80	0.30	0.88	1.47	2.05	2.05	2.05	2.05
1.00	0.30	0.88	1.47	2.05	2.05	2.05	2.05
1.20	0.30	0.88	1.47	2.05	2.05	2.05	2.05
$N_{R,II,k}$ [kN]	0.70	0.82	1.02	1.32	1.56	1.78	

self drilling screw	Annex 38
BiGHTY BIM DBS DSS 4,5 x L with hexagon head sealing washer $\geq \varnothing 14$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: S280GD, S320GD or S350GD - EN 10346</p> <p>Component II: S235 - EN 10025-1 S280GD, S320GD or S350GD - EN 10346</p>
	<p>Drilling capacity $\Sigma t_i \leq 2.00$ mm</p>
	<p>Timber substructures</p> <p>for timber substructures no performance determined</p>

t_i [mm]	t_{ii} [mm]							
	0.40	0.50	0.55	0.63	0.75	0.88	1.00	
$V_{R,k}$ [kN]	0.40	0.88	0.88	0.88	0.88	0.88	0.88	0,88
	0.50	0.88	1.02	1.02	1.02	1.02	1.02	1,02
	0.55	0.88	1.02	1.47	1.47	1.47	1.47	1,47
	0.63	0.88	1.02	1.47	2.20	2.20	2.20	2,20
	0.75	0.88	1.02	1.47	2.20	3.29	3.29	3,29
	0.88	0.88	1.02	1.47	2.20	3.29	3.92	3,92
	1.00	0.88	1.02	1.47	2.20	3.29	3.92	4,50
$N_{R,k}$ [kN]	0.40	0.66	0.79	0.97	1.27	1.53	1.53	1,53
	0.50	0.66	0.79	0.97	1.27	1.54	1.54	1,54
	0.55	0.66	0.79	0.97	1.27	1.71	1.95	1,95
	0.63	0.66	0.79	0.97	1.27	1.71	1.98	2,23
	0.75	0.66	0.79	0.97	1.27	1.71	1.98	2,23
	0.88	0.66	0.79	0.97	1.27	1.71	1.98	2,23
	1.00	0.66	0.79	0.97	1.27	1.71	1.98	2,23
$N_{R,II,k}$ [kN]	0.66	0.79	0.97	1.27	1.71	1.98	2.23	

If both components I and II are made of S320GD or S350GD, the values marked may be increased by 8,3%.

self drilling screw	Annex 39
BiGHTY BIM DBS DSS 6,0 x L with hexagon head sealing washer $\geq \text{Ø}16$ mm	

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: stainless steel (1.4301) EN10088</p> <p>Component I: aluminum alloy – EN 573</p> <p>Component II: aluminum alloy – EN 573</p>
<p>Drilling capacity $\Sigma t_i \leq 3.00$ mm</p>	
<p>Timber substructures</p> <p>for timber substructures no performance determined</p>	

Component I & II: Aluminum alloy with $R_m \geq 165$ N/mm ²										
t_i [mm]	t_{ii} [mm]									
	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k}$ [kN]	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
	0.17	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
	0.17	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
	0.17	0.40	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
	0.17	0.40	0.77	1.15	1.15	1.15	1.15	1.15	1.15	1.15
	0.17	0.40	0.77	1.15	1.52	1.52	1.52	1.52	1.52	1.52
	0.17	0.40	0.77	1.15	1.52	2.12	2.12	2.12	2.12	2.12
	0.17	0.40	0.77	1.15	1.52	2.12	2.71	2.71	2.71	2.71
	0.17	0.40	0.77	1.15	1.52	2.12	2.71	2.71	2.71	2.71
	0.17	0.40	0.77	1.15	1.52	2.12	2.71	2.71	2.71	2.71
$N_{R,II,k}$ [kN]	0.20	0.35	0.47	0.59	0.71	0.86	1.01	1.21	1.21	1.21
Component I & II: Aluminum alloy with $R_m \geq 215$ N/mm ²										
t_i [mm]	t_{ii} [mm]									
	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
$V_{R,k}$ [kN]	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	
	0.20	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
	0.20	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
	0.20	0.53	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
	0.20	0.53	1.02	1.50	1.50	1.50	1.50	1.50	1.50	1.50
	0.20	0.53	1.02	1.50	1.99	1.99	1.99	1.99	1.99	1.99
	0.20	0.53	1.02	1.50	1.99	2.76	2.76	2.76	2.76	2.76
	0.20	0.53	1.02	1.50	1.99	2.76	3.53	3.53	3.53	3.53
	0.20	0.53	1.02	1.50	1.99	2.76	3.53	3.53	3.53	3.53
	0.20	0.53	1.02	1.50	1.99	2.76	3.53	3.53	3.53	3.53
$N_{R,II,k}$ [kN]	0.23	0.46	0.61	0.77	0.92	1.12	1.31	1.57	1.57	1.57

<p>self drilling screw</p>	<p>Annex 40</p>
<p>BiGHTY BIM DBS DSS 6,0 x L with hexagon head sealing washer $\geq \varnothing 16$ mm</p>	

Materials

Fastener: stainless steel (1.4301) EN10088

Washer: stainless steel (1.4301) EN10088

Component I: aluminum alloy – EN 573

Component II: S235 - EN 10025-1
S280GD, S320GD or S350GD - EN 10346

Drilling capacity $\Sigma t_i \leq 3.00$ mm

Timber substructures
for timber substructures no performance determined

Component I: Aluminum alloy with $R_m \geq 165$ N/mm ² Component II: S280GD to S350GD, S235											
t_i [mm]	t_{II} [mm]										
	0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.13	1.25	1.50	
$V_{R,k}$ [kN]	0.40	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
	0.50	0.46	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	0.60	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
	0.70	0.88	1.02	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
	0.80	0.88	1.02	1.47	1.52	1.52	1.52	1.52	1.52	1.52	1.52
	0.90	0.88	1.02	1.47	2.12	2.12	2.12	2.12	2.12	2.12	2.12
	1.00	0.88	1.02	1.47	2.20	2.71	2.71	2.71	2.71	2.71	2.71
	1.20	0.88	1.02	1.47	2.20	2.71	2.71	2.71	2.71	2.71	2.71
	1.50	0.88	1.02	1.47	2.20	2.71	2.71	2.71	2.71	2.71	2.71
$N_{R,II,k}$ [kN]	0.66	0.79	0.97	1.27	1.71	1.98	2.23	2.23	2.23	2.23	2.23
Component I: Aluminum alloy with $R_m \geq 215$ N/mm ² Component II: S280GD to S350GD, S235											
t_i [mm]	t_{II} [mm]										
	0.40	0.50	0.55	0.63	0.75	0.88	1.00	1.13	1.25	1.50	
$V_{R,k}$ [kN]	0.40	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	0.50	0.60	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
	0.60	0.88	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
	0.70	0.88	1.02	1.47	1.50	1.50	1.50	1.50	1.50	1.50	1.50
	0.80	0.88	1.02	1.47	1.99	1.99	1.99	1.99	1.99	1.99	1.99
	0.90	0.88	1.02	1.47	2.20	2.76	2.76	2.76	2.76	2.76	2.76
	1.00	0.88	1.02	1.47	2.20	3.29	3.53	3.53	3.53	3.53	3.53
	1.20	0.88	1.02	1.47	2.20	3.29	3.53	3.53	3.53	3.53	3.53
	1.50	0.88	1.02	1.47	2.20	3.29	3.53	3.53	3.53	3.53	3.53
$N_{R,II,k}$ [kN]	0.66	0.79	0.97	1.27	1.71	1.98	2.23	2.23	2.23	2.23	2.23

self drilling screw

BiGHTY BIM DBS DSS 6,0 x L
with hexagon head sealing washer $\geq \varnothing 16$ mm

Annex 41

	<p>Materials</p> <p>Fastener: stainless steel (1.4301) EN10088</p> <p>Washer: -</p> <p>Component I: aluminum alloy – EN 573</p> <p>Component II: aluminum alloy – EN 573</p>
<p>Drilling capacity $\Sigma t_i \leq 4.00$ mm</p>	
<p>Timber substructures</p> <p>for timber substructures no performance determined</p>	

	Component II with $R_m \geq 165$ N/mm ²										
	t _{II} [mm]										
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	2.00	3.00	4.00
N _{R,II,k} [kN]	0.23	0.32	0.40	0.49	0.59	0.68	0.88	1.18	1.51	3.33	5.15

	Component II with $R_m \geq 215$ N/mm ²										
	t _{II} [mm]										
	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.50	2.00	3.00	4.00
N _{R,II,k} [kN]	0.30	0.41	0.52	0.63	0.76	0.89	1.15	1.54	1.97	4.35	6.72

self drilling screw	Annex 42
BiGHTY BIM HF 5,5 x 60 with hexagon head Flange	