



Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments



European Technical Assessment

ETA-18/1136 of 13 November 2023

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	RP, FABA
Product family to which the construction product belongs	Fastening screws for sandwich panels
Manufacturer	REISSER-Schraubentechnik GmbH Fritz-Müller-Straße 10 74653 Ingelfingen-Criesbach DEUTSCHLAND
Manufacturing plant	plant 1 plant 2 plant 3
This European Technical Assessment contains	47 pages including 41 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	330047-01-0602



European Technical Assessment ETA-18/1136 English translation prepared by DIBt

Page 2 of 47 | 13 November 2023

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.



Page 3 of 47 | 13 November 2023

European Technical Assessment ETA-18/1136 English translation prepared by DIBt

Specific part

1 Technical description of the product

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

Table 1 - Fastening screws for sandwich pane
--

Typ of supporting structures	Drilling performance	Component I	Fastening screw	Description	Sealing washer Ø	Annex
					E14	4
Steel Σ t _i ≤	5460	≥ S280GD	RP-r-(FK-)(P-	Bi-metal	E16	5
	Σ t _i ≤ 3 mm	≤ S550GD)6,0xL	Self-drilling screw	E19	6
					E22	7
Steel	Σ t _i ≤ 4 mm	≥ S280GD ≤ S550GD	RP-C3-(FK-)6,3xL	Bi-metal Self-drilling screw	E16	8
					E16	12
Steel Σ	Σ t _i ≤ 5 mm	≥ S280GD ≤ S350GD	RP-WS-(FK-)(P-)6,5xL	Bi-metal Self-drilling screw	E19	13
				Serew	E22	14
					E16	15
Steel	Σ t _i ≤ 5,25 mm	≥ S280GD ≤ S550GD	RP-(7)K-(FK-)(P-)5,5xL	Bi-metal Self-drilling screw	E19	16
				Serew	E22	17
				-	E16	18
Steel	Σ t _i ≤ 6 mm	≥ S280GD ≤ S550GD	RP-K-(FK-)(P-)6,3xL	Bi-metal Self-drilling screw	E19	19
				Serew	E22	20
				_	E16	21
Steel	Σ t _i ≤ 11,25 mm	≥ S280GD ≤ S550GD	RP-K12-(FK-)(P-)5,5xL	Bi-metal Self-drilling screw	E19	22
				00101	E22	23



European Technical Assessment ETA-18/1136

Page 4 of 47 | 13 November 2023

English translation prepared by DIBt

Table 1 - continue

Typ of supporting structures	supporting performance		Fastening screw	Description	Sealing washer Ø	Annex
					E16	24
Steel	Σ t _i ≤ 15 mm	≥ S280GD ≤ S350GD	RP-K15-(FK-)(P-)5,8xL	Bi-metal Self-drilling screw	E19	25
				3010	E22	26
Steel		≥ S280GD ≤ S550GD	FABA-BZ-(FK-)6,3xL	Thread-	E16	27
Steel		≥ S280GD ≤ S550GD	FABA-BZ-(FK-)8,0xL	forming screw	E22	28
				Bi-metal Self-drilling	E14	29
Timber	Σ t _i ≤ 2 mm	≥ S280GD	RP-TD-(FK-)(P-	Screw	E16	30
limber	l _{ef} ≥ 30 mm	≤ S350GD)6,0xL	Admitted for	E19	31
				construction beech	E22	32
					E16	33
Timber	Σ t _i ≤ 2 mm I _{ef} ≥ 30 mm	≥ S280GD ≤ S550GD	RP-TD-(FK-)(P-)6,5xL	Bi-metal Self-drilling screw	E19	34
				00101	E22	35
				Bi-metal Self-drilling	E14	36
Timber	Σ t _i ≤ 3 mm	≥ S280GD	RP-r-(FK-)(P-	Screw	E16	37
Timber	l _{ef} ≥ 30 mm	≤ S350GD)6,0xL	Admitted for	E19	38
				construction beech	E22	39
				D : ()	E16	43
Timber	Σ t _i ≤ 3 mm I _{ef} ≥ 30 mm	≥ S280GD ≤ S350GD	RP-WS-(FK-)(P-)6,5xL	Bi-metal Self-drilling screw	E19	44
				00101	E22	45
Timber	Σ t _i ≤ 26 mm	≥ S280GD ≤ S550GD	FABA-A-(FK-)6,5xL	Thread-	E16	46
Timber	Σ t _i ≤ 34 mm	≥ S280GD ≤ S550GD	FABA-A-(FK-)8,0xL	forming screw	E22	47



European Technical Assessment ETA-18/1136

Page 5 of 47 | 13 November 2023

English translation prepared by DIBt

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

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

The performances given in Section 3 are only valid if the fastening screws are used in compliance with the specifications and conditions given in Annex (1-47).

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

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

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

3.1 Mechanical resistance and stability (BWR 1)

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1

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

In accordance with EAD 330047-01-0602, the applicable European legal act is: Commission Decision 98/214/EC, amended by 2001/596/EC. The system to be applied is: 2+



European Technical Assessment ETA-18/1136

Page 6 of 47 | 13 November 2023

English translation prepared by DIBt

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

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

Issued in Berlin on 13 November 2023 by the Deutsches Institut für Bautechnik

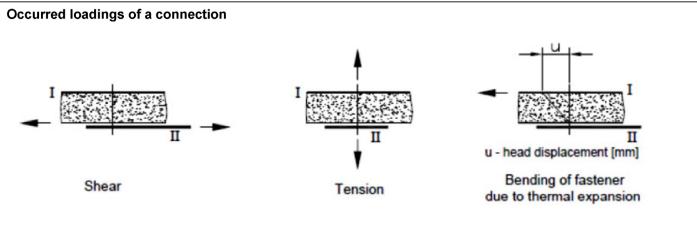
BD Dr.-Ing. Ronald Schwuchow Head of Section

beglaubigt: Ortmann



Examples of	execution and connection	
	Outer face	Core Component II timber substructure
Dimensions	and Materials	
	naterials and dimensions are indicated in the Annexes of the fastening screws:	
Fastener	Material of the fastening screw	
Nasher	Metal material of the sealing washer	
Component I	Material of the sandwich panel (outer skin and inner skin)	
Component II	Material of the supporting substructure	
d, D	Thickness of component I at the fastening position	
N1	Thickness of the outer skin of component I	
N2	Thickness of the inner skin of component I	
hu	Thickness of component II made of metal	
ef	Effective screw-in length in component II made of timber (without drill point)	
g	Screw-in length in component II made of timber (with drill point)	
d _{pd}	Pre-drill diameter of component I and II	
	corresponds to the load-bearing screw-in length of the fastening screw in component II, if the load-be e entire component thickness.	earing screw-in length
Performance	characteristics	
The design releva	ant performance characteristics of a connection are indicated in the Annexes of the fastening screws	S:
N _{R,k}	Characteristic value of tension resistance	
/ _{R,k}	Characteristic value of shear resistance	
max. U	Maximum allowed head displacement of the fastening screw	
n some cases co characteristics of	mponent-specific performance characteristics are indicated for an individual calculation of the desig a connection:	n relevant performance
N _{R,k,II}	Characteristic value of pull-out resistance for component II	
/I _{y,Rk}	Characteristic value of yield moment of the fastening screw for component II made of timber	
ax,k	Characteristic value of withdrawal strength for component II made of timber	
/ _{R,II,k}	Characteristic value of hole bearing resistance for component II	
ĥ,k	Characteristic value of embedding strength for component II made of timber	
Thread-	forming screws for connecting sandwich panels with steel or timber supporting structures	A
		Annex 1
	Terms and explanations	





Design values

The design values of tension and shear resistance of a connection have to be determined as following:

N _{R,d}	Design value of tension resistance
V _{R,d}	Design value of shear resistance
Y _M	Partial safety factor

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

Special conditions

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

For asymmetric **components II** made of metal (e.g. Z- or C-shaped profiles) with component thickness $t_{II} < 3$ mm, the characteristic value $N_{R,k}$ has to be reduced to 70%.

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

N _{s,d}	Design value of the applied tension forces	$\frac{N_{S,d}}{N_{R,d}} + \frac{V_{S,d}}{V_{R,d}} \le 1,0$
V _{s.d}	Design value of the applied shear forces	$\frac{1}{N_{Rd}} + \frac{1}{V_{Rd}} \leq 1.0$

Head displacement

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

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 2

Design



Component II made of timber

 $N_{R,II,k}$ is determined according to EN 1995-1-1:2014 + A1:2008, equation (8.40a), with $f_{ax,k}$ given in the Annex of the fastening screw. $V_{R,II,k}$ is determined according to EN 1995-1-1:2004 + A1:2008, equation (8.9), with $M_{y,Rk}$ given in the Annex of the fastening screw and $f_{h,k}$ according to EN 1995-1-1:2014 + A1:2008, equation (8.15) and equation (8.16).

Installation conditions

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

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

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

The use of impact wrench is not allowed.

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

Component I and component II have to be in direct contact to each other.

The use of compression resistant thermal insulation strips up to a thickness of 3 mm is allowed

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 3

Design and installation



- <u>5.5</u>		<u>,5</u> <u>u</u>	AFE 8	Fastener: stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.456 Washer: stainless steel – EN 10088 steel grade 1.4301 or 1.4401 Component I: S280GD to S550GD – EN 10346 Component II: S235 to S275 – EN 10025-1 S280GD to S350GD – EN 10346 Drilling performance: $\Sigma t_i \le 3.0 \text{ mm}$ Timber substructure: Performance not assessed								7, 1.4578
t u [1	mm]	1.25	1.50	1.75	2.00	2.50	3.00	4.00	5.00	6.00	-	-
	0.40	-	0.64	0.64	0.64	-	-	-	-	-	-	-
V _{R,k} [kN] t _{N2} [mm]	0.50	-	0.93	0.93	0.93	-	-	-	-	-	-	-
	0.55	-	1.09	1.09	1.09	-	-	-	-	-	-	-
	0.63	-	1.35	1.35	1.35	-	-	-	-	-	-	-
	0.75	-	1.91	1.91	1.91	-	-	-	-	-	-	-
	0.88	-	2.30	2.30	2.30	-	-	-	-	-	-	-
	1.00	-	2.81	2.81	2.81	-	-	-	-	-	-	-
	0.40	-	1.00	1.00	1.00	-	-	-	-	-	-	-
	0.45	-	1.12	1.12	1.12	-	-	-	-	-	-	-
	0.50	-	1.23	1.23	1.23	-	-	-	-	-	-	-
ΞΞ	0.55	-	1.57	1.57	1.57	-	-	-	-	-	-	-
N _{R,k} [kN] t _{N1} [mm]	0.60	-	1.91	1.91	1.91	-	-	-	-	-	-	-
Ч. [] Ч. []	0.63	-	2.11	2.11	2.11	-	-	-	-	-	-	-
ت Z	0.70	-	2.66	2.66	2.66	-	-	-	-	-	-	-
	0.75	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	0.88	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	1.00	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	" [kN]	-	2.84	2.84	2.84	-	-	-	-	-	-	-
N _{R,k} ,		1	6.2	5.3	4.6	-	-	-	-	-	-	-
N _{R,k} ,	30	-				1	- 1		- 1	- 1	- 1	-
	40	-	8.2	7.0	6.1	-						
	40 50	-	8.2 10.3	8.8	7.7	-	-	-	-	-	-	-
	40 50 60	-	8.2 10.3 12.3	8.8 10.5	7.7 9.2	-	-	-	-	-	-	
	40 50 60 70	-	8.2 10.3 12.3 14.4	8.8 10.5 12.3	7.7 9.2 10.7				- - -		- - -	
	40 50 60 70 80	-	8.2 10.3 12.3 14.4 16.4	8.8 10.5 12.3 14.0	7.7 9.2 10.7 12.2		- - -		- - -	- - - -	- - -	-
Max. U [mm] d, D [mm]	40 50 60 70 80 100	-	8.2 10.3 12.3 14.4 16.4 20.5	8.8 10.5 12.3 14.0 17.5	7.7 9.2 10.7 12.2 15.3		- - - -		- - - -	- - - -	- - - -	-
	40 50 60 70 80	- - - -	8.2 10.3 12.3 14.4 16.4	8.8 10.5 12.3 14.0	7.7 9.2 10.7 12.2				- - - - -	- - - -	- - - -	-

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 4



30		<u>1,5</u> <u>10</u>			3,3	Fastene Washer Compo Compo	r: nent I:	stainless steel gra stainless steel gra S280GD S235 to S280GD	de 1.430 steel – I de 1.430 to S550 S275 – E	1, 1.440 EN 1008 1 or 1.44 GD – EN	1, 1.4567 8 101 1 10346 5-1	7, 1.4578
	1 3.9 0 Ø6	U U U U U U U U U U U U U U U U U U U		TX/SIT	ns in mm	Drilling p Timber s		10	t _i ≤ 3.0 n erforman	nm ce not as	ssessed	
tıı [n	nml	1.25	1.50	1.75	2.00	2.50	3.00	4.00	5.00	6.00	_	_
	0.40	-	0.64	0.64	0.64	-	-	-	-	-	-	-
V _{R,k} [kN] t _{N2} [mm]	0.50	-	0.93	0.93	0.93	-	-	-	-	-	-	-
	0.55	-	1.09	1.09	1.09	-	-	-	-	-	-	-
	0.63	-	1.35	1.35	1.35	-	-	-	-	-	-	-
	0.75	-	1.91	1.91	1.91	-	-	-	-	-	-	-
	0.88	-	2.30	2.30	2.30	-	-	-	-	-	-	-
	1.00	-	2.81	2.81	2.81	-	-	-	-	-	-	-
	0.40	-	1.24 ^{a)}	1.24 ^{a)}	1.24 ^{a)}	-	-	-	-	-	-	-
	0.45	-	1.37 ^{a)}	1.37 ^{a)}	1.37 ^{a)}	-	-	-	-	-	-	-
	0.50	-	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	-	-	-	-	-	-	-
55	0.55	-	1.85 ^{a)}	1.85 ^{a)}	1.85 ^{a)}	-	-	-	-	-	-	-
N _{R,k} [kN] t _{N1} [mm]	0.60	-	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}		-	-	-	-	-	-
3,k 1 [n	0.63	-	2.43 ^{a)}	2.43 ^{a)}	2.43 ^{a)}		-	-	-	-	-	-
t Z	0.70	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	0.75	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	0.88	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	1.00	-	2.84	2.84	2.84	-	-	-	-	-	-	-
N _{R,k,ll}	[kN]	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	30	-	6.2	5.3	4.6	-	-	-	-	-	-	-
	40	-	8.2	7.0	6.1	-	-	-	-	-	-	-
Ξ_	50	-	10.3	8.8	7.7	-	-	-	-	-	-	-
max. U [mm] d, D [mm]	60	-	12.3	10.5	9.2	-	-	-	-	-	-	-
	70	-	14.4	12.3	10.7	-	-	-	-	-	-	-
ах.	80	-	16.4	14.0	12.2	-	-	-	-	-	-	-
^q ü	100	-	20.5	17.5	15.3	-	-	-	-	-	-	-
	120	-	24.7	21.1	18.4	-	-	-	-	-	-	-
	≥140	-	28.8	24.6	21.4	-	-		-	-	-	-
						eased by 8,3%				1		
Thr	read-fori	ming sc				ndwich pa	anels w	ith steel	or timbe	r		
				support	ınq stru	ictures					-	nnex 5

RP-r-(FK-)(P-)6,0xL with sealing washer ≥ ∅ 16 mm



26		Г Г		Ø12	3/3	Fastene Washer Compo Compo	:: nent I:	stainless steel gra stainless steel gra S280GD S235 to S S280GD	de 1.430 steel – I de 1.430 to S550 S275 – E	91, 1.440 EN 10088 91 or 1.44 GD – EN EN 10025	1, 1.456 3 01 10346 5-1	7, 1.4578
	1 3,9 0 Ø6	A/F 8	0	TX/SIT Dimension) Is in mm	Drilling p Timber s		50	t _i ≤ 3.0 m erforman	nm ce not as	ssessed	
tı [n	nml	1.25	1.50	1.75	2.00	2.50	3.00	4.00	5.00	6.00	_	- 1
6.	0.40	-	0.64	0.64	0.64	-	-	-	-	-	-	-
	0.50	-	0.93	0.93	0.93	-	-	-	_	-	-	-
V _{R,k} [kN] t _{N2} [mm]	0.55	-	1.09	1.09	1.09	-	-	-	-	-	-	-
	0.63	-	1.35	1.35	1.35	-	-	-	-	-	-	-
	0.75	-	1.91	1.91	1.91	-	-	-	-	-	-	-
	0.88	-	2.30	2.30	2.30	-	-	-	-	-	-	-
	1.00	-	2.81	2.81	2.81	-	-	-	-	-	-	-
	0.40	-	1.59	1.59	1.59	-	-	-	-	-	-	-
	0.45	-	1.79	1.79	1.79	-	-	-	-	-	-	-
	0.50	-	1.98	1.98	1.98	-	-	-	-	-	-	-
ΣΞ	0.55	-	2.18	2.18	2.18	-	-	-	-	-	-	-
N _{R,k} [kN] t _{N1} [mm]	0.60	-	2.39	2.39	2.39	-	-	-	-	-	-	-
и к, к N1 [0.63	-	2.51	2.51	2.51	-	-	-	-	-	-	-
T T	0.70	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	0.75	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	0.88	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	1.00	-	2.84	2.84	2.84	-	-	-	-	-	-	-
N R,k,ll	[kN]	-	2.84	2.84	2.84	-	-	-	-	-	-	-
	30	-	6.2	5.3	4.6	-	-	-	-	-	-	-
-	40	-	8.2	7.0	6.1	-	-	-	-	-	-	-
max. U [mm] d, D [mm]	50 60	-	10.3	8.8	7.7	-	-	-	-	-	-	-
<u> </u>	60 70	-	12.3	10.5	9.2	-	-	-	-	-	-	-
ם [70	-	14.4	12.3	10.7	-	-	-	-	-	-	-
d,	80	-	16.4	14.0	12.2	-	-	-	-	-	-	-
Ľ	100	-	20.5	17.5	15.3	-	-	-	-	-	-	-
	120	-	24.7	21.1	18.4	-	-	-	-	-	-	-
	≥140	-	28.8	24.6	21.4	-	-	-	-	-	-	-
Thi	read-forr	ning sci		connect support		dwich pa	anels w	ith steel o	or timbe	r		

RP-r-(FK-)(P-)6,0xL with sealing washer ≥ ∅ 19 mm



		0,5 		Ø12				steel g stainle steel g S280G S235 t	ss steel rade 1.4 ss steel rade 1.4 D to S5 o S275 - GD to S3	301, 1.4 – EN 10 301 or 1 50GD – - EN 100	401, 1.4 088 .4401 EN 1034 025-1	6	578
ŧ	Ħ					Drilling	norform		Σt _i ≤ 3.0				
	Ħ		\frown	TX/S			perform	50		2 - 200 2 00 200 - 200 200			
5.5	↓ <u>3,9</u> Ø6	AF 8		Dimensi		<u>Timber</u>	substruc	<u>cture:</u>	Perform	ance not	assesse	ed	
tıı [n		1.25	1.50	1.75	2.00	2.50	3.00	4.00	5.00	6.00	-	-]
	0.40	-	0.64	0.64	0.64	-	-	-	-	-	-	-	
55	0.50	-	0.93	0.93	0.93	-	-	-	-	-	-	-	
L KN	0.55	-	1.09	1.09	1.09	-	-	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.63	-	1.35	1.35	1.35	-	-	-	-	-	-	-	
₽₹	0.75 0.88	-	1.91 2.30	1.91 2.30	1.91 2.30	-	-	-	-	-	-	-	
	0.88 1.00	-	2.30	2.30	2.30	-	-	-	-	-	-	-	
	0.40	-	1.70	1.70	1.70	-	-	-	-	-	-	-	-
	0.40	-	1.70	1.84	1.84	-	-	-	-	-	-	-	
	0.45	-	1.98	1.98	1.98	-	-	-	-	-	-	-	
	0.55	-	2.33	2.33	2.33								
N _{R,k} [kN] t _{N1} [mm]	0.60	-	2.82	2.82	2.82								
⊒ [×]	0.63	_	2.84	2.84	2.84								
t _{N1}	0.00	_	2.84	2.84	2.84		_		_	_		_	
	0.75	_	2.84	2.84	2.84	_	_	_	_	_	_	_	
	0.88	_	2.84	2.84	2.84	_	-	_	_	_	_	_	
	1.00	-	2.84	2.84	2.84	-	-	_	-	_	_	_	
N _{R,k,II}		-	2.84	2.84	2.84	-	-	-	-	-	_	-	1
, .,	30	-	6.2	5.3	4.6	-	-	-	-	-	-	-	1
	40	-	8.2	7.0	6.1	-	-	-	-	-	-	-	
max. U [mm] d, D [mm]	50	-	10.3	8.8	7.7	-	-	-	-	-	-	-	
<u> </u>	60	-	12.3	10.5	9.2	-	-	-	-	-	-	-	
	70	-	14.4	12.3	10.7	-	-	-	-	-	-	-	
ах. 1, Г	80	-	16.4	14.0	12.2	-	-	-	-	-	-	-	
Ë	100	-	20.5	17.5	15.3	-	-	-	-	-	-	-	
	120	-	24.7	21.1	18.4	-	-	-	-	-	-	-	
	≥140	-	28.8	24.6	21.4	-	-	-	-	-	-	-]
Thi	read-for	ming sc		suppor RP-r-(ting str (FK-)(P-	ndwich uctures)6,0xL ≥ ø 22 mm		vith stee	el or tim	ber	_	Annex	7



					T	2							
	Ø16	,5		Ø 12.		Fastene		stainless steel gra				7, 1.4578	3
					<u> </u>	Washer		stainless	steel – I	EN 1008	8		
IN				÷,				steel gra					
				,	1	Compo	nent I:	S280GD	to S550	GD – El	N 10346		
						Compo	nent II:	S235 to	S275 – E	EN 10025	5-1		
								S280GD					
								S450GD					
~								040000	2 0.0 m		10040		
1,8					-								
4						Drilling p	erforma	nce: Σ	t _i ≤ 4.0 n	nm			
				TX/SIT	-								
				\bigcirc		<u>Timber s</u>	ubstruct	ure: Po	ertorman	ice not as	ssessed		
				Ŵ									
· ·	5,3												
-	Ø6,3			Dimensior	ns in mm								
					I								
t _{ii} [n	nm]	1.25	1.50	2.00	2.50	3.00	4.00	6.00	-	-	-	-]
	0.40	-	-	0.86	0.86	0.86	-	-	-	-	-	-	
	0.50	-	-	1.35	1.35	1.35	-	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	-	-	1.60	1.60	1.60	-	-	-	-	-	-	
<u>_</u> E	0.63	-	-	2.00	2.00	2.00	-	-	-	-	-	-	
t _{N2}	0.75	-	-	2.60	2.60	2.60	-	-	-	-	-	-	
	0.88	-	-	3.50	3.50	3.50	-	-	-	-	-	-	
	1.00	-	-	3.50	3.50	3.50	-	-	-	-	-	-	_
	0.40	-	-	1.59	1.59	1.59	-	-	-	-	-	-	
	0.45	-	-	1.79	1.79	1.79	-	-	-	-	-	-	
	0.50	-	-	1.88	1.88	1.88	-	-	-	-	-	-	
ΣΞ	0.55	-	-	2.00	2.00	2.00	-	-	-	-	-	-	
<u> 1</u> <u>1</u>	0.60	-	-	2.50	2.50	2.50	-	-	-	-	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.63	-	-	2.80	2.80	2.80	-	-	-	-	-	-	1
~ ~	0.70	-	-	3.26	3.26	3.26	-	-	-	-	-	-	
	0.75	-	-	3.60	3.60	3.60	-	-	-	-	-	-	1
	0.88	-	-	3.60	3.60	3.60	-	-	-	-	-	-	1
N	1.00	-	-	3.60	3.60	3.60	-	-	-	-	-	-	-
N _{R,k,ll}	[KN] 30	-	-	3.60 8.0	3.60 8.0	3.60	-	-	-	-	-	-	-
max. U [mm] d, D [mm]	30 40	-	-	0.0 11.0	11.0	8.0 11.0	-	-	-	-	-	-	
<u>ב</u>	40 50	-	-	15.0	15.0	11.0	-	-	-	-	-	-	
그들	50 60	-	-	17.5	17.5	17.5	_	-	_			-	
ax.	70	_		20.0	20.0	20.0	_						1
Ĕ	280	-		20.0	20.0	20.0	_						
	<u>∠00</u>	-	-	23.0	_ <u>_</u> 23.0	23.0	-	-	-	-	-	-	

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures RP-C3-(FK-)6,3

Annex 8

with sealing washer $\geq \emptyset$ 16 mm



				¢ 12	3,3	Fastene Washer Compo Compo	nent I: nent II:	stainless steel gra stainless steel gra S280GD S235 to S280GD	de 1.430 steel – I de 1.430 to S350 S275 – E	1, 1.440 EN 10088 11 or 1.44 GD – EN EN 10025 GD – EN	1, 1.4567 3 101 10346 5-1	7, 1.4578	
2,6			_	TX/SI		Timber s				ce not as	sessed		
8		AF 8		\bigcirc)								
-	5,3 Ø6,5	ŧ	\smile	Dimensior	is in mm								
				Dimension	13 11 11 11								
t _{ii} [n	nm]	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	5.00	-	-	
	0.40	-	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	-	-	
_	0.50	-	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	-	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	-	-	
<u>_</u>	0.63	-	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-	-	
V _R ,	0.75	-	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	-	-	
	0.88	-	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	-	-	
	1.00	-	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	-	-	
	0.40	-	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	-	-	
	0.45	-	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	-	-	
	0.50	-	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	-	-	
ΣΞ	0.55	-	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	-	-	
ΞĽ	0.60	-	1.80	1.92 ^{a)}	1.92 ^{a)}	1.92 ^{a)}	1.92 ^{a)}	1.92ª)	1.92 ^{a)}	1.92 ^{a)}	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.63	-	1.80	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	-	-	
~ ~	0.70	-	1.80	2.49 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	-	-	
	0.75	-	1.80	2.49 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	-	-	
	0.88	-	1.80	2.49 ^{a)}	3.17^{a}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	-	-	
	1.00	-	1.80	2.49 ^{a)}	3.17^{a}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	-	-	
N _{R,k,ll}		-	1.80	2.49 ^{c)}	3.17 ^{c)}	4.52 ^{c)}	5.86 ^{c)}	6.54 ^{c)}	7.21 ^{c)}	8.17 ^{c)}	-	-	
	30	-	6.0	5.1	4.5	3.6	3.0	2.6	2.3	2.1	-	-	
	40 50	-	8.0	6.9	6.0 7.5	4.8	4.0	3.4	3.0	2.8	-	-	
max. U [mm] d, D [mm]	50 60	-	10.0 12.0	8.6 10.3	7.5 9.0	6.0 7.2	5.0 6.0	4.3 5.1	3.8 4.5	3.5 4.2	-	-	
าax. U [mm d, D [mm]	80 70	-		10.3	9.0 10.5			1		4.2	-	-	
ם ני	70 80	-	14.0 16.0	12.0	10.5	8.4 9.6	7.0 8.0	6.0	5.3 6.0		-	-	
d,		-						6.9	6.0 7.5	5.6	-	-	
	100 120	-	20.0	17.1 20.6	15.0	12.0	10.0	8.6 10.3	7.5	7.0	-	-	
	120 ≥140	-	24.0 28.0	20.6	18.0 21.0	14.4 16.8	12.0 14.0	1	9.0 10.5	8.4 0.8	-	-	
ndex ^{a).} Eor		-				ased by 8.3%		12.0	10.5	9.8	-	-	I

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{a)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 12

RP-WS-(FK-)(P-)6,5xL with sealing washer ≥ ø 16 mm



	019 Ø 10,5 Ø 0 0 0 0 0 0 0 0 0 0 0 0 0	AF.8				Fastene Washer Compo Compo Drilling p Timber s	nent I: nent II: <u>erformar</u>		de 1.430 steel – I de 1.430 to S350 S275 – E to S350 $t_i \le 5.0 \text{ m}$	1, 1.440 EN 1008 1 or 1.44 GD – EN EN 10025 GD – EN	1, 1.4567 3 601 10346 6-1 10346	7, 1.4578	
-=	Ø6,5			Dimensior	is in mm								
4. 5	nm1	4.95	1 50	1.75	2.00	2.50	2 00	2 50	4.00	E 00			1
t _{ii} [n		1.25	1.50		2.00		3.00	3.50	4.00	5.00	-	-	
	0.40	-	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	-	-	
	0.50	-	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	-	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	-	-	
<u>ب</u> ت	0.63	-	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-	-	
t _{N2}	0.75	-	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	-	-	
	0.88	-	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	-	-	
	1.00	-	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	-	-	
	0.40	-	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	-	-	
	0.45	-	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	-	-	
	0.50	-	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	-	-	
	0.55	_	1.80	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	-	_	
N E	0.60	_	1.80	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	_	_	
<u>ا</u> گر	0.63	_	1.80	2.49 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	_	_	
N _{R,k} [kN] t _{N1} [mm]	0.00	_	1.80	2.49 ^{a)}	3.17 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	_	_	
	0.75	_	1.80	2.49 ^{a)}	3.17 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	_		
	0.75	-	1.80	2.49 ⁹	3.17 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	-		
	1.00	-	1.80	2.49 ^{a)}	3.17 ^{a)}	4.08 [°] /	4.08 [°]	4.08 ⁻⁹	4.00 [°]	4.08 ⁻⁾	-	-	
N _{R,k,II}			1.80	2.49 ^{c)}	3.17 ^c)	4.47°°	4.47 ⁻⁰	6.54 ^{c)}	7.21 ^{c)}	4.47 ^{°°}			1
INR,k,ll	<u>[KN]</u> 30	-				_					-	-	1
		-	6.0	5.1	4.5	3.6	3.0	2.6	2.3	2.1	-	-	
	40	-	8.0	6.9	6.0	4.8	4.0	3.4	3.0	2.8	-	-	
2 2	50 60	-	10.0	8.6	7.5	6.0	5.0	4.3	3.8	3.5	-	-	
	60 70	-	12.0	10.3	9.0	7.2	6.0	5.1	4.5	4.2	-	-	
max. U [mm] d, D [mm]	70	-	14.0	12.0	10.5	8.4	7.0	6.0	5.3	4.9	-	-	
d, l	80	-	16.0	13.7	12.0	9.6	8.0	6.9	6.0	5.6	-	-	
5	100	-	20.0	17.1	15.0	12.0	10.0	8.6	7.5	7.0	-	-	
	120	-	24.0	20.6	18.0	14.4	12.0	10.3	9.0	8.4	-	-	
	≥140		28.0	24.0	21.0	16.8	14.0	12.0	10.5	9.8	_	-	1

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{a)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 13



$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	- - - -
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
Image: Section of the section of th	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
0.50 - 1.80 1.83 ^a)	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
2 - $ $ 0.70 $ $ - $ $ 1.80 $ $ 2.49 ^{a)} $ $ 3.17 ^{a)} $ $ 3.81	_
0.75 - 1.80 2.49^{a_1} 3.17^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1} 4.31^{a_1}	-
0.88 - 1.80 2.49 ^a 3.17 ^a 4.52 ^a 4.64 ^a 4.64 ^a 4.64 ^a 4.64 ^a -	-
1.00 - 1.80 2.49 ^{a)} 3.17 ^{a)} 4.52 ^{a)} 4.94 ^{a)} 4.94 ^{a)} 4.94 ^{a)} 4.94 ^{a)} -	-
N _{R,k,II} [kN] - 1.80 2.49 ^c 3.17 ^c 4.52 ^c 5.86 ^c 6.54 ^c 7.21 ^c 8.17 ^c -	-
30 - 6.0 5.1 4.5 3.6 3.0 2.6 2.3 2.1 -	-
40 - 8.0 6.9 6.0 4.8 4.0 3.4 3.0 2.8 -	-
E 50 - 10.0 8.6 7.5 6.0 5.0 4.3 3.8 3.5 - 12.0 10.2 0.0 7.2 6.0 5.1 4.5 4.2 -	-
50 - 10.0 8.6 7.5 6.0 5.0 4.3 3.8 3.5 - 60 - 12.0 10.3 9.0 7.2 6.0 5.1 4.5 4.2 - 70 - 14.0 12.0 10.5 8.4 7.0 6.0 5.3 4.9 - 80 - 16.0 13.7 12.0 9.6 8.0 6.9 6.0 5.6 -	-
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
x Ω 80 - 16.0 13.7 12.0 9.6 8.0 6.9 6.0 5.6 - x Ω 7 100 - 20.0 17.1 15.0 12.0 10.0 8.6 7.5 7.0 -	
120 - 24.0 20.6 18.0 14.4 12.0 10.3 9.0 8.4 -	
≥140 - 28.0 24.0 21.0 16.8 14.0 12.0 10.5 9.8 -	-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{a)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

RP-WS-(FK-)(P-)6,5xL with sealing washer ≥ ø 22 mm Annex 14



					T								
= -	Ø16 Ø10	,5		Ø12		Fastene	er:	stainless steel gra				7 1 4578	3
1-1		2				Washer		stainless				, 1.1070	
1 to		•			<u> </u>	vvasitei		steel gra					
w					ကို	Compo	nent I:	S280GD					
						-		S235 to	S275 – E	EN 10025	j-1		
								S280GD					
1,8								S450GD					
-		-						040000	= 0.0 m		0040		
+													
				TX/SI	г	Drilling p	erforma	<u>nce:</u> Σ	t _i ≤ 5.25	mm			
	A			6		Timber s	ubstruct	uro: D	orformon	ce not as	socod		
+	┠╦┥	AF 3		((R	リー		ubstruct	uie. Po	enorman	ce not as	sesseu		
-	4,7	<u> </u>	S	۲									
T	4,7 Ø5,5			Dimensio	ns in mm								
-	1 1-	_		Dimension									
r		1		1		-	I	1	1	1	1	I	
tı [n		1.50	1.75	2.00	2.50	3.00	3.50	4.00	5.00	≥6.00	-	-	4
	0.40	0.63	0.63	0.63	0.63	0.63	0.63	0.63	-	-	-	-	
	0.50	1.08	1.08	1.08	1.08	1.08	1.08	1.08	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.30	1.30	1.30	1.40	1.40	1.40	1.40	-	-	-	-	
2 [n	0.63	1.52	1.52	1.60	1.70	1.80	1.80	2.00	-	-	-	-	
t <	0.75	1.84	1.84	1.90	2.10	2.30	2.30	2.60	-	-	-	-	
	0.88	2.52	2.52	2.70	2.90	3.10	3.10	3.40	-	-	-	-	
	1.00	3.20	3.20	3.50	3.70	3.90	3.90	4.20	-	-	-	-	-
	0.40	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-	-	-	-	
	0.45	1.34	1.34	1.34	1.34	1.34	1.34	1.34					
	0.50	1.63	1.63	1.63	1.63	1.63	1.63	1.63	-	-	-	-	
ĮΈ	0.55	1.68	1.82	1.82	1.82	1.82	1.82	1.82	-	-	-	-	
<u>a</u> <u>*</u>	0.60	1.68	1.94	2.00	2.00	2.00	2.00	2.00					
N _{R,k} [kN] t _{N1} [mm]	0.63	1.68 1.68	1.94	2.11	2.11	2.11	2.11 2.38	2.11	-	-	-	-	
	0.70 0.75	1.68	1.94 1.94	2.20 2.20	2.38	2.38 2.57	2.38	2.38					
	0.75	1.68	1.94	2.20	3.05	3.05	3.05	3.05	-	-	-	-	
	1.00	1.68	1.94	2.20	3.25	3.05	3.05	3.51	_	_	_	_	
N _{R,k,ll}		1.68	1.94	2.20	3.25	4.30	5.63	6.95 ^{c)}		_		_	1
	30	14.0	12.0	12.0	8.4	7.2	6.4	6.4	_	_	_	_	1
<u> </u>	40	17.5	15.0	15.0	10.4	9.2	7.6	7.6	_	_	_	-	
μ μ	50	21.0	18.0	18.0	12.4	11.2	8.8	8.8	_	_	_	-	
	60	24.5	21.0	21.0	13.6	12.8	10.8	10.8	_	_	_	-	
max. U [mm] d, D [mm]	70	28.0	24.0	24.0	19.0	18.0	16.0	16.0	-	-	-	-	
8	≥80	28.0	24.0	24.0	19.0	18.0	16.0	16.0	-	-	-	-	
									1		1		1

Index °): For t_{ll} of least S320GD the indicated values of $N_{R,k,ll}$ can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 15

RP-(7)K-(FK-)(P-)5,5xL with sealing washer ≥ Ø 16 mm



 												
	Ø19 Ø10),5		Ø12		Fastene		stainless				7 1 1570
1-	┲┲╵╴	2		- \$12		1.47		steel gra				7, 1.4570
1						Washer		stainless steel gra				
w					en l	Compo		S280GD				
	∾_					Compo						
						Compo		S235 to \$				
								S280GD	to S350	GD – EN	10346	
1,8	Ц							S450GD	≤ 3.0 mi	m – EN 1	0346	
+												
•				TX/SI	-	Drilling p	erformar	οce: Σ.	ti ≤ 5.25	mm		
			\frown			Drining p	chonnai	<u>100.</u> 2	u = 0.20			
÷		A/F 8		(0) [Timber s	ubstructi	<u>ure:</u> Pe	erforman	ce not as	sessed	
~	IJ	_ ₹		(In	2							
+	4,7		\smile	\cup								
-	Ø5,5	<u>I</u>		Dimensior	is in mm							
t _{ii} [n	nm1	1.50	1.75	2.00	2.50	3.00	3.50	4.00	5.00	≥6.00	-	_
սլլ	0.40	0.63	0.63	0.63	0.63	0.63	0.63	0.63	5.00	20.00	-	-
	0.40	1.08	1.08	1.08	1.08	1.08	1.08	1.08	-		_	
동도	0.55	1.30	1.30	1.30	1.40	1.40	1.40	1.40	-		_	
V _{R,k} [kN] t _{N2} [mm]	0.63	1.50	1.50	1.60	1.70	1.80	1.80	2.00	_	_	_	
/R,k N2 []	0.75	1.84	1.84	1.90	2.10	2.30	2.30	2.60	_	_	_	_
<u>r</u> <	0.88	2.52	2.52	2.70	2.90	3.10	3.10	3.40	_	_	_	_
	1.00	3.20	3.20	3.50	3.70	3.90	3.90	4.20	-	_	_	_
	0.40	1.59 ^{a)}										
	0.45		1.59%	1.59~/	1.59%	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	-	-	-	-
	0.40	1.68	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	-	-	-	
		1.68 1.68	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	- -		- -	
	0.50	1.68	1.79 ^{a)} 1.94	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	- - -	- - -	- - -	- - -
[kN]	0.50 0.55	1.68 1.68	1.79 ^{a)} 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	- - -		- - -	
_{Չ,k} [kN] 1 [mm]	0.50	1.68	1.79 ^{a)} 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)}	- - -		- - -	
N _{R,k} [kN] t _{N1} [mm]	0.50 0.55 0.60	1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)}			- - - -	- - - - -
N _{R,k} [kN] t _{N1} [mm]	0.50 0.55 0.60 0.63	1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)}				
N _{R,k} [kN] t _{N1} [mm]	0.50 0.55 0.60 0.63 0.70	1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.25	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)}				- - - - - - - -
N _{R,k} [KN] t _{n1} [mm]	0.50 0.55 0.60 0.63 0.70 0.75	1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.25 3.25	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)}				- - - - - - - - - -
	0.50 0.55 0.60 0.63 0.70 0.75 0.88	1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.25 3.25 3.25	1.79 ^a) 1.98 ^a) 2.18 ^a) 2.39 ^a) 2.51 ^a) 3.37 ^a) 3.98 ^a) 4.30	$\begin{array}{c} 1.79^{a)} \\ 1.98^{a)} \\ 2.18^{a)} \\ 2.39^{a)} \\ 2.51^{a)} \\ 3.37^{a)} \\ 3.98^{a)} \\ 4.62^{a)} \end{array}$	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)} 4.62 ^{a)}			- - - - - - - - - - - -	- - - - - - - - - - - - -
N _{R,k,ll}	0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00	1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.25 3.25 3.25 3.25 3.25	1.79 ^a) 1.98 ^a) 2.18 ^a) 2.39 ^a) 2.51 ^a) 3.37 ^a) 3.98 ^a) 4.30 4.30	$\begin{array}{c} 1.79^{a)} \\ 1.98^{a)} \\ 2.18^{a)} \\ 2.39^{a)} \\ 2.51^{a)} \\ 3.37^{a)} \\ 3.98^{a)} \\ 4.62^{a)} \\ 5.25^{a)} \end{array}$	$\begin{array}{c} 1.79^{a)}\\ 1.98^{a)}\\ 2.18^{a)}\\ 2.39^{a)}\\ 2.51^{a)}\\ 3.37^{a)}\\ 3.98^{a)}\\ 4.62^{a)}\\ 5.25^{a)} \end{array}$	- - - - - - - - - - - - - - - -		- - - - - - - - - - - - - - -	
N _{R,k,ll}	0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN]	1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.51 ^{a)} 3.25 3.25 3.25 3.25 3.25 3.25	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)} 4.30 4.30 4.30	$\begin{array}{c} 1.79^{a)} \\ 1.98^{a)} \\ 2.18^{a)} \\ 2.39^{a)} \\ 2.51^{a)} \\ 3.37^{a)} \\ 3.98^{a)} \\ 4.62^{a)} \\ 5.25^{a)} \\ \hline 5.63 \\ 6.4 \\ 7.6 \end{array}$	$\begin{array}{c} 1.79^{a)}\\ 1.98^{a)}\\ 2.18^{a)}\\ 2.39^{a)}\\ 2.51^{a)}\\ 3.37^{a)}\\ 3.98^{a)}\\ 4.62^{a)}\\ 5.25^{a)}\\ 6.95^{c)}\end{array}$	- - - - - - - - - - - - - - - - - - -		- - - - - - - - - - - - - - - - - - -	
N _{R,k,ll}	0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40 50	1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 3.25 3.25 3.25 3.25 3.25 3.25 8.4 10.4 12.4	1.79 ^a) 1.98 ^a) 2.18 ^a) 2.51 ^a) 3.37 ^a) 3.98 ^a) 4.30 4.30 4.30 7.2 9.2 11.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)} 4.62 ^{a)} 5.25 ^{a)} 5.63 6.4 7.6 8.8	$\begin{array}{c} 1.79^{a)}\\ 1.98^{a)}\\ 2.18^{a)}\\ 2.39^{a)}\\ 2.51^{a)}\\ 3.37^{a)}\\ 3.98^{a)}\\ 4.62^{a)}\\ 5.25^{a)}\\ 6.95^{c)}\\ 6.4\\ 7.6\\ 8.8\end{array}$	- - - - - - - - - - - - - - - - - - -		- - - - - - - - - - - - - - - - - -	
N _{R,k,I} [uuu] [uuu]	0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40 50 60	1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 3.25 3.25 3.25 3.25 3.25 3.25 3.25 8.4 10.4	1.79 ^a) 1.98 ^a) 2.18 ^a) 2.51 ^a) 3.37 ^a) 3.98 ^a) 4.30 4.30 4.30 7.2 9.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)} 4.62 ^{a)} 5.25 ^{a)} 5.63 6.4 7.6 8.8 10.8	$\begin{array}{c} 1.79^{a)}\\ 1.98^{a)}\\ 2.18^{a)}\\ 2.39^{a)}\\ 2.51^{a)}\\ 3.37^{a)}\\ 3.98^{a)}\\ 4.62^{a)}\\ 5.25^{a)}\\ 6.95^{c)}\\ 6.4\\ 7.6\end{array}$	- - - - - - - - - - - - - - - - - - -		- - - - - - - - - - - - - - - - - - -	
	0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40 50	1.68 1.68 1.68 1.68 1.68 1.68 1.68 1.68	1.79 ^{a)} 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	1.79 ^{a)} 1.98 ^{a)} 2.18 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.39 ^{a)} 3.25 3.25 3.25 3.25 3.25 3.25 8.4 10.4 12.4	1.79 ^a) 1.98 ^a) 2.18 ^a) 2.51 ^a) 3.37 ^a) 3.98 ^a) 4.30 4.30 4.30 7.2 9.2 11.2	1.79 ^{a)} 1.98 ^{a)} 2.18 ^{a)} 2.51 ^{a)} 3.37 ^{a)} 3.98 ^{a)} 4.62 ^{a)} 5.25 ^{a)} 5.63 6.4 7.6 8.8	$\begin{array}{c} 1.79^{a)}\\ 1.98^{a)}\\ 2.18^{a)}\\ 2.39^{a)}\\ 2.51^{a)}\\ 3.37^{a)}\\ 3.98^{a)}\\ 4.62^{a)}\\ 5.25^{a)}\\ 6.95^{c)}\\ 6.4\\ 7.6\\ 8.8\end{array}$	- - - - - - - - - - - - - - - - - - -			

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{c)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 16

RP-(7)K-(FK-)(P-)5,5xL with sealing washer ≥ ∅ 19 mm



	Ø22	<u>,5</u>		Ø12		Fastene	er:	stainless steel gra				7 1 4578	ł
1		2		- 12		\A/aaba		_				7, 1.4570	,
1 to	_ ,			4		Washer		stainless steel gra					
T _{co}					- CC	Compo	nont l·	S280GD					
10	⊷_												
						Compo	nent II:	S235 to					
								S280GD	to S350	GD – EN	10346		
1,8	Ц							S450GD	≤ 3.0 m	m – EN 1	0346		
÷													
Ŧ				TX/SI	- İ	Drilling p	orforma		ti ≤ 5.25	mm			
		1	\frown			<u>Drining p</u>	enonna	<u>ice.</u> 2	u = 0.20				
	ri i	VF 8		16) [Timber s	ubstruct	<u>ure:</u> Pe	erforman	ce not as	ssessed		
~	דו				リー								
+	4,7	Ľ '	\bigcirc	\sim	-								
	Ø5,5	_		Dimensio	ns in mm								
		4.50	475	0.00	0.50	0.00	0.50	4.00	5.00			1	1
τι [r	nm]	1.50	1.75	2.00	2.50	3.00	3.50	4.00	5.00	≥6.00	-	-	-
	0.40	0.63	0.63 1.08	0.63	0.63	0.63	0.63	0.63	-	-	-	-	
52	0.50 0.55	1.08	1.08	1.08 1.30	1.08		1.08 1.40	1.08	-	-	-	-	
N N N	0.55	1.50	1.50	1.60	1.40 1.70	1.40 1.80	1.40	1.40	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.83	1.84	1.84	1.90	2.10	2.30	2.30	2.60	-	-	-	-	
₽ ב	0.75	2.52	2.52	2.70	2.10	3.10	3.10	3.40	-	-	-	-	
	1.00	3.20	3.20	3.50	3.70	3.10	3.90	4.20	_	-	-	-	
	0.40	1.68	1.70	1.70	1.70	1.70	1.70	1.70	-	-	-	-	1
	0.40	1.68	1.84	1.84	1.84	1.84	1.84	1.84	-	-	-	-	
	0.50	1.68	1.94	1.98 ^{a)}		_	_	_					
	0.55	1.68	1.94	2.20	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}					
N E	0.60	1.68	1.94	2.20	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}					
N _{R.k} [kN] t _{N1} [mm]	0.63	1.68	1.94	2.20	3.12	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	_	_	_	_	
t N	0.70	1.68	1.94	2.20	3.25	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}					
	0.75	1.68	1.94	2.20	3.25	4.30	4.31 ^{a)}	4.31 ^{a)}	_	_	_	-	
	0.88	1.68	1.94	2.20	3.25	4.30	4.64 ^{a)}	4.64 ^{a)}	-	-	-	-	
	1.00	1.68	1.94	2.20	3.25	4.30	4.94 ^{a)}	4.94 ^{a)}	-	-	-	-	
N _{R,k,I}	[kN]	1.68	1.94	2.20	3.25	4.30	5.63	6.95 ^{c)}					1
	30	14.0	12.0	12.0	8.4	7.2	6.4	6.4	-	-	-	-]
- E E	40	17.5	15.0	15.0	10.4	9.2	7.6	7.6	-	-	-	-	
	50	21.0	18.0	18.0	12.4	11.2	8.8	8.8	-	-	-	-	
	60	24.5	21.0	21.0	13.6	12.8	10.8	10.8	-	-	-	-	
max. U [mm] d, D [mm]	70	28.0	24.0	24.0	19.0	18.0	16.0	16.0	-	-	-	-	
2	≥80	28.0	24.0	24.0	19.0	18.0	16.0	16.0	-	-	-	-	

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 17

RP-(7)K-(FK-)(P-)5,5xL with sealing washer ≥ Ø 22 mm



	<u>¢</u> 12,6 ↓ 0 1	A/F 3/8"	0		33	Fastene Washer Compo Compo Drilling p	:: nent I: nent II: <u>erforma</u>	steel gra stainless steel gra S280GE S235 to S280GE S450GE	s steel – E ade 1.430 s steel – E ade 1.430) to S550 S275 – E) to S350) \leq 3.0 m t \leq 6.0 m erforman	1, 1.440 EN 1008 11 or 1.44 GD – EN EN 10025 GD – EN m – EN 1	1, 1.4567 8 401 I 10346 5-1 I 10346 I0346	7, 1.4578	
7.5	5,5 Ø6,3	A/F 10	O	Dimension	is in mm								
t _{ii} [n	nml	1.50	2.00	2.50	3.00	4.00	5.00	-	-	_	-	-	
	0.40	0.86 ^{b)}	0.86 ^{b)}	0.86 ^{b)}	0.86 ^{b)}		0.86 ^{b)}	-	-	-	-	-	
	0.50	1.35	1.35	1.35	1.35	1.35	1.35	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.60	1.60	1.60	1.60	1.60	1.60	-	-	-	-	-	
<u><u></u><u></u><u></u><u></u></u>	0.63	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	
/R,k N2	0.75	2.60	2.60	2.60	2.60	2.60	2.60	-	-	-	-	-	
	0.88	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	1.00	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	0.40	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}		1.59 ^{a)}	-	-	_	-	-	
	0.45	1.70	1.74 ^{a)}	1.74 ^{a)}	1.74 ^{a)}		1.74 ^{a)}	_	-	_	_	_	
	0.50	1.70	1.88 ^{a)}	1.88 ^{a)}	1.88 ^{a)}		1.88 ^{a)}	-	-	_	_	_	
	0.55	1.70	2.00	2.00	2.00	2.00	2.00	-	_	-	-	_	
N E	0.60	1.70	2.10	2.97	2.97	2.97	2.97	-	-	-	_	_	
N _{R,k} [kN] t _{N1} [mm]	0.63	1.70	2.10	3.30	3.30	3.30	3.30	-	-	_	-	_	
t N	0.70	1.70	2.10	3.35	3.59	3.59	3.59	-	-	-	-	_	
	0.75	1.70	2.10	3.35	3.80	3.80	3.80	_	-	_	_	_	
	0.88	1.70	2.10	3.35	4.40	4.40	4.40	_	-	_	-	_	
	1.00	1.70	2.10	3.35	4.60	4.90	4.90	_	_	_	_	-	
N _{R,k,II}		1.70	2.10	3.35	4.60	6.60	6.60	-	-	_	-	-	
	30	12.0	8.0	8.0	8.0	5.0	5.0	-	-	-	-	-	
_	40	13.5	11.0	11.0	11.0	7.0	7.0	-	-	-	-	-	
max. U [mm] d, D [mm]	50	15.0	15.0	15.0	15.0	11.0	9.0	-	-	-	-	_	
	60	17.5	17.5	17.5	17.5	13.0	10.0	-	-	-	-	-	
<u>. с</u>	70	20.0	20.0	20.0	20.0	15.0	10.5	-	-	-	-	_	
d, d	80	23.0	23.0	23.0	23.0	17.0	12.0	-	-	-	-	-	
-	≥100	23.0	23.0	23.0	23.0	17.0	13.5	_	_	_	_	_	
Index ^{a).} For						eased by 8.3%		1	1				1

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 18

RP-K-(FK-)(P-)6,3xL with sealing washer ≥ Ø 16 mm



	9 Ø 12,6	8" A/F.8	0	¢13	3,3	Fastene Washer Compo Compo	r: nent I:	steel gra stainless steel gra S280GE S235 to S280GE	s steel – E ade 1.430 s steel – E ade 1.430) to S550 S275 – E) to S350) $\leq 3.0 \text{ mm}$	1, 1.440 EN 1008 1 or 1.44 GD – EN EN 10025 GD – EN	1, 1.4567 8 401 10346 5-1 10346	7, 1.4578	i
		A/F 3/			-	Drilling p	erforma	<u>nce:</u> Σ	t _i ≤ 6.0 m	ım			
7.5-	<u>5,5</u> Ø6,3	A/F 10		TX/SIT)	<u>Timber s</u>	ubstruct	<u>ure:</u> P	erforman	ce not as	ssessed		
tı [n	nml	1.50	2.00	2.50	3.00	4.00	5.00	-	-	_	_	-	1
	0.40	0.86 ^{b)}	0.86 ^{b)}	-	-	-	-	-					
	0.50	1.35	1.35	1.35	1.35	1.35	1.35	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.60	1.60	1.60	1.60	1.60	1.60	-	-	-	-	-	
Ē	0.63	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	
KR,I	0.75	2.60	2.60	2.60	2.60	2.60	2.60	-	-	-	-	-	
	0.88	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	1.00	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	0.40	1.70	1.83	1.83	1.83	1.83	1.83	-	-	-	-	-	1
	0.45	1.70	1.91	1.91	1.91	1.91	1.91						
	0.50	1.70	1.99 ^{a)}	1.99 ^{a)}	1.99 ^{a)}	1.99 ^{a)}	1.99 ^{a)}	-	-	-	-	-	
	0.55	1.70	2.10	2.31 ^{a)}	2.31 ^{a)}	2.31 ^{a)}	2.31 ^{a)}	-	-	-	-	-	
	0.60	1.70	2.10	3.06 ^{a)}	3.06 ^{a)}	3.06 ^{a)}	3.06 ^{a)}						
N _{R,k} [kN] t _{N1} [mm]	0.63	1.70	2.10	3.35	3.38 ^{a)}	3.38 ^{a)}	3.38 ^{a)}	-	-	-	-	-	
r z	0.70	1.70	2.10	3.35	3.89 ^{a)}	3.89 ^{a)}	3.89 ^{a)}						
	0.75	1.70	2.10	3.35	4.26 ^{a)}	4.26 ^{a)}	4.26 ^{a)}	-	-	-	-	-	
	0.88	1.70	2.10	3.35	4.60	4.79 ^{a)}	4.79 ^{a)}	-	-	-	-	-	
	1.00	1.70	2.10	3.35	4.60	5.25 ^{a)}	5.25 ^{a)}	-	-	-	-	-	
N _{R,k,ll}	[kN]	1.70	2.10	3.35	4.60	6.60	6.60						1
	30	12.0	8.0	8.0	8.0	5.0	5.0	-	-	-	-	-	1
max. U [mm] d, D [mm]	40	13.5	11.0	11.0	11.0	7.0	7.0	-	-	-	-	-	
	50	15.0	15.0	15.0	15.0	11.0	9.0	-	-	-	-	-	
<u>ا ج</u> ر	60	17.5	17.5	17.5	17.5	13.0	10.0	-	-	-	-	-	
, × ,	70	20.0	20.0	20.0	20.0	15.0	10.5	-	-	-	-	-	
d m	80	23.0	23.0	23.0	23.0	17.0	12.0	-	-	-	-	-	
	≥100	23.0	23.0	23.0	23.0	17.0	13.5	-	-	-	_	-	
Index ^{a)} : For						eased by 8,3%							

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 19

RP-K-(FK-)(P-)6,3xL with sealing washer ≥ Ø 19 mm



	2 Ø 12,6	AF 3/8"		Ø 13		Fastene Washer Compo Compo	nent I: nent II:	steel gr stainles steel gr S280G S235 to S280G S450G	ss steel – E rade 1.430 ss steel – E rade 1.430 D to S550 D to S550 D to S350 D ≤ 3.0 mr Σ t _i ≤ 6.0 m	1, 1.440 EN 1008 1 or 1.44 GD – EN EN 10025 GD – EN m – EN 1	1, 1.4567 8 401 1 10346 5-1 1 10346	7, 1.4578	3
1.5-	5,5 Ø6,3	A/F 10		TX/SI Dimension)	<u>Timber s</u>	ubstruct	<u>ture:</u> I	Performan	ce not as	ssessed		
tı [n	nml	1.50	2.00	2.50	3.00	4.00	5.00	_	-	_	_	_	1
	0.40	0.86 ^{b)}	0.86 ^{b)}	_	-	_	_	_					
	0.50	1.35	1.35	1.35	1.35	1.35	1.35	-	-	-	_	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.60	1.60	1.60	1.60	1.60	1.60	-	-	-	-	-	
<u></u>	0.63	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	
t V R,I	0.75	2.60	2.60	2.60	2.60	2.60	2.60	-	-	-	-	-	
	0.88	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	1.00	3.20	3.50	3.50	3.50	3.50	3.50	-	-	-	-	-	
	0.40	1.70	2.07	2.07	2.07	2.07	2.07	-	-	-	-	-	1
	0.45	1.70	2.09	2.09	2.09	2.09	2.09						
	0.50	1.70	2.10	2.11 ^{a)}	2.11 ^{a)}	2.11 ^{a)}	2.11 ^{a)}	-	-	-	-	-	
52	0.55	1.70	2.10	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	-	-	-	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.60	1.70	2.10	3.15	3.15 ^{a)}		3.15 ^{a)}						
41 [J	0.63	1.70	2.10	3.35	3.46 ^{a)}		3.46 ^{a)}	-	-	-	-	-	
ئ Z	0.70	1.70	2.10	3.35	4.20 ^{a)}		4.20 ^{a)}						
	0.75	1.70	2.10	3.35	4.60	4.72 ^{a)}	4.72 ^{a)}	-	-	-	-	-	
	0.88	1.70	2.10	3.35	4.60	5.18 ^{a)}	5.18 ^{a)}		-	-	-	-	
	1.00	1.70	2.10	3.35	4.60	5.60 ^{a)}	5.60 ^{a)}	-	-	-	-	-	
NR,k,I	[kN]	1.70	2.10	3.35	4.60	6.60	6.60						
	30	12.0	8.0	8.0	8.0	5.0	5.0	-	-	-	-	-	
<u>ה</u> מ	40	13.5	11.0	11.0	11.0	7.0	7.0	-	-	-	-	-	
max. U [mm] d, D [mm]	50	15.0	15.0	15.0	15.0	11.0	9.0	-	-	-	-	-	
	60	17.5	17.5	17.5	17.5	13.0	10.0	-	-	-	-	-	
ax. d, [70	20.0	20.0	20.0	20.0	15.0	10.5	-	-	-	-	-	
E Ŭ	80	23.0	23.0	23.0	23.0	17.0	12.0	-	-	-	-	-	
	≥100	23.0	23.0	23.0	23.0	17.0	13.5	-	-	-	-	-	
Index ^{a)} : For	t _{N1} of least §	S320GD the	indicated va	lues of NR,kC	an be incre	ased by 8,3%	, D						

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 20

RP-K-(FK-)(P-)6,3xL with sealing washer ≥ Ø 22 mm



1-1-3 				¢12		Fastene Washer Compo Compo	:: nent I: nent II:	steel gra stainless steel gra S280GD S235 to 3	de 1.430 steel – E de 1.430 to S550 S275 – E	EN 10088 1, 1.4401 EN 10088 1 or 1.440 GD – EN EN 10025- GD – EN	, 1.4567 01 10346 ·1	, 1.4578
- 14 -	4,95 Ø 5,3	AF 8		TX/SIT)	<u>Drilling p</u> <u>Timber s</u>			ti ≤ 11.25 erforman	5 mm ce not as:	sessed	
4., Ге	nm1	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	≥16.00		
tıı [r	0.40	5.00	4.00	0.77	0.77	0.77	0.77	12.00			-	-
	0.50	_	1.19	1.19	1.19	1.19	1.19				_	
둘급	0.55	_	1.19	1.19	1.40	1.40	1.40		_		_	
E E	0.63	-	1.40	1.40	1.40	1.80	1.40		-	_	-	
V _{R,k} [kN] t _{N2} [mm]	0.05	_	2.40	2.40	2.40	2.40	2.40		_			
ב <	0.88	_	3.20	3.20	3.20	3.20	3.20					
	1.00	-	4.00	4.00	4.00	4.00	4.00		-	_	-	
	1.00		1.05	1.05	1.05	1.05	1.05	_	-	_	-	_
	0.40	_			1.00	1	1.00	_	_	_	_	_
	0.40 0.45	-			1 34	1 1 34	1 34		_	_	-	
	0.45	-	1.34	1.34	1.34	1.34	1.34 1.63	-	-	-	-	-
	0.45 0.50	-	1.34 1.63	1.34 1.63	1.63	1.63	1.63	-	-	-	-	-
kN]	0.45 0.50 0.55	- - -	1.34 1.63 1.82	1.34 1.63 1.82	1.63 1.82	1.63 1.82	1.63 1.82				- - -	-
,k [kN] [mm]	0.45 0.50 0.55 0.60	- - -	1.34 1.63 1.82 2.00	1.34 1.63 1.82 2.00	1.63 1.82 2.00	1.63 1.82 2.00	1.63 1.82 2.00					
N _{R,k} [KN] t _{N1} [mm]	0.45 0.50 0.55 0.60 0.63		1.34 1.63 1.82 2.00 2.11	1.34 1.63 1.82 2.00 2.11	1.63 1.82 2.00 2.11	1.63 1.82 2.00 2.11	1.63 1.82 2.00 2.11					
N _{R,k} [kN] t _{N1} [mm]	0.45 0.50 0.55 0.60 0.63 0.70	- - -	1.34 1.63 1.82 2.00 2.11 2.38	1.34 1.63 1.82 2.00 2.11 2.38	1.63 1.82 2.00 2.11 2.38	1.63 1.82 2.00 2.11 2.38	1.63 1.82 2.00 2.11 2.38					
N _{R,k} [kN] t _{N1} [mm]	0.45 0.50 0.55 0.60 0.63 0.70 0.75		1.34 1.63 1.82 2.00 2.11 2.38 2.57	1.34 1.63 1.82 2.00 2.11 2.38 2.57	1.63 1.82 2.00 2.11 2.38 2.57	1.63 1.82 2.00 2.11 2.38 2.57	1.63 1.82 2.00 2.11 2.38 2.57					-
N _{R,k} [kN] t _{N1} [mm]	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05	1.63 1.82 2.00 2.11 2.38 2.57 3.05	1.63 1.82 2.00 2.11 2.38 2.57 3.05	1.63 1.82 2.00 2.11 2.38 2.57 3.05					
	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51			- - - - - - - - -		
N _{R,k,l}	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.19	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.84	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)}	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)}	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)}			- - - - - - - - - - - -		
N _{R,k,l}	0.45 0.50 0.65 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.19 6.4	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.84 4.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 4.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 4.0	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 3.0					
N _{R,k,l}	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.19 6.4 7.6	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.84 4.8 5.6	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49°) 4.8 5.6	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 4.0 4.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 3.0 4.0					
N _{R,k,I} [uuu]	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40 50		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.19 6.4 7.6 8.8	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.84 4.8 5.6 6.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 4.8 5.6 6.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49°) 4.0 4.8 5.6	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49°) 3.0 4.0 4.8					
	0.45 0.50 0.55 0.60 0.63 0.70 0.75 0.88 1.00 [kN] 30 40		1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.19 6.4 7.6	1.34 1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 5.84 4.8 5.6	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49°) 4.8 5.6	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 4.0 4.8	1.63 1.82 2.00 2.11 2.38 2.57 3.05 3.51 6.49 ^{c)} 3.0 4.0					

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 21



81-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		_		¢12		Fastene Washer Compo Compo	:: nent I: nent II:	steel gra stainless steel gra S280GD S235 to 3	de 1.430 steel – F de 1.430 to S550 S275 – E	EN 10088 1, 1.4401 EN 10088 11 or 1.44 GD – EN EN 10025 GD – EN	, 1.4567 01 10346 -1	, 1.4578	
- 14	4,95	AF 8		TX/SIT		<u>Drilling p</u> <u>Timber s</u>			ti ≤ 11.25 erforman	5 mm ce not as	sessed		
-	\$5,3			Dimensior	is in mm								
tı [n	nml	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	≥16.00	-	-	1
	0.40	-	0.77	0.77	0.77	0.77	0.77	-	-	-	-	-	1
	0.50	-	1.19	1.19	1.19	1.19	1.19	-	-	-	-	-	
ΞΞ	0.55	-	1.40	1.40	1.40	1.40	1.40	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.63	-	1.80	1.80	1.80	1.80	1.80	-	-	-	-	-	
/R,k	0.75	-	2.40	2.40	2.40	2.40	2.40	-	-	-	-	-	
	0.88	-	3.20	3.20	3.20	3.20	3.20	-	-	-	-	-	
	1.00	-	4.00	4.00	4.00	4.00	4.00	-	-	-	-	-	
	0.40	-	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	-	-	-	-	-	1
	0.45	-	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	-	-	-	-	-	
	0.50	-	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	-	-	-	-	-	
	0.55	-	2.18 ^{a)}	2.18 ^{a)}	2.18 ^{a)}	2.18 ^{a)}	2.18 ^{a)}	-	-	-	-	-	
<u> </u> <u> </u> <u> </u> <u> </u>	0.60	-	2.39 ^{a)}	2.39 ^{a)}	2.39 ^{a)}	2.39 ^{a)}	2.39 ^{a)}	-	-	-	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.63	-	2.51 ^{a)}	2.51 ^{a)}	2.51 ^{a)}	2.51 ^{a)}	2,51 ^{a)}	-	-	-	-	-	
r z	0.70	-	3.37 ^{a)}	3.37 ^{a)}	3.37 ^{a)}	3.37 ^{a)}	3.37 ^{a)}	-	-	-	-	-	
	0.75	-	3.98 ^{a)}	3.98 ^{a)}	3.98 ^{a)}	3.98 ^{a)}	3.98 ^{a)}	-	-	-	-	-	
	0.88	-	4.62 ^{a)}	4.62 ^{a)}	4.62 ^{a)}	4.62 ^{a)}	4.62 ^{a)}	-	-	-	-	-	
	1.00	-	5.19	5.25 ^{a)}	5.25 ^{a)}	5.25 ^{a)}	5.25 ^{a)}	-	-	-	-	-	
N _{R,k,II}		-	5.19	5.84	6.49 ^{c)}	6.49 ^{c)}	6.49 ^{c)}	-	-	-	-	-	
	30	-	6.4	4.8	4.8	4.0	3.0	-	-	-	-	-	
[mm] [mm]	40	-	7.6	5.6	5.6	4.8	4.0	-	-	-	-	-	
lax. U [mr d, D [mm]	50	-	8.8	6.8	6.8	5.6	4.8	-	-	-	-	-	
<u>,</u>	60	-	10.8	8.8	8.8	7.2	5.6	-	-	-	-	-	
d, D	70	-	16.0	13.0	13.0	10.5	8.0	-	-	-	-	-	
	≥80	-	16.0	13.0	13.0	10.5	8.0	-	-	-	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{c)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 22

RP-K12-(FK-)(P-)5,5xL with sealing washer ≥ Ø 19 mm



3) <u>,5</u>		Ø 12		Fastene Washer Compos Compos	:: nent I: nent II:	steel gra stainless steel gra S280GD S235 to	de 1.430 steel – F de 1.430 to S550 S275 – E	EN 10088 01, 1.4401 EN 10088 11 or 1.44 GD – EN EN 10025 GD – EN	, 1.4567 01 10346 -1	r, 1.4578	
· · · · · ·				TX/SIT		Drilling p	erforma	nce: Σ	ti ≤ 11.25	5 mm			
		1/		$\overline{\Box}$									
14		AF 8)	<u>Timber s</u>	upstruct	<u>ure.</u> Pe	enorman	ce not as	sessed		
<u>+</u>	4,95	+ \	\bigcirc	C									
-	Ø5,3			Dimensior	ns in mm								
tıı [n	nm]	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	≥16.00	-	-	1
	0.40	-	0.77	0.77	0.77	0.77	0.77	-	-	-	-	-	1
	0.50	-	1.19	1.19	1.19	1.19	1.19	-	-	-	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	-	1.40	1.40	1.40	1.40	1.40	-	-	-	-	-	
Ē	0.63	-	1.80	1.80	1.80	1.80	1.80	-	-	-	-	-	
KR,F	0.75	-	2.40	2.40	2.40	2.40	2.40	-	-	-	-	-	
	0.88	-	3.20	3.20	3.20	3.20	3.20	-	-	-	-	-	
	1.00	-	4.00	4.00	4.00	4.00	4.00	-	-	-	-	-	
	0.40	-	1.70	1.70	1.70	1.70	1.70	-	-	-	-	-	1
	0.45	-	1.84	1.84	1.84	1.84	1.84	-	-	-	-	-	
	0.50	-	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	-	-	-	-	-	
	0.55	-	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	-	-	-	-	-	
л <mark>[k</mark>]	0.60	-	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	-	-	-	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.63	-	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	-	-	-	-	-	
	0.70	-	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	-	-	-	-	-	
	0.75	-	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	-	-	-	-	-	
	0.88	-	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}	-	-	-	-	-	
	1.00	-	4.94 ^{a)}	5.25 ^{a)}	5.25 ^{a)}	5.25 ^{a)}	5.25 ^{a)}	-	-	-	-	-	
NR,k,II	[kN]	-	5.19	5.84	6.49 ^{c)}	6.49 ^{c)}	6.49 ^{c)}	-	-	-	-	-	1
	30	-	6.4	4.8	4.8	4.0	3.0	-	-	-	-	-	1
E 🗆	40	-	7.6	5.6	5.6	4.8	4.0	-	-	-	-	-	
	50	-	8.8	6.8	6.8	5.6	4.8	-	-	-	-	-	
<u> </u>						7.2	5.6	_	_	_	-	-	
t. U [mm] D [mm]	60	-	10.8	8.8	8.8	1.2	0.0					1	
max. U [mr d, D [mm]		-	10.8 16.0	8.8 13.0	13.0	10.5	8.0	_	_	-	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{a)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 23

RP-K12-(FK-)(P-)5,5xL with sealing washer ≥ Ø 22 mm



	6.10				T	Fastan	ander:	ata: al a a a	ata al E	NI 40000	,	
l H	Ø10,5			Ø12		Fastene	er:		steel – E de 1.430			1 4578
1-1	T				-	\//eebe		_				, 1.4576
					7	Washer			steel – E de 1.430			
1 co					τ. Γ	0	()	-				
	(n)					Compo			to S5500			
						Compo	nent II:		S275 – E			
								S280GD	to S3500	GD – EN	10346	
1		-										
8					ŀ							
						Drilling p	erforma	<u>nce:</u> Σ	t _i ≤ 15.00	mm		
			\frown	TX/SI	r	Timber s	ubetruet		erforman	o not as	coccod	
1		AF		(\bigcirc))	TITIDEI S	ubstruct		Shorman	le not as	30330U	
<u>+</u>	5,15	1 1	J		·							
-	Ø 5,8			Discours								
-				Dimensior	is in mm							
tı [r	nm]	4.00	5.00	6.00	7.00	8.00	10.00	12.00	≥15.00	-	-	
	0.40	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	-	-	
	0.50	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	-	-	
<u></u>	0.63	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	-	-	
t _{N2}	0.75	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	-	-	
	0.88	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	-	-	
	1.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	-	-	
	0.40	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	-	-	
	0.45	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	-	-	
	0.50	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	1.18 ^{a)}	-	-	
2 Z Z	0.55	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	1.55 ^{a)}	-	-	
N _{R,k} [kN] t _{N1} [mm]	0.60	1.92 ^{a)}	1.92ª)	1.92 ^{a)}	1.92 ^{a)}	1.92 ^{a)}	1.92ª)	1.92 ^{a)}	1.92 ^{a)}	-	-	
N T T	0.63	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	2.14 ^{a)}	-	-	
	0.70	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	2.65 ^{a)}	-	-	
	0.75	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	3.02 ^{a)}	-	-	
	0.88	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53 ^{a)}	3.53^{a}	-	-	
	1.00	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	4.01 ^{a)}	-	-	
	1 [kN] 30	4.78 ^{c)} 2.3	6.75 ^{c)} 2.1	8.72 ^{c)} 2.1	8.90 ^{c)} 2.1	8.90 ^{c)}	8.90 ^{c)} 2.1	8.90 ^{c)} 2.1	8.90 ^{c)} 2.1	-	-	
[[mm]]	30 40	2.3 6.4	4.8	4.8	4.4	4.0	3.0	3.0	3.0	-	-	
	50	7.6	4.0 5.6	4.0 5.6	4.4 5.2	4.0	4.0	4.0	4.0			
	60	8.8	6.8	6.8	6.2	5.6	4.0	4.8	4.8			
d, D	70	10.8	8.8	8.8	8.0	7.2	5.6	5.6	5.6	_	_	
^ح ٤	≥80	16.0	13.0	13.0	11.7	10.5	8.0	8.0	8.0	_	_	
Index ^{a).} For						ased by 8.3%		0.0	0.0	_	_	1

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{c)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 24

RP-K15-(FK-)(P-)5,8xL with sealing washer ≥ Ø 16 mm



		0			33	Fastene Washer Compor	:: nent I:	steel gra stainless steel gra S280GD	steel – E de 1.430 steel – E de 1.430 to S5500	1, 1.4401 N 10088 1 or 1.44 GD – EN	l, 1.4567 3 01 10346	, 1.4578
1,8		-			_	Drilling p		S280GD	S275 – E to S3500 ti ≤ 15.00	GD – EN		
		mt	\frown	TX/SIT	[
1		AF		(\mathbf{Q})		Timber s	ubstruct	<u>ure:</u> Pe	erformand	ce not as	sessed	
<u> </u>	5,15	1 1	\bigcirc	C	/							
-	Ø5,8			Dimensior	ns in mm							
t _{ii} [n	nm]	4.00	5.00	6.00	7.00	8.00	10.00	12.00	≥15.00	-	-	
	0.40	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	-	-	
	0.50	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	-	-	
<u>v</u> E	0.55	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.63	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	-	-	
t _{N2}	0.75	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	-	-	
	0.88	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	-	-	
	1.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	-	-	
	0.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	-	-	
	0.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	-	-	
	0.50	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	1.51 ^{a)}	-	-					
5 2	0.55	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	1.94 ^{a)}	-	-					
N _{R,k} [kN] t _{N1} [mm]	0.60	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	2.37 ^{a)}	-	-					
ч1 []	0.63	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	2.63 ^{a)}	-	-					
	0.70	3.23 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	3.23 ^{a)}	-	-					
	0.75	3.66 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	3.66 ^{a)}	-	-					
	0.88	4.08 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	4.08 ^{a)}	-	-					
	1.00	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}	-	-					
N _{R,k,I}		4.78 ^{c)}	6.75 ^{c)}	8.72 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	-	-	
〒_	30	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-	-	
	40	6.4	4.8	4.8	4.4	4.0	3.0	3.0	3.0	-	-	
	50 60	7.6	5.6	5.6	5.2	4.8	4.0	4.0	4.0	-	-	
max. U [mm] d, D [mm]	60 70	8.8	6.8 。。	6.8	6.2	5.6	4.8	4.8	4.8 5.6	-	-	
g	70	10.8	8.8	8.8	8.0	7.2	5.6	5.6	5.6	-	-	
Index ^{a).} For	≥80	16.0	13.0	13.0	11.7	10.5	8.0	8.0	8.0	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{c)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 25

RP-K15-(FK-)(P-)5,8xL with sealing washer ≥ Ø 19 mm



1		5 		012	33	Fastene Washer Compor	:: nent I: nent II:	steel gra stainless steel gra S280GD S235 to	steel – E de 1.430 steel – E de 1.430 to S5500 S275 – E to S3500	1, 1.4401 N 10088 1 or 1.44 GD – EN N 10025	I, 1.4567 } 01 10346 -1	, 1.4578
	5,15 Ø 5,8	AF 8		Dimension		<u>Drilling p</u> <u>Timber s</u>	sessed					
					I							
tı [n		4.00	5.00	6.00	7.00	8.00	10.00	12.00	≥15.00	-	-	
	0.40	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	-	-	
	0.50	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	-	-	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	-	-	
<u></u>	0.63	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	-	-	
t _{N2}	0.75	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	-	-	
	0.88	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	-	-	
	1.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	-	-	
	0.40	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	-	-	
	0.45	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	-	-	
	0.50	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}	-	-					
	0.55	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	-	-					
N _{R,k} [kN] t _{N1} [mm]	0.60	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	-	-					
1 [*]	0.63	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	-	-					
r z	0.70	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	-	-					
	0.75	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	-	-					
	0.88	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}	-	-					
	1.00	4.94 ^{a)}	4.94 ^{a)}	4.94 ^{a)}	4.94 ^{a)}	-	-					
N _{R,k,II}		4.78 ^{c)}	6.75 ^{c)}	8.72 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	8.90 ^{c)}	-	-	
	30	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-	-	
[mm] [mm]	40	6.4	4.8	4.8	4.4	4.0	3.0	3.0	3.0	-	-	
[mm]	50	7.6	5.6	5.6	5.2	4.8	4.0	4.0	4.0	-	-	
D . U	60	8.8	6.8	6.8	6.2	5.6	4.8	4.8	4.8	-	-	
max. d, D	70	10.8	8.8	8.8	8.0	7.2	5.6	5.6	5.6	-	-	
	≥80	16.0	13.0	13.0	11.7	10.5	8.0	8.0	8.0	-	-	
Index ^{a).} For											I	I

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{c)}: For t_{II} of least S320GD the indicated values of N_{R,k,II} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 26



		Fastener: stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578 Washer: stainless steel – EN 10088 steel grade 1.4301 or 1.4401 Component I: S280GD to S550GD – EN 10346 Component II: S235 to S275 – EN 10025-1 S280GD to S350GD – EN 10346
		<u>Drilling performance:</u> Performance not assessed
Ø 6,3	Dimensions in mm	Timber substructure: Performance not assessed

tu [mm]	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	≥10.00	-	-
d _{nd}	[mm]	ø 5.0			ø 5.3			ø 5.5	(ø 5.7 b	ei t⊫ ≥		
Фра									7.00)			
	0.40	0.86 ^{b)}	-	-								
	0.50	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	-	-
Ι Ŝ Ē	0.55	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	-	-
V _{R,k} [kN] t _{N2} [mm]	0.63	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	-	-
t _{N2}	0.75	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	-	-
-	0.88	3.20	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	-	-
	1.00	3.20	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	-	-
	0.40	1.59 ^{a)}	1,59 ^{a)}	-	-							
	0.45	1.73 ^{a)}	-	-								
	0.50	1.88 ^{a)}	-	-								
52	0.55	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	-	-
N _{R,k} [kN] t _{N1} [mm]	0.60	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50		
- <u>-</u>	0.63	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	-	-
r ₽	0.70	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.26	-	-
	0.75	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	-	-
	0.88	3.60	4.10	4.40	4.40	4.40	4.40	4.40	4.40	4.40	-	-
	1.00	3.60	4.10	4.45	4.80	4.90	4.90	4.90	4.90	4.90	-	-
N _{R,k}	,ıı [kN]	3.60	4.10	4.45	4.80	4.90	4.90	4.90	4.90	4.90	-	-
-	30	12.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	-	-
[mm]	40	13.5	7.0	7.0	7.0	5.0	5.0	5.0	4.5	4.5	-	-
	50	15.0	9.0	9.0	9.0	6.0	6.0	6.0	6.0	6.0	-	-
	60	17.5	11.0	11.0	11.0	7.0	7.0	7.0	7.0	7.0	-	-
max, d, [70	20.0	13.0	13.0	13.0	8.0	8.0	8.0	8.0	8.0	-	-
	≥80	22.5	14.5	14.5	14.5	9.0	9.0	9.0	9.0	9.0	-	-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 27

FABA-BZ-(FK-)6,3xL with sealing washer ≥ ø 16 mm

Page 31 of European Technical Assessment ETA-18/1136 of 13 November 2023

English translation prepared by DIBt



H2		<i>∞</i> <i>∞</i>	n n 1 1 1 1 1		Dimensior	-	Fastene Washer Compo Compo Drilling p	nent I: nent II: <u>erformar</u>	steel gra stainless steel gra S280GD S235 to S S280GD	de 1.430 steel – I de 1.430 to S550 S275 – E to S350	EN 10088 11, 1.440 EN 10088 11 or 1.44 GD – EN EN 10025 GD – EN ce not as	1, 1.4567 3 601 10346 5-1 10346 ssessed	7, 1.4578	}
	t _{II} [mm	າໄ	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	≥10.00	_	-	1
	d _{pd} [mr				ø6.8				7.0	ø7.2	ø7.4			1
	(0.40	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	0.92 ^{b)}	-	-]
		0.50	1.30 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	1.44 ^{b)}	-	-	
¥		0.55	1.52 ^{b)}	1.56 ^{b)}	1.58 ^{b)}	1.60 ^{b)}	1.62 ^{b)}	1.64 ^{b)}	1.65 ^{b)}	1.65 ^{b)}	1.65 ^{b)}	-	-	
	[트] (0.63	1.86 ^{b)}	2.04 ^{b)}	2.14 ^{b)}	2.25 ^{b)}	2.33 ^{b)}	2.42 ^{b)}	2.50 ^{b)}	2.50 ^{b)}	2.50 ^{b)}	-	-	
×	t r 1	0.75	2.41 ^{b)}	2.63 ^{b)}	2.84 ^{b)}	3.06 ^{b)}	3.22 ^{b)}	3.39 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	-	-	
	(0.88	2.41 ^{b)}	2.63 ^{b)}	2.84 ^{b)}	3.06 ^{b)}	3.22 ^{b)}	3.39 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	-	-	

<u>×</u> ≞	0.03	1.00~/	2.04~/	2.14**	2.25~	2.33~	2.42~/	2.50~/	2.50~/	2.50~/	-	-
V _{R,k}	0.75	2.41 ^{b)}	2.63 ^{b)}	2.84 ^{b)}	3.06 ^{b)}	3.22 ^{b)}	3.39 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	-	-
	0.88	2.41 ^{b)}	2.63 ^{b)}	2.84 ^{b)}	3.06 ^{b)}	3.22 ^{b)}	3.39 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	-	-
	1.00	2.41 ^{b)}	2.63 ^{b)}	2.84 ^{b)}	3.06 ^{b)}	3.22 ^{b)}	3.39 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	3.55 ^{b)}	-	-
	0.40	1.78 ^{a)}	-	-								
	0.45	2.04 ^{a)}	-	-								
	0.50	2.31 ^{a)}	-	-								
52	0.55	2.61	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	-	-
1 N E	0.60	2.61	3.83	3.91	3.91	3.91	3.91	3.91	3.91	3.91	-	-
N _{R,k} [kN] t _{N1} [mm]	0.63	2.61	4.26	4.40	4.40	4.40	4.40	4.40	4.40	4.40	-	-
ک Z	0.70	2.61	4.26	4.92	4.92	4.92	4.92	4.92	4.92	4.92	-	-
	0.75	2.61	4.26	5.30	5.30	5.30	5.30	5.30	5.30	5.30	-	-
	0.88	2.61	4.26	5.70	5.70	5.70	5.70	5.70	5.70	5.70	-	-
	1.00	2.61	4.26	5.79	6.20	6.20	6.20	6.20	6.20	6.20	-	-
N _{R,I}	κ, ∥ [kN]	2.61	4.26	5.79	6.20	6.20	6.20	6.20	6.20	6.20	-	-
-	30	18.0	15.0	10.0	10.0	-	-	-	-	-	-	-
[um]	40	22.0	17.0	13.0	13.0	4.0	4.0	4.0	4.0	4.0	-	-
[mm]	50	26.0	20.0	16.0	16.0	5.0	5.0	5.0	5.0	5.0	-	-
	60	31.0	22.0	19.0	19.0	6.0	6.0	6.0	6.0	6.0	-	-
max d, l	70	35.0	25.0	22.0	22.0	7.0	7.0	7.0	7.0	7.0	-	-
2	≥80	40.0	28.0	25.0	25.0	9.0	9.0	9.0	9.0	9.0	-	-
Index 3) L												

Index ^{a)}: For t_{M1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{M2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 28

FABA-BZ-(FK-)8,0xL with sealing washer ≥ Ø 22 mm



Fastener: stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578 Washer: stainless steel – EN 10088
steel grade 1.4301 or 1.4401 Component I: S280GD to S550GD – EN 10346 Component II: structural timber – EN 14081, \geq C24 BauBuche – ETA-14/0354 with l _{ef} \leq 43 mm
$\begin{tabular}{ c c c c c }\hline \hline Drilling performance: Σ t_i $\le $2.00 mm$ \\ \hline \hline Timber substructure: $$ Performance determined with $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$$

	± 11 mm			E	Effective	screw-	in lengtł	n l _{ef} [mm]		
Ig- lef	+ 11 mm	30	35	40	45	50	55	60	65	70	75
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}						
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}						
L S E	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}						
<u>בֿ</u> ב	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}						
V _{R,k} [kN] t _{N2} [mm]	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}						
	0.88	1.75	2.04	2.16	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}
	1.00	1.75	2.04	2.16	2.23	2.29	2.36	2.43	2.43	2.43	2.43
	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	0.45	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
	0.50	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
52	0.55	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
돌티	0.60	1.59	1.85	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
N _{R,k} [kN] t _{N1} [mm]	0.63	1.59	1.85	2.12	2.11	2.11	2.11	2.11	2.11	2.11	2.11
ک Z	0.70	1.59	1.85	2.12	2.38	2.65	2.66	2.66	2.66	2.66	2.66
	0.75	1.59	1.85	2.12	2.38	2.65	2.91	3.05	3.05	3.05	3.05
	0.88	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.66	3.66
	1.00	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97
NR	R,k,II [kN]	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97
				Sa	ndwich	panel th	ickness	, d, D [m	nm]		
		30	40	50	60	70	≥80	-	-	-	-
	U [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m^a). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 29

RP-TD-(FK-)(P-)6,0xL with sealing washer ≥ *ø*14 mm



24		L 5	±					steel g stainle steel g S280G structu	ss steel - rade 1.4 D to S55 ral timbe	301, 1.4 – EN 100 301 or 1 50GD – I er – EN 1	401, 1.48 088 .4401 EN 1034 4081, ≥	
						Drilling	perform	<u>ance:</u> Σ f	i ≤ 2.00 i	mm		
		1	\bigcirc	TX/SI	T	Timber	substruc	cture:	Performa	ance det	ermined	with
Ŧ		VF 8		$((\bigcirc$))				$M_{y,Rk} = 7$	68 Nm		
-	7		U		1						² for I _{ef} ≥	30.00 mm
	Ø6			Dimensi	ons in mm				1211			
Ig= lef + 11 mm Effective screw-in length lef [mm] 30 35 40 45 50 55 60 65 70 75												
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	
55	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	
R,K 12 [1	0.63 0.75	1.19 ^{b)} 1.61 ^{b)}	1.19 ^{b)} 1.61 ^{b)}	1.19 ²⁷ 1.61 ^{b)}	1.19 [×]) 1.61 ^{b)}	1.19 ^{b)} 1.61 ^{b)}	1.19 [×]) 1.61 ^{b)}	1.19 [×]) 1.61 ^{b)}	1.19 ^{b)} 1.61 ^{b)}	1.19 ²⁷	1.19 ²⁷ 1.61 ^{b)}	
₹ <	0.75	1.75	2.04	2.16	1.01 ²⁷ 2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	1.01 ²) 2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	
	1.00	1.75	2.04	2.16	2.19	2.19	2.19	2.19	2.19	2.19	2.19	
	0.40	1.75	1.24 ^{a)}	1.24 ^{a)}	2.23 1.24 ^{a)}	1.24 ^{a)}	1.24 ^{a)}	2.43 1.24 ^{a)}	1.24 ^{a)}	1.24 ^{a)}	1.24 ^{a)}	
	0.45	1.24 ⁽	1.24 ⁹	1.24 ^a	1.24 ⁽	1.37 ^{a)}	1.37 ^{a)}	1.24 ⁽	1.37 ^{a)}	1.37 ^{a)}	1.37 ^{a)}	
	0.45	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	1.49 ^{a)}	
	0.55	1.59	1.85	1.45 ^{a)}	1. 4 5 ⁹	1.45 ^a	1.45 ^a	1. 4 5 ⁹ 1.85 ^{a)}	1.45 ^a	1.45 ^a	1.45 ^{a)}	
N E	0.60	1.59	1.85	2.12	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}	2.21 ^{a)}	
N _{R,k} [kN] t _{N1} [mm]	0.63	1.59	1.85	2.12	2.38	2.43 ^{a)}	2.43 ^{a)}	2.43 ^{a)}	2.43 ^{a)}	2.43 ^{a)}	2.43 ^{a)}	
L, Z	0.70	1.59	1.85	2.12	2.38	2.65	2.91	3.05	3.05 ^{a)}	3.05 ^{a)}	3.05 ^{a)}	
	0.75	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.50	3.50 ^{a)}	
	0.88	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
	1.00	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
N _R ,	k,ll [kN]	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
						panel th		, d, D [n	ım]			
		30	40	50	60	70	≥80	-	-	-	-	
max I	J [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-	

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m^a). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 30



1-1-1-3		Г -	1		33		er: onent I:	steel g stainle steel g S280G structu	ss steel rade 1.4 D to S5 ral timbe	301, 1.4 – EN 10 301 or 1 50GD – er – EN 1	401, 1.4 088 .4401 EN 1034 4081, ≥	
					-	Drilling	perform	ance: Σt	ti ≤ 2.00 i	mm		
			\bigcirc	TX/SI	_	Timbor	substruc	aturo:	Dorform	anaa dat	ermined	with
ī		AF 8		(0)))		substruc				emineu	WILLI
7			Ľ		ノ				$M_{y,Rk} = 7$		2 for L_{2}	30.00 mm
	Ø6			Dimensi	ons in mm				тах,к — Э.С			55.00 mm
	-1 1-			Dimensi								
								. I. F ueros	.1			
Ig= Ief	+ 11 mm	30	35	40	45	screw-	55	60	65	70	75	
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	
<u>1</u>	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	
t _{N2}	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	
	0.88	1.75	2.04	2.16	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	
	1.00	1.75	2.04	2.16	2.23	2.29	2.36	2.43	2.43	2.43	2.43	
	0.40	1.59	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	1.59 ^{a)}	
	0.45	1.59	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	
	0.50 0.55	1.59 1.59	1.85 1.85	1.98 ^{a)} 2.12	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	1.98 ^{a)} 2.18 ^{a)}	
N E	0.60	1.59	1.85	2.12	2.18	2.10 [°] /2.39 ^{a)}	2.10 [°] 2.39 ^{a)}	2.10 [°] 2.39 ^{a)}	2.10 [°]	2.10 ⁻⁹ 2.39 ^{a)}	2.10 ⁻²	
<u>ات ج</u> ا	0.63	1.59	1.85	2.12	2.38	2.53	2.53 [°]	2.53 [°] 2.51 ^{a)}	2.53 [°]	2.53 [°]	2.53 [°]	
N _{R,k} [kN] t _{N1} [mm]	0.70	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.37	3.37	3.37	
	0.75	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
	0.88	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
	1.00	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
NR	,k,ll [kN]	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
						panel th		, d, D [m	nm]			
		30	40	50	60	70	≥80	-	-	-	-	
max.	U [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m^a). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 31

RP-TD-(FK-)(P-)6,0xL with sealing washer ≥ *ø*19 mm



24 1			=				er: onent I:	steel g stainle steel g S280G structu	ss steel - rade 1.4 GD to S55 ral timbe	301, 1.4 – EN 10 301 or 1 50GD – er – EN 1	401, 1.4 088 .4401 EN 1034 4081, ≥	
				TX/SIT		Drilling	perform	ance: Σ t	i ≤ 2.00 i	nm		
		1	\frown	6	\sum			10				itle
Ŧ		₹F 8) ((🎧		<u>I Imper</u>	substruc				ermined	with
7	1	1 1	Ľ		ノ				$M_{y,Rk} = 7$		² for L >	30.00 mm
-	Ø6	<u>.</u>		Dimonsi	ono in mm				iax,k – 9.0		IUI lef ≤	30.00 mm
				Dimensi	ons in mm							
								- I - F ara ara	1			
Ig= Ief ·	+ 11 mm	30	35	40	45	screw- 50	55	60	65	70	75	
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	
V _{R,k} [kN] t _{N2} [mm]	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	
<u>1</u>	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	
t _{N2}	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	
	0.88	1.75	2.04	2.16	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	
	1.00	1.75	2.04	2.16	2.23	2.29	2.36	2.43	2.43	2.43	2.43	
	0.40	1.59	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	
	0.45	1.59	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)}	
	0.50 0.55	1.59 1.59	1.98 ^{a)} 1.85	1.98 ^{a)} 2.12	1.98 ^{a)} 2.33	1.98 ^{a)} 2.33 ^{a)}	1.98 ^{a)} 2.33 ^{a)}	1.98 ^a) 2.33 ^{a)}	1.98 ^{a)} 2.33 ^{a)}	1.98 ^a / 2.33 ^{a)}	1.98 ^{a)} 2.33 ^{a)}	
N E	0.55	1.59	1.85	2.12	2.33	2.33	2.33	2.33 ^{-,} 2.82 ^{a)}	2.33 ⁻⁷ 2.82 ^{a)}	2.33 ^{≞/} 2.82 ^{a)}	2.33 ^{-/} 2.82 ^{a)}	
N _{R,k} [kN] t _{N1} [mm]	0.63	1.59	1.85	2.12	2.38	2.65	2.02	3.12	3.12 ^{a)}	2.02 ⁻⁹ 3.12 ^{a)}	3.12 ^{a)}	
t _{N1} R	0.70	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.81 ^{a)}	
	0.75	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
	0.88	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
	1.00	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
N _R ,	k,ll [kN]	1.59	1.85	2.12	2.38	2.65	2.91	3.18	3.44	3.70	3.97	
						panel th		, d, D [m	ım]			
		30	40	50	60	70	≥80	-	-	-	-	
max. l	J [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m^a). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 32

RP-TD-(FK-)(P-)6,0xL with sealing washer ≥ ø22 mm



		-		¢12	33	Fastene Washer Compo Compo	:: nent I:	stainless steel gra stainless steel gra S280GD structura	de 1.430 steel – E de 1.430 to S350	1, 1.440 EN 1008 1 or 1.44 GD – EN	1, 1.4567 8 401 I 10346	7, 1.4578 24	
2,6					F	Drilling p	erformar	nce:Σti≤	2.00 mr	n			
f					F	2					• • • •		
	Ħ	~		TX/SIT		<u>Timber s</u>	ubstruct	ure: Pe	erforman	ce deteri	mined wi	th	
.+		A/F S							_{y,Rk} = 9.9				
		-			.			f _{ax}	_{k,k} = 14.00	0 N/mm^2	tor $I_{ef} \ge 3$	0.00 mm	
-	Ø6,5			Dimensior	is in mm								
Effective screw-in length lef [mm] Ig= lef + 7 mm 20 25 40 50 55 20 25													
Ig= Ief	+ 7 mm	20	25			1				70	75		
	0.40	30 0.65 ^{b)}	35 0.65 ^{b)}	40 0.65 ^{b)}	45 0.65 ^{b)}	50 0.65 ^{b)}	55 0.65 ^{b)}	60 0.65 ^{b)}	65 0.65 ^{b)}	70 0.65 ^{b)}	75 0.65 ^{b)}		
	0.40	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}						
ΣΞ	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.00 [°]	1.00 ^{-/}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}		
V _{R,k} [kN] t _{N2} [mm]	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}						
/R,k N2	0.75	1.39	1.61	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}		
	0.88	1.39	1.63	1.85	2.09	2.19	2.19 ^{a)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}		
	1.00	1.39	1.63	1.85	2.09	2.32	2.43	2.43	2.43	2.43	2.43		
	0.40	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46		
	0.45	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59		
	0.50	1.72 ^{a)}	1.72 ^{a)}	1.72 ^{a)}	1.72 ^{a)}	1.72 ^{a)}	1.72 ^{a)}						
도근	0.55	2.06 ^{a)}	2.06 ^{a)}	2.06 ^{a)}	2.06 ^{a)}	2.06 ^{a)}	2.06 ^{a)}						
돌티	0.60	2.40	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}	2.40 ^{a)}		
N _{R,k} [kN] t _{N1} [mm]	0.63	2.46	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}	2.60 ^{a)}		
ت• z	0.70	2.46	2.87	3.08	3.08 ^{a)}	3.08 ^{a)}	3.08 ^{a)}	3.08 ^{a)}	3.08 ^{a)}	3.08 ^{a)}	3.08 ^{a)}		
	0.75	2.46	2.87	3.28	3.42	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}		
	0.88	2.46	2.87	3.28	3.40	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}		
	1.00	2.46	2.87	3.28	3.40	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}	3.42 ^{a)}		
NR.	,k,II [kN]	2.46	2.87	3.28	3.69	4.10	4.50	4.91	5.32	5.73	6.14		
		30	40	50 Sa	nawicn 60	panel th 70	ickness ≥80	, a, D [m -	m]				
<u> </u>			40	50	00	10	200	-	-	-	-		
max. l	U [mm]	2.1	5.0	5.5	7.0	11.0	15.0	-	-	-	-		

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρ k = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 33

RP-TD-(FK-)(P-)6,5xL with sealing washer ≥ *Ø*16 mm



		-			3.3	Fastene Washer Compo Compo	:: nent I:	stainless steel gra S280GD	de 1.430 steel – E de 1.430 to S350	1, 1.440 EN 1008 1 or 1.44 GD – EN	1, 1.4567, 1.4 8 101	578				
+ + ⁷ + + + + + + - + + - + - + - + - + - +		4,F A,F		TX/SIT		$\label{eq:construction} \hline \underline{\text{Drilling performance:}} \ \Sigma \ t_i \leq 2.00 \ \text{mm} \\ \hline \underline{\text{Timber substructure:}} \ Performance determined w \\ M_{y,Rk} = 9.9 \ \text{Nm} \\ f_{ax,k} = 14.00 \ \text{N/mm}^2 \ \text{for } I_{ef} \geq \\ \hline \underline{\text{tive screw-in length } I_{ef} \ [mm]} \\ \hline \underline{\text{for } I_{ef} = 50} \ 55 \ 50 \ 50 \ 55 \ 50 \ 50 \ 55 \ 50$										
l _g = l _{ef}	+ 7 mm	30	35	40	45	e screw- 50	55	n l _{ef} [mm 60	65	70	75					
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}									
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}									
ΣE	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}									
V _{R,k} [kN] t _{N2} [mm]	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}									
/R, H	0.75	1.39	1.61	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}					
	0.88	1.39	1.63	1.85	2.09	2.19	2.19 ^{a)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}					
	1.00	1.39	1.63	1.85	2.09	2.32	2.43	2.43	2.43	2.43	2.43					
	0.40	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85					
	0.45	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92					
	0.50	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98					
52	0.55	2.27	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37					
N _{R,k} [kN] t _{N1} [mm]	0.60	2.46	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77					
л К Г	0.63	2.46	2.87	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00					
ک Z	0.70	2.46	2.87	3.28	3.55	3.55	3.55	3.55	3.55	3.55	3.55					
	0.75	2.46	2.87	3.28	3.69	3.95	3.95 ^{a)}	3.95 ^{a)}	3.95 ^{a)}	3.95 ^{a)}	3.95 ^{a)}					
	0.88	2.46	2.87	3.28	3.69	4.00	4.00 ^{a)}	4.00 ^{a)}	4.00 ^{a)}	4.00 ^{a)}	4.00 ^{a)}					
	1.00	2.46	2.87	3.28	3.69	4.05	4.05 ^{a)}	4.05 ^{a)}	4.05 ^{a)}	4.05 ^{a)}	4.05 ^{a)}					
N _R	,k,ll [kN]	2.46	2.87	3.28	3.69	4.10	4.50	4.91	5.32	5.73	6.14					
						panel th		, d, D [m	m]	1	.					
		30	40	50	60	70	≥80	-	-	-	-					
max. l	U [mm]	2.1	5.0	5.5	7.0	11.0	15.0	-	-	-	-					

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 34



 -	Ø22					Fastene						457
1-		-		Ø 12	-	Washer		stainless	steel – I	EN 1008	8	107
HT -					⊐r: n	0		•	l grade 1.4301, 1.4401, 1.4567 nless steel – EN 10088 l grade 1.4301 or 1.4401 DGD to S350GD – EN 10346 ctural timber – EN 14081, ≥ C2 Σ t ≤ 2.00 mm Performance determined with M _{y,Rk} = 9.9 Nm f _{ax,k} = 14.00 N/mm ² for l _{ef} ≥ 3 $M_{y,Rk} = 9.9 \text{ Nm}$ f _{ax,k} = 14.00 N/mm ² for l _{ef} ≥ 3 $M_{y,Rk} = 14.00 \text{ N/mm}^2$ for l _{ef} ≥ 3 $M_{y,R} = 14.00 \text{ N/mm}^2$ for l _{ef} ≥ 3 $M_{y,R} = 14.00 \text{ N/mm}^2$ for l _{ef} ≥ 3 $M_{y,R} = 14.00 \text{ N/mm}^2$			
- 	- m					Compo		II: structural timber – EN 14081, ≥ C24 mance: Σti ≤ 2.00 mm ructure: Performance determined with $M_{y,Rk} = 9.9 \text{ Nm}$ $f_{ax,k} = 14.00 \text{ N/mm}^2 \text{ for } I_{ef} ≥ 30.0$ ngth I_{ef} [mm] 5 60 65 70 75 35 ^b 0.65 ^b 0.65 ^b 0.65 ^b 0.65 ^b 1.00 ^b 1.00 ^b 1.00 ^b 1.00 ^b 1.00 ^b 1.07 ^b 1.07 ^b 1.07 ^b 1.07 ^b 1.07 ^b 1.07 ^b 1.07 ^b 1.9 ^b 1.19 ^b 1.19 ^b 1.19 ^b 31 ^b 1.61 ^b 1.61 ^b 1.61 ^b 1.61 ^b 19 ^a 2.19 ^b 2.19 ^b 2.19 ^b 2.19 ^b 43 2.43 2.43 2.43 2.43 24 2.24 2.24 2.24 2.24 24 2.24 2.24 2.24 2.24 24 2.24 2.24 2.24 2.24 24 2.69 2.69 2.69 2.69 13 3.13 3.13 3.13 3.13 40 3.40 3.40 3.40 3.40 3.40 16 4.02 4.02 4.02 4.02 47 4.47 ^a 4.47 ^a 4.47 ^a 4.47 ^a 4.47 ^a 50 4.58 4.58 ^a 4.58 ^a 4.58 ^a 50 4.69 4.69 ^a 4.69 ^a 4.69 ^a 4.69 ^a 50 4.91 5.32 5.73 6.14 tess, d, D [mm] 30				
,						Compo	nent II:	structura	l timber -	– EN 140)81, ≥ C24	
2.6	, The second sec				-	Drilling p	erformai	<u>nce:</u> Σti≤	2.00 mr	n		
ŧ	Ħ			TX/SIT	· -							
						l imber s	ubstruct	<u>ure:</u> Pe	ertorman	ce deteri	mined with	
		A/F.8)							
	T	-		(and				fax	_{k,k} = 14.00	0 N/mm ²	for $I_{ef} \ge 30.00$) m
-•	Ø6,5			Dimensior	is in mm							
								a I . France'	1			
l _g = l _{ef}	+ 7 mm	30	35	40	45	50	55			70	75	
	0.40	0.65 ^{b)}										
		1.00 ^{b)}	1		1							
ΣΞ		1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.00 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1		1		
₹ Ē		1.19 ^{b)}			1							
/R,K N2 [1.39	1.61	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}			1		
		1.39	1.63	1.85	2.09	2.19	2.19 ^{a)}	1		1		
	1.00	1.39	1.63	1.85	2.09	2.32	2.43	2.43	2.43	2.43	2.43	
		2.24	2.24	2.24	2.24	2.24	2.24			2.24		
	0.45	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	
	0.50	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	
52	0.55	2.46	2.65	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	
13 E	0.60	2.46	2.65	3.02	3.13	3.13	3.13	3.13	3.13	3.13	3.13	
Ξ [0.63	2.46	2.87	3.28	3.40	3.40	3.40	3.40	3.40	3.40	3.40	
ک Z	0.70	2.46	2.87	3.28	3.69	4.02	4.16	4.02	4.02	4.02	4.02	
	0.75	2.46	2.87	3.28	3.69	4.10	4.47	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}	
	0.88	2.46	2.87	3.28	3.69	4.10	4.50	4.58	4.58 ^{a)}	4.58 ^{a)}	4.58 ^{a)}	
	1.00	2.46	2.87	3.28	3.69	4.10	4.50	4.69	4.69 ^{a)}	4.69 ^{a)}	4.69 ^{a)}	
NR	,k,II [kN]	2.46	2.87	3.28	3.69	4.10	4.50			5.73	6.14	
						C		, d, D [m	m]		.	
		30	40	50	60	70	≥80	-	-	-	-	
max. I	U [mm]	2.1	5.0	5.5	7.0	11.0	15.0	-	-	-	-	

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 35

RP-TD-(FK-)(P-)6,5xL with sealing washer ≥ ø22 mm



		0,5 10 1		Ø12	3,3		r: onent I:	steel gra stainless steel gra S280GE structura	ade 1.43 s steel – ade 1.43) to S550 al timber	EN 1008 01 or 1.4 0GD – El – EN 14	01, 1.456 88 401 N 10346 081, ≥ C	
5.5	3,9 Ø	- -	AF 8	TX/SIT) ns in mm	$\begin{tabular}{ c c c c c } \hline Component I: & S280GD to S550GD - EN 10346 \\ \hline Component II: & structural timber - EN 14081, $$ C24 \\ \hline BauBuche - ETA-14/0354 with $$ I_{ef}$ $$ 43 mm \\ \hline \hline \hline Drilling performance: $$ $$ t_i $$ 3.00 mm \\ \hline \hline \hline \hline Timber substructure: & Performance determined with $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$$						
					Effective	e screw-	in lengtl	n l _{ef} [mm]	1			
Ig= Ie	ef + 5 mm	30	35	40	45		55			70	75	
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}					
_ _	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}					
N N	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}					
<u> </u>	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}					
V _{R,k} [kN] t _{N2} [mm]	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}					
	0.88	1.75	2.04	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	
	1.00	1.75	2.04	2.33	2.58	2.66	2.74	2.77	2.77	2.77	2.77	
	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

	0.88	1.75	2.04	2.19 ^{p)}	2.19 ^{p)}	2.19 ^p	2.19 ^{p)}	2.19 ^p	2.19 ^p	2.19 ^p	2.19°)
	1.00	1.75	2.04	2.33	2.58	2.66	2.74	2.77	2.77	2.77	2.77
	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	0.45	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
	0.50	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
57	0.55	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
N _{R,k} [kN] t _{N1} [mm]	0.60	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
- ¥.	0.63	1.94	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11
ک z	0.70	1.94	2.27	2.59	2.66	2.66	2.66	2.66	2.66	2.66	2.66
	0.75	1.94	1.85	2.12	2.92	3.05	2.91	3.05	3.05	3.05	3.05
	0.88	1.94	1.85	2.12	2.92	3.24	3.56	3.66	3.66	3.66	3.66
	1.00	1.94	1.85	2.12	2.92	3.24	3.56	3.89	3.97	3.97	3.97
NR	.,k,II [kN]	1.94	2.27	2.59	2.92	3.24	3.56	3.89	4.21	4.54	4.86
				Sa	ndwich	panel th	ickness,	, d, D [m	m]		
		30	40	50	60	70	≥80	-	-	-	-
max.	U [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-

Index ^{b)}: For t_{N2} of least S320GD the indicated values of $V_{R,k}$ can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures RP-r-(FK-)(P-)6,0xL

Annex 36



26 26	ϕ_{16} ϕ_{12} ϕ_{12} Fastener:stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, Washer: w_{31} ϕ_{12} ϕ_{12} w_{31} w_{32} w_{31} w_{32} w_{32} w_{32} w_{32} w_{31} w_{32} <											
1				TX/SIT	_	2						
5,5		A/F 8		\bigcirc		<u>I Imber s</u>	supstruct	N	l _{y,Rk} = 9.9	90 Nm		ith 30.00 mm
	Ø6			Dimensior	is in mm							
1 - 1	L E mama				Effective	e screw-	in length	n l _{ef} [mm]	1			
Ig= Ief	+ 5 mm	30	35	40	45	50	55	60	65	70	75	
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	
											1 1	
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	
[N] [E	0.50 0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.00 ^{b)} 1.07 ^{b)}	1.00 ^{b)} 1.07 ^{b)}	1.00 ^{b)} 1.07 ^{b)}	1.00 ^{b)} 1.07 ^{b)}	1.00 ^{b)} 1.07 ^{b)}	
[mm]	0.50 0.55 0.63	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)}	
V _{R,k} [kN] t _{N2} [mm]	0.50 0.55 0.63 0.75	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)}	
V _{R,k} [kN] t _{N2} [mm]	0.50 0.55 0.63 0.75 0.88	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 1.75	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.04	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)}	$\begin{array}{c} 1.00^{\rm b)} \\ 1.07^{\rm b)} \\ 1.19^{\rm b)} \\ 1.61^{\rm b)} \\ 2.19^{\rm b)} \end{array}$	
V _{R,k} [kN] t _{N2} [mm]	0.50 0.55 0.63 0.75 0.88 1.00	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 1.75 1.75	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.04 2.04	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.33	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.58	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.66	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.74	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77	
V _{R,k} [kN] t _{N2} [mm]	0.50 0.55 0.63 0.75 0.88 1.00 0.40	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 1.75 1.75 1.24 ^{a)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.04 2.04 1.24 ^{a)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.33 1.24 ^{a)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.58 1.24 ^{a)}	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.66 \\ 1.24^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)} \\ 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.74 \\ \hline 1.24^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)} \\ 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.77 \\ 1.24^{a)} \end{array}$	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77 1.24 ^{a)}	1.00 ^{b)} 1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.77 1.24 ^{a)}	$\begin{array}{c} 1.00^{\rm b)}\\ 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 2.19^{\rm b)}\\ 2.77\\ 1.24^{\rm a)}\end{array}$	
V _{R,k} [kN] t _{N2} [mm]	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.45	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 1.75 1.75 1.24 ^{a)} 1.37 ^{a)}	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.04 2.04 1.24 ^{a)} 1.37 ^{a)}	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.33 \\ 1.24^{a)} \\ 1.37^{a)} \end{array}$	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.58 1.24 ^{a)} 1.37 ^{a)}	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.66 \\ 1.24^{a)} \\ 1.37^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)} \\ 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.77 \\ 1.24^{a)} \\ 1.37^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)} \end{array}$	
	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.45 0.50	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 1.75\\ 1.75\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.04\\ 2.04\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.33\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.58 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.66 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)} \end{array}$	
	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.45 0.50 0.55	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 1.75 \\ 1.75 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \\ 1.85 \end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.04\\ 2.04\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 2.19^{\rm b)}\\ 2.33\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\\ 1.85^{\rm a}\end{array}$	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.58 1.24 ^{a)} 1.37 ^{a)} 1.49 ^{a)} 1.85 ^{a)}	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.66\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)} \\ 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.77 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \\ 1.85^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)} \end{array}$	
	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.40 0.45 0.50 0.55 0.60	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 1.75\\ 1.75\\ 1.75\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\\ 1.85\\ 1.94\end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.04\\ 2.04\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21\end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.33\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.19^{b)} \\ 2.58 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \\ 1.85^{a)} \\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.66\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)} \end{array}$	
	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.40 0.45 0.50 0.55 0.60 0.63	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 1.75\\ 1.75\\ 1.75\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\\ 1.85\\ 1.94\\ 1.94\end{array}$	$\begin{array}{c} 1.07^{b)} \\ 1.19^{b)} \\ 1.61^{b)} \\ 2.04 \\ 2.04 \\ 1.24^{a)} \\ 1.37^{a)} \\ 1.49^{a)} \\ 1.85^{a)} \\ 2.21 \\ 2.27 \end{array}$	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.33 1.24 ^{a)} 1.37 ^{a)} 1.49 ^{a)} 1.85 ^{a)} 2.21 ^{a)} 2.43	$\begin{array}{c} 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.58\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})} \end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.66\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})}\end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})}\end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\end{array}$	
N _{R,k} [KN] V _{R,k} [KN] t _{N1} [mm] t _{N2} [mm]	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.45 0.50 0.55 0.60 0.63 0.70	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 1.75\\ 1.75\\ 1.75\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\\ 1.85\\ 1.94\\ 1.94\\ 1.94\end{array}$	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.04 2.04 1.24 ^{a)} 1.37 ^{a)} 1.49 ^{a)} 1.85 ^{a)} 2.21 2.27 2.27	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.33 1.24 ^{a)} 1.37 ^{a)} 1.49 ^{a)} 1.85 ^{a)} 2.21 ^{a)} 2.43 2.59	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.58\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 2.92\end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.66\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 3.05 \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 3.05^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 3.05^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 3.05^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})}\\ 3.05^{\text{a})} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\\ 3.05^{a)} \end{array}$	
	0.50 0.55 0.63 0.75 0.88 1.00 0.40 0.40 0.45 0.50 0.55 0.60 0.63	$\begin{array}{c} 1.07^{\rm b)}\\ 1.19^{\rm b)}\\ 1.61^{\rm b)}\\ 1.75\\ 1.75\\ 1.75\\ 1.24^{\rm a)}\\ 1.37^{\rm a)}\\ 1.49^{\rm a)}\\ 1.85\\ 1.94\\ 1.94\end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.04\\ 2.04\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21\\ 2.27\end{array}$	1.07 ^{b)} 1.19 ^{b)} 1.61 ^{b)} 2.19 ^{b)} 2.33 1.24 ^{a)} 1.37 ^{a)} 1.49 ^{a)} 1.85 ^{a)} 2.21 ^{a)} 2.43	$\begin{array}{c} 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.58\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})} \end{array}$	$\begin{array}{c} 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.66\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)} \end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.74\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)} \end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})}\end{array}$	$\begin{array}{c} 1.00^{\text{b})}\\ 1.07^{\text{b})}\\ 1.19^{\text{b})}\\ 1.61^{\text{b})}\\ 2.19^{\text{b})}\\ 2.77\\ 1.24^{\text{a})}\\ 1.37^{\text{a})}\\ 1.49^{\text{a})}\\ 1.85^{\text{a})}\\ 2.21^{\text{a})}\\ 2.43^{\text{a})}\end{array}$	$\begin{array}{c} 1.00^{b)}\\ 1.07^{b)}\\ 1.19^{b)}\\ 1.61^{b)}\\ 2.19^{b)}\\ 2.77\\ 1.24^{a)}\\ 1.37^{a)}\\ 1.49^{a)}\\ 1.85^{a)}\\ 2.21^{a)}\\ 2.43^{a)}\end{array}$	

1.94 2.27 2.59 2.92 3.24 3.56 3.89 4.21 4.54 NR,k,II [kN] Sandwich panel thickness, d, D [mm] 30 40 50 60 70 ≥80 _ max. U [mm] 4.0 5.0 8.0 9.3 10.7 12.0 -_

2.92

3.24

3.56

3.89

4.21

4.54

4.86

4.86

-

-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

2.27

2.59

index $^{\circ}$. For the oriented set solution indicated values of $v_{R,k}$ can be increased by 6,5%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 37

RP-r-(FK-)(P-)6,0xL with sealing washer ≥ Ø16 mm

1.00

1.94



3					33	Comp	er: onent I: onent II: performa	steel g stainle steel g S280G structu BauBu ance: Σ t	rade 1.4 ss steel rade 1.4 D to S55 ral timbe che – E ⁻ $a \leq 3.00$	301, 1.44 – EN 100 301 or 1 50GD – I er – EN 1 ΓΑ-14/03 mm	401, 1.4 088 .4401 EN 1034 4081, ≥ 354 with	6 C24 l _{ef} ≤ 43 mm		
5,5	↓ 3,9 ↓ Ø6	AF 8		Dimension) ns in mm			steel grade 1.4301, 1.4401, 1.4567, 1. stainless steel – EN 10088 steel grade 1.4301 or 1.4401 ent I: S280GD to S550GD – EN 10346 ent II: structural timber – EN 14081, ≥ C24 BauBuche – ETA-14/0354 with l _{ef} ≤ 43 <u>fformance:</u> Σ t _i ≤ 3.00 mm <u>bstructure:</u> Performance determined with M _{y,Rk} =9.90 Nm f _{ax,k} = 12.00 N/mm ² for l _{ef} ≥ 30.00 <u>ength lef [mm]</u> <u>55 60 65 70 75</u> 65 ^{b)} 0.65 ^{b)} 0.65 ^{b)} 0.65 ^{b)} 0.65 ^{b)} 00 ^{b)} 1.00 ^{b)} 1.00 ^{b)} 1.00 ^{b)} 1.00 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.07 ^{b)} 1.9 ^{b)} 1.19 ^{b)} 1.19 ^{b)} 1.19 ^{b)} 1.19 ^{b)} 61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.61 ^{b)} 1.59 ^{a)} 1.59 ^{a)} 2.74 2.77 2.77 2.77 2.77 59 ^{a)} 1.59 ^{a)} 1.59 ^{a)} 1.59 ^{a)} 1.59 ^{a)} 79 ^{a)} 1.79 ^{a)} 1.79 ^{a)} 1.79 ^{a)} 1.79 ^a 1.8 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)} 2.18 ^{a)}						
[_			E	Effective	e screw-	in lenati	n l _{ef} [mm	1]		
Ig= I _{ef}	+ 5 mm	30	35	40	45	50	55			70	75			
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}				1			
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}							
N E	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}							
V _{R,k} [kN] t _{N2} [mm]	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}				1			
اټر چ	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}				1			
	0.88	1.75	2.04	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}				1			
	1.00	1.75	2.04	2.33	2.58	2.66								
	0.40	1.59 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)}	1.59 ^{a)} 1.79 ^{a)}	1.59 ^{a)} 1.79 ^{a)}								
	0.45 0.50	1.79 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}	1.79 ^{a)} 1.98 ^{a)}								
	0.50 0.55	1.94 1.94	1.98 ⁴⁷ 2.18	1.98 ^a) 2.18 ^{a)}	2.18 ^{a)}	2.18 ^{a)}								
[kN]	0.60	1.94	2.10	2.18°) 2.39 ^{a)}	2.10 [°]	2.18 ⁻⁹ 2.39 ^{a)}	2.10 [°] /2.39 ^{a)}	2.10 [°] 2.39 ^{a)}	2.18 ^a)	2.18 ^a)	2.10° ⁽ 2.39 ^{a)}			
<u>Ξ</u> Ε	0.00	1.54	2.21	2.00	2.00	2.00	2.00	2.00 (2.00	2.00	2.00			

Index ^{a)}: For t_{M1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}; For t_{M2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

2.27

2.27

2.27

2.27

2.27

2.27

40

5.0

The values indicated above depending on the screw depth lef shall apply for kmod = 0.90 and the timber strength class C24 (pk = 350 kg/m³). For other values of kmod and timber strength classes see Annex 3.

2.51^{a)}

2.92

2.92

2.92

2.92

2.92

60

9.3

2.51

2.59

2.59

2.59

2.59

2.59

50

8.0

2.51^{a)}

3.24

3.24

3.24

3.24

3.24

70

10.7

2.51^{a)}

3.37

3.56

3.56

3.56

3.56

≥80

12.0

Sandwich panel thickness, d, D [mm]

2.51^{a)}

3.37^{a)}

3.89

3.89

3.89

3.89

_

2.51^{a)}

 $3.37^{a)}$

3.98^{a)}

4.21

4.21

4.21

_

2.51^{a)}

3.37^{a)}

3.98^{a)}

4.54

4.54

4.54

_

2.51^{a)}

3.37^{a)}

3.98^{a)}

4.62^{a)}

4.86

4.86

_

_

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 38

RP-r-(FK-)(P-)6,0xL with sealing washer ≥ ø19 mm

<u>_</u> N_{R,k} | t_{N1} [r

0.63

0.70

0.75

0.88

1.00

NR,k,II [kN]

max. U [mm]

1.94

1.94

1.94

1.94

1.94

1.94

30

4.0



						2								
- 30 97		PF 8				Comp Drilling	er: onent I:	steel g stainle steel g S280G structu BauBu ance: Σ f	ss steel rade 1.4 D to S55 ral timbe che – E $a \le 3.00$	301, 1.4 - EN 10 301 or 1 50GD - er - EN 1 TA-14/03 mm ance def	401, 1.4 088 .4401 EN 1034 I4081, ≥	C24 l _{ef} ≤ 43 mm		
5,5									M _{y,Rk} =9.		26.1	00.00		
+ _	1 1 3,9		\smile						T _{ax,k} = 12	.00 N/m	m ² for l _{ef}	≥ 30.00 mm		
-	Ø6			Dimensio	ns in mm									
Effective screw-in length let [mm]														
lg= lef	+ 5 mm	30	35	40	45	50	55	60	65	70	75			
	0.40	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}	0.65 ^{b)}									
	0.50	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}	1.00 ^{b)}									
V _{R,k} [kN] t _{N2} [mm]	0.55	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}	1.07 ^{b)}									
<u>≞</u> ≟	0.63	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}	1.19 ^{b)}									
t K R	0.75	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}	1.61 ^{b)}									
	0.88	1.75	2.04	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}	2.19 ^{b)}							
	1.00	1.75	2.04	2.33	2.58	2.66	2.74	2.77	2.77	2.77	2.77			
	0.40	1.70 ^{a)}	1.70 ^{a)}	1.70 ^{a)}	1.70 ^{a)}									
	0.45	1.84	1.84 ^{a)}	1.84 ^{a)}	1.84 ^{a)}	1.84 ^{a)}								
	0.50	1.94	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}	1.98 ^{a)}								
<u>ਤ</u> ਵ	0.55	1.94	2.27	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}							
N _{R,k} [kN] t _{N1} [mm]	0.60	1.94	2.27	2.59	2.82	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}			
<u>ל</u> ה ד	0.63	1.94	2.27	2.59	2.92	3.12	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}			
ت Z	0.70	1.94	2.27	2.59	2.92	3.24	3.56	3.81	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}			
	0.75	1.94	2.27	2.59	2.92	3.24	3.56	3.89	4.21	4.31	4.31 ^{a)}			
	0.88	1.94	2.27	2.59	2.92	3.24	3.56	3.89	4.21	4.54	4.64			
	1.00	1.94	2.27	2.59	2.92	3.24	3.56	3.89	4.21	4.54	4.86			
N _R	,k,II [kN]	1.94	2.27	2.59	2.92	3.24	3.56	3.89	4.21	4.54	4.86			
			40			panel th		, d, D [n	nm]	I	1			
		30	40	50	60	70	≥80	-	-	-	-			
max. I	U [mm]	4.0	5.0	8.0	9.3	10.7	12.0	-	-	-	-			
Indox a).	art ofloot	COOOD the	in all a sha al u	alusa af NI	and had been	a a a a d buy O d	20/					-		

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m^a). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 39

RP-r-(FK-)(P-)6,0xL with sealing washer ≥ ø22 mm



1-				Ø 12	3,3	Fastene Washer Compor	:: nent I:	stainless steel gra stainless steel gra S280GD structura	de 1.430 steel – E de 1.430 to S350	1, 1.4567 8 401 I 10346	7, 1.4578	
+ + -181 <u>2.6</u> -1	5,3 \$\phi 6,5	AFF8	0	TX/SIT)	<u>Drilling p</u> <u>Timber s</u>	erformar	<u>nce:</u> Σti≤ <u>ure:</u> Pe	5.00 mr erforman _{y,Rk} = 9.9	n ce deteri Nm	mined wi	
	4.0				Effectiv	e screw-	in lengtl	ו l _{ef} [mm]]
Ig= I _{ef} +	18 mm	30	35	40	45	50	55	60	65	70	75	
	0.40	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	
	0.50	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	

_k [kN] [mm]	0.55	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
μ	0.63	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
V _{R,k} t _{n2} [I	0.75	1.39	1.63	1.85	1.91	1.91	1.91	1.91	1.91	1.91	1.91
	0.88	1.39	1.63	1.85	2.09	2.30	2.30	2.30	2.30	2.30	2.30
	1.00	1.39	1.63	1.85	2.09	2.32	2.81	2.81	2.81	2.81	2.81
	0.40	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
	0.45	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
	0.50	1.18 ^{a)}									
도도	0.55	1.55 ^{a)}									
[kN] mm]	0.60	1.92 ^{a)}									
N _{R,k} t _{N1} [r	0.63	2.14 ^{a)}									
ك Z	0.70	2.46	2.65	2.65 ^{a)}							
	0.75	2.46	2.65	3.02 ^{a)}							
	0.88	2.46	2.65	3.02 ^{a)}	3.53	3.53 ^{a)}					
	1.00	2.46	2.65	3.02 ^{a)}	3.69	4.01	4.01 ^{a)}				
NF	R,k,II [kN]	2.46	2.87	3.28	3.69	4.10	4.50	4.91	5.32	5.73	6.14
				Sa	ndwich	panel th	ickness	, d, D [m	m]		.
		30	40	50	60	70	80	100	120	≥140	-
max.	U [mm]	2.1	2.8	3.5	4.2	4.9	5.6	7.0	8.4	9.8	-
					1	1		1			

Index ^{a)}: For t_{N1} of least S320GD the indicated values of $N_{\text{R},k}$ can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 43

RP-WS-(FK-)(P-)6,5xL with sealing washer ≥ ø16 mm



						Fastener:stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578Washer:stainless steel – EN 10088 steel grade 1.4301 or 1.4401Component I:S280GD to S350GD – EN 10346Component II:structural timber – EN 14081, ≥ C24							
5,3 $\phi 6,5$ Dimensions in mm						$eq:started_st$							
					Effectiv	e screw-	in lenatl	h l _{ef} [mm]	1				
Ig= I _{ef}	+ 18 mm	30	35	40	45	50	55	60	65	70	75		
	0.40	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64		
	0.50	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
l v r	0.55	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09		
<u>ا ٿ پِ</u> ا	0.63	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35		
V _{R,k} [kN] t _{N2} [mm]	0.75	1.39	1.63	1.85	1.91	1.91	1.91	1.91	1.91	1.91	1.91		
	0.88	1.39	1.63	1.85	2.09	2.30	2.30	2.30	2.30	2.30	2.30		
	1.00	1.39	1.63	1.85	2.09	2.32	2.81	2.81	2.81	2.81	2.81		
	0.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40		

Ig- let	+ 1011111	30	35	40	45	50	55	60	65	70	75
	0.40	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
	0.50	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
ĮΣΈ	0.55	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
[mm]	0.63	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
V _{R,k} t _{N2} [j	0.75	1.39	1.63	1.85	1.91	1.91	1.91	1.91	1.91	1.91	1.91
	0.88	1.39	1.63	1.85	2.09	2.30	2.30	2.30	2.30	2.30	2.30
	1.00	1.39	1.63	1.85	2.09	2.32	2.81	2.81	2.81	2.81	2.81
	0.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
	0.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
	0.50	1.51 ^{a)}									
52	0.55	1.94 ^{a)}									
1 <u>2</u> E	0.60	2.37	2.37 ^{a)}								
N _{R,k} [kN] t _{N1} [mm]	0.63	2.46	2.63 ^{a)}								
ک Z	0.70	2.46	2.87	3.23	3.23 ^{a)}						
	0.75	2.46	2.87	3.28	3.66	3.66 ^{a)}					
	0.88	2.46	2.87	3.28	3.69	4.08	4.08 ^{a)}				
	1.00	2.46	2.87	3.28	3.69	4.10	4.47	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}	4.47 ^{a)}
NR	R,k,II [kN]	2.46	2.87	3.28	3.69	4.10	4.50	4.91	5.32	5.73	6.14
				Sa	ndwich	panel th	ickness	, d, D [m	m]		
		30	40	50	60	70	80	100	120	≥140	-
	U [mm]	2.1	2.8	3.5	4.2	4.9	5.6	7.0	8.4	9.8	-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of $N_{\text{R},k}$ can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 44

RP-WS-(FK-)(P-)6,5xL with sealing washer ≥ ø19 mm



						Fastener:stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578Washer:stainless steel – EN 10088 steel grade 1.4301 or 1.4401Component I:S280GD to S350GD – EN 10346Component II:structural timber – EN 14081, ≥ C24								
Σ							$\label{eq:started_structure} \begin{array}{ c c c } \hline \underline{Drilling \ performance:} \ \Sigma \ t_i \leq 5.00 \ mm \\ \hline \hline \underline{Timber \ substructure:} & Performance \ determined \ with \\ M_{y,Rk} = 9.9 \ Nm \\ f_{ax,k} = 14.00 \ N/mm^2 \ for \ l_{ef} \geq 30.00 \ mm \\ \hline \end{array}$							
Effective screw-in length lef [mm]														
l _g = l _{ef} ⋅	+ 18 mm	30	35	40	45	50	55	60	65	70	75			
	0.40	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64			
	0.50	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
V _{R,k} [kN] t _{N2} [mm]	0.55	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09			
اع⊈	0.63	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35			
t KR	0.75	1.39	1.63	1.85	1.91	1.91	1.91	1.91	1.91	1.91	1.91			
	0.88	1.39	1.63	1.85	2.09	2.30	2.30	2.30	2.30	2.30	2.30			
	1.00	1.39	1.63	1.85	2.09	2.32	2.81	2.81	2.81	2.81	2.81			
	0.40	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70			
	0.45	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76			
	0.50	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}	1.83 ^{a)}							
52	0.55	2.33	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33 ^{a)}	2.33ª)			
N _{R,k} [kN] t _{N1} [mm]	0.60	2.46	2.82	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}	2.82 ^{a)}			
7 7 7 1	0.63	2.46	2.87	3.12	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}	3.12 ^{a)}			
ت Z	0.70	2.46	2.87	3.28	3.69	3.81	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}	3.81 ^{a)}			
	0.75	2.46	2.87	3.28	3.69	4.10	4.31	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}	4.31 ^{a)}			
	0.88	2.46	2.87	3.28	3.69	4.10	4.50	4.64	4.64 ^{a)}	4.64 ^{a)}	4.64 ^{a)}			
	1.00	2.46	2.87	3.28	3.69	4.10	4.50	4.91	4.94	4.94 ^{a)}	4.94 ^{a)}			
NR,k,II [kN] 2.46 2.87 3.28 3.69				4.10	4.50	4.91	5.32	5.73	6.14					
						panel th	1				.			
		30	40	50	60	70	80	100	120	≥140	-			
max. l	U [mm]	2.1	2.8	3.5	4.2	4.9	5.6	7.0	8.4	9.8	-			

Index ^{a)}: For t_{N1} of least S320GD the indicated values of $N_{R,k}\,can$ be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (pk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 45

RP-WS-(FK-)(P-)6,5xL with sealing washer ≥ ø22 mm



		Fastener:stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578Washer:stainless steel – EN 10088 steel grade 1.4301 or 1.4401Component I:S280GD to S550GD – EN 10346 Component II:structural timber – EN 14081, ≥ C24	
		Drilling performance: Performance not assessed	
Ø6.5	TX/SIT Dimensions in mm	Timber substructure:Performance determined with $M_{y,Rk} = 20.0 \text{ Nm}$ $f_{ax,k} = 13.40 \text{ N/mm}^2$ for $l_{ef} \ge 26.00 \text{ mm}$	_

l _g = l _{ef} + 6 mm					Effe	ctive sci	rew-in le	ngth l _{ef} [mm]			
Ig— lef 7	- o mm	26	32	38	44	50	56	62	≥ 68	-	-	-
dp[r	mm]						ø 4,8					
	0.40	0.77 ^{b)}	0.77 ^{b)}	-	-	-						
	0.50	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	-	-	-
ΞĒ	0.55	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	-	-	-
<u>ב</u> ֿ [0.63	1.63	2.00	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-
V _{R,k} [kN] t _{N2} [mm]	0.75	1.63	2.01	2.39	2.40	2.40	2.40	2.40	2.40	-	-	-
	0.88	1.63	2.01	2.39	2.40	2.40	2.40	2.40	2.40	-	-	-
	1.00	1.63	2.01	2.39	2.40	2.40	2.40	2.40	2.40	-	-	-
	0.40	1.59 ^{a)}	1.59 ^{a)}	-	-	-						
	0.45	1.73 ^{a)}	1.73 ^{a)}	-	-	-						
	0.50	1.88 ^{a)}	1.88 ^{a)}	-	-	-						
52	0.55	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-
N _{R,k} [kN] t _{N1} [mm]	0.60	2.04	2.12	2.12	2.12	2.12	2.12	2.12	2.12	-	-	-
Ξ <u>Γ</u>	0.63	2.04	2.20	2.20	2.20	2.20	2.20	2.20	2.20	-	-	-
r ₽	0.70	2.04	2.51	2.55	2.55	2.55	2.55	2.55	2.55	-	-	-
	0.75	2.04	2.51	2.80	2.80	2.80	2.80	2.80	2.80	-	-	-
	0.88	2.04	2.51	2.80	2.80	2.80	2.80	2.80	2.80	-	-	-
	1.00	2.04	2.51	2.80	2.80	2.80	2.80	2.80	2.80	-	-	-
NR,k	,II [kN]	2.04	2.51	2.98	3.45	3.92	4.39	4.86	5.33	-	-	-
					Sandw	ich pan	el thickn	ess, d, C) [mm]			
		30	40	50	60	70	≥ 80	-	-	-	-	-
max. U	[mm]	-	5.0	5.5	7.0	11.0	15.0	-	-	-	-	-

Index ^{a)}: For t_{M1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{M2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth I_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (pk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

Annex 46

FABA-A-(FK-)6,5xL with sealing washer ≥ Ø16 mm

Page 47 of European Technical Assessment ETA-18/1136 of 13 November 2023

English translation prepared by DIBt



	Fastener: stainless steel – EN 10088 steel grade 1.4301, 1.4401, 1.4567, 1.4578
	Washer: stainless steel – EN 10088 steel grade 1.4301 or 1.4401
	Component I: S280GD to S550GD – EN 10346
	Component II: structural timber – EN 14081, ≥ C24
	Drilling performance: Performance not assessed
	Timber substructure: Performance determined with
	$M_{y,Rk} = 26.35 \text{ Nm}$
	$f_{ax,k} = 9.80 \text{ N/mm}^2 \text{ for } I_{ef} \ge 34.00 \text{ mm}$
Dimensions in mm	

1 - 1 -	+ 0 mm				Effe	ctive scr	ew-in le	ngth l _{ef} [mm]			
Ig- lef	+ 8 mm	34	42	50	58	66	74	82	≥ 90	-	-	-
dp	[mm]				-		ø6.0					
	0.40	1.15 ^{b)}	1.15 ^{b)}	-	-	-						
	0.50	1.58 ^{b)}	1.58 ^{b)}	-	-	-						
ĮΖΈ	0.55	1.77 ^{b)}	1.77 ^{b)}	-	-	-						
V _{R,k} [kN] t _{N2} [mm]	0.63	2.06 ^{b)}	2.06 ^{b)}	-	-	-						
tr R	0.75	2.54 ^{b)}	2.54 ^{b)}	-	-	-						
	0.88	2.54 ^{b)}	2.54 ^{b)}	-	-	-						
	1.00	2.54 ^{b)}	2.54 ^{b)}	-	-	-						
	0.40	1.78 ^{a)}	1.78 ^{a)}	-	-	-						
	0.45	2.04 ^{a)}	2.04 ^{a)}	-	-	-						
	0.50	2.31 ^{a)}	2.31 ^{a)}	-	-	-						
52	0.55	2.52	3.10	3.10	3.10	3.10	3.10	3.10	3.10	-	-	-
K K	0.60	2.52	3.11	3.70	3.91	3.91	3.91	3.91	3.91	-	-	-
N _{R,k} [kN] t _{N1} [mm]	0.63	2.52	3.11	3.70	4.30	4.40	4.40	4.40	4.40	-	-	-
T Z	0.70	2.52	3.11	3.70	4.30	4.89	4.95	4.95	4.95	-	-	-
	0.75	2.52	3.11	3.70	4.30	4.89	5.30	5.30	5.30	-	-	-
	0.88	2.52	3.11	3.70	4.30	4.89	5.48	5.70	5.70	-	-	-
	1.00	2.52	3.11	3.70	4.30	4.89	5.48	6.08	6.20	-	-	-
N _R ,	k,II [kN]	2.52	3.11	3.70	4.30	4.89	5.48	6.08	6.67	-	-	-
					Sandw	ich pan	el thickn	ess, d, [) [mm]			
		30	40	50	60	≥70	-	-	-	-	-	-
max. L	l [mm]	3.0	4.0	5.0	6.0	8.0	-	-	-	-	-	-

Index ^{a)}: For t_{N1} of least S320GD the indicated values of N_{R,k} can be increased by 8,3% Index ^{b)}: For t_{N2} of least S320GD the indicated values of V_{R,k} can be increased by 8,3%

The values indicated above depending on the screw depth l_{ef} shall apply for k_{mod} = 0.90 and the timber strength class C24 (ρk = 350 kg/m³). For other values of k_{mod} and timber strength classes see Annex 3.

Thread-forming screws for connecting sandwich panels with steel or timber supporting structures

FABA-A-(FK-)8,4xL

with sealing washer $\ge \emptyset 22 \text{ mm}$