



EJOT® SUPER-SAPHIR **self-drilling screw JT3-2-4.9**

Fastening profiled aluminium sheet to timber substructure

Self-drilling screws JF3/JT3

A2 stainless steel with hardened steel point / steel drill point

EJOT®

EJOT® SUPER-SAPHIR self-drilling screw JT3-2-4.9

Ø [mm]	Length [mm]	PU	Price/100 [EUR]	Order description	Article number
Sealing washer E14, Ø 14 mm					
4.9	35	500		JT3-2-4.9x35-E14	3 593 509 321
4.9	70	250		JT3-2-4.9x70-E14*	3 597 009 321
Sealing washer E16, Ø 16 mm					
4.9	35	500		JT3-2-4.9x35-E16	3 593 511 321
4.9	70	250		JT3-2-4.9x70-E16*	3 597 011 321

*Full thread length

Application area

- Fastening profiled aluminium sheet to timber substructure

Properties

- A2 stainless steel with hardened drill point
- Stainless steel sealing washer
- Pre-assembled sealing washer
- Thread according to DIN 7998

Technical Data

Drilling capacity $t_1 + t_2$	2.0 mm
Drive	Hexagon AF8

WWW.AUSSCHREIBEN.DE



Cross reference

Accessories
Metal screwdriver SCS 6.3

Note

See relevant annexes of European technical approvals at the following pages.

Please download complete European technical approvals at our website:

www.ejot.es

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ETA-10/0200 of 27 June 2013

English translation prepared by DIBt

Deutsches
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für
Bautechnik



Materials

Fastener: JT3-(FR-)2-4,9xL and JT4-(FR-)2-4,9xL stainless steel (1.4301 / 1.4567) – EN 10088
JT9-(FR-)2-4,9xL stainless steel (1.4401 / 1.4578) – EN 10088

Washer: stainless steel (1.4301) – EN 10088 with vulcanised EPDM seal

Component I: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573

Component II: timber – EN 14081

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

Timber substructures
for timber substructures following performance were determined

$M_{y,k} = 4,672 \text{ Nm}$
 $f_{ax,k} = 8,575 \text{ N/mm}^2$ for $l_{eff} \geq 24,5 \text{ mm}$

$l_g -$	25,00	27,00	29,00	31,00	33,00	35,00	37,00	39,00	41,00		
$M_{t, nom} =$	—										
$V_{R,k}$ for $t_{R,i} =$	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	failure of component I (bearing)
	0,60	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	
	0,70	0,73	0,81	0,82	0,82	0,82	0,82	0,82	0,82	0,82	
	0,80	0,73	0,81	0,88	0,95	0,98	0,98	0,98	0,98	0,98	
	0,90	0,73	0,81	0,88	0,95	0,99	0,99	0,99	0,99	0,99	
	1,00	0,73	0,81	0,88	0,95	1,00	1,00	1,00	1,00	1,00	
	1,20	0,73	0,81	0,88	0,95	1,00	1,00	1,00	1,00	1,00	
$N_{R,ik} =$	0,86	0,95	1,04	1,12	1,21	1,30	1,38	1,47	1,56	failure of component II see chapter 4.2.2	

Pull-through resistance of component I according to EN 1999-1-4, chapter 8.3.3.1 or specifications of the manufacturer of the aluminium structural sheeting.
The values indicated above, depending on the screw depth l_g , shall apply to $k_{mod} = 0,90$ and the timber strength class C24 ($\rho_k = 350 \text{ kg/m}^3$). For other values of k_{mod} and strength classes see chapter 4.2.2
For $k_{mod} < 0,90$: failure of component I see right column and failure of component II see chapter 4.2.2 with $f_{t,k} = 80 \cdot 10^{-6} \cdot \rho_k^2$ (load carrying class 3, ρ_k in kg/m^3 , max. 500 kg/m^3) and yield moment $M_{y,k} = 5990 \text{ Nmm}$.

Self-drilling screw	Annex 26
JT3-(FR-)2-4,9xL JT4-(FR-)2-4,9xL JT9-(FR-)2-4,9xL With hexagon head or FR-head and seal washer $\geq \varnothing 11,0 \text{ mm}$	

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Materials

Fastener: JT3-(FR-)2-4,9xL and JT4-(FR-)2-4,9xL stainless steel (1.4301 / 1.4567) – EN 10088
JT9-(FR-)2-4,9xL stainless steel (1.4401 / 1.4578) – EN 10088

Washer: stainless steel (1.4301) – EN 10088 with vulcanised EPDM seal

Component I: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573

Component II: timber – EN 14081

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

Timber substructures

for timber substructures following performance were determined

$M_{y,k} = 4,672 \text{ Nm}$
 $f_{ax,k} = 8,575 \text{ N/mm}^2$ for $l_{eff} \geq 24,5 \text{ mm}$

$l_g =$	25,00	27,00	29,00	31,00	33,00	35,00	37,00	39,00	41,00		
$M_{nom} =$	—										
$V_{R,k}$ for $t_{N,I} =$	0,50	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
	0,60	0,73	0,81	0,87	0,87	0,87	0,87	0,87	0,87	0,87	0,87
	0,70	0,73	0,81	0,88	0,95	1,03	1,07	1,07	1,07	1,07	1,07
	0,80	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,28	1,28
	0,90	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,29	1,29
	1,00	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,30	1,30
	1,20	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,30	1,30
	1,50	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,30	1,30
	2,00	0,73	0,81	0,88	0,95	1,03	1,10	1,17	1,25	1,30	1,30
$N_{R,tk} =$	0,86	0,95	1,04	1,12	1,21	1,30	1,38	1,47	1,56	failure of component II see chapter 4.2.2	

Pull-through resistance of component I according to EN 1999-1-4, chapter 8.3.3.1 or specifications of the manufacturer of the aluminium structural sheeting.
The values indicated above, depending on the screw depth l_g , shall apply to $k_{mod} = 0,90$ and the timber strength class C24 ($\rho_k = 350 \text{ kg/m}^3$). For other values of k_{mod} and strength classes see chapter 4.2.2
For $k_{mod} < 0,90$: failure of component I see right column and failure of component II see chapter 4.2.2 with $f_{t,k} = 80 \cdot 10^{-6} \cdot \rho_k^2$ (load carrying class 3, ρ_k in kg/m^3 , max. 500 kg/m^3) and yield moment $M_{y,k} = 5990 \text{ Nmm}$.

Self-drilling screw	Annex 27
JT3-(FR-)2-4,9xL JT4-(FR-)2-4,9xL JT9-(FR-)2-4,9xL With hexagon head or FR-head and seal washer $\geq \varnothing 11,0 \text{ mm}$	