



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

Fastening corrugated profile 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-FR-2-4.9

with truss head

Ø [mm]	Length [mm]	PU	Price/100 [EUR]	Order description	Article number
Sealing washer E11, Ø 11 mm					
4.9	35	500		JT3-FR-2-4.9x35-E11	3 593 568 328
NOTE: Also available in RAL lacquering					

Application area

- Fastening corrugated profile 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	Hexalobular drive T25

WWW.AUSSCHREIBEN.DE



Cross reference

Accessories
FR-tool
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 $t_{h,i} =$	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 $\geq \varnothing 11,0 \text{ mm}$	