

Leistungserklärung

Nr.: 1 - 003 - 100200 - 2018/03

DE



1.) Eindeutiger Kenncode des Produkttyps:
EJOT Befestigungsschrauben JF3

2.) Verwendungszweck:
Befestigungsschrauben für Bauteile und Bleche aus Metall

3.) Hersteller:
EJOT Baubefestigungen GmbH, In der Stockwiese 35, 57334 Bad Laasphe

4.) System zur Bewertung und Überprüfung der Leistungsbeständigkeit:
System 2+

5.) Europäisches Bewertungsdokument EAD 330046-01-0602
Europäisch Technische Bewertung: ETA-10/0200
Technische Bewertungsstelle: DIBt - Deutsches Institut für Bautechnik, Berlin
Notifizierte Stelle: 769 - KIT Versuchsanstalt für Stahl, Holz und Steine

6.) Erklärte Leitung(en):
a) Mechanische Festigkeit und Standsicherheit (BWR 1) und Sicherheit bei der Nutzung (BWR 4)

Wesentliche Merkmale	Leistungswerte
Querkraftbeanspruchbarkeit der Verbindung	Siehe Anhang 1-19
Zugbeanspruchbarkeit der Verbindung	Siehe Anhang 1-19
Bemessungsbeanspruchbarkeit im Fall der Kombination von Zug-/Querkraften (Interaktion)	Siehe Anhang 1-19
Überprüfung der Verformungskapazität im Fall von temperaturbedingten Zwängungskraften	NPD
Haltbarkeit	NPD

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b) Brandschutz (BWR 2)	
Wesentliche Merkmale	Leistungswerte
Brandverhalten	A1

c) Hygiene, Gesundheit und Umweltschutz (BWR 3)	
Wesentliche Merkmale	Leistungswerte

d) Schallschutz (BWR 5)	
Wesentliche Merkmale	Leistungswerte

e) Energieeinsparung und Wärmeschutz (BWR 6)	
Wesentliche Merkmale	Leistungswerte

f) Nachhaltige Nutzung der natürlichen Ressourcen (BWR 7)	
Wesentliche Merkmale	Leistungswerte

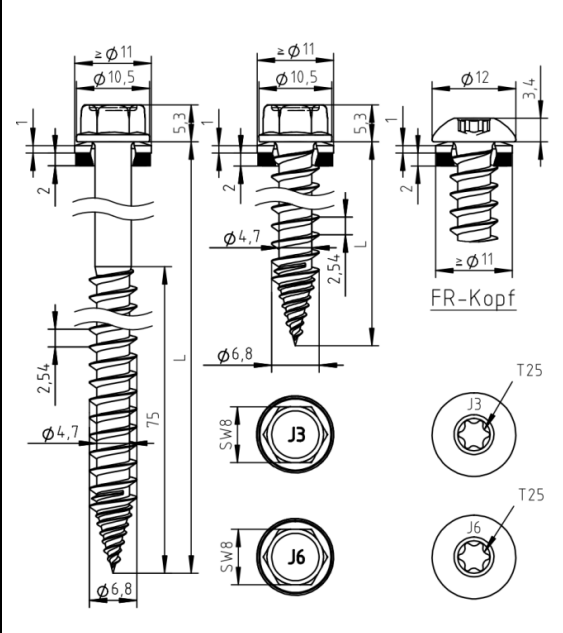
Die Leistung des vorstehenden Produkts entspricht der erklärten Leistung/den erklärten Leistungen. Für die Erstellung der Leistungserklärung im Einklang mit der Verordnung (EU) Nr. 305/2011 ist allein der oben genannte Hersteller verantwortlich.

Unterzeichnet für den Hersteller und im Namen des Herstellers von:

Dr. Jens Weber
(Name)

Bad Laasphe, 23.03.2018
(Ort und Datum der Ausstellung)

(Unterschrift)

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: S280GD to S350GD – EN 10346 Component II: timber – EN 14081 Drilling capacity: $\Sigma t_i \leq 1,00 \text{ mm}$ Timber substructures Performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2 \text{ for } l_{ef} \geq 34 \text{ mm}$
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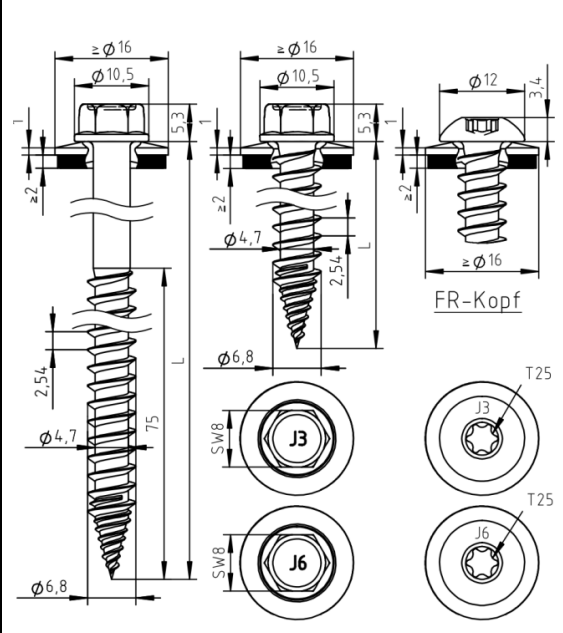
$t_{N,I}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,I} =$	0,40	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77
	0,50	2,02	2,07	2,12	2,17	2,22	2,26	2,26	2,26	2,26	2,26	2,26
	0,55	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,51
	0,63	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	0,75	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	0,88	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	1,00	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I} =$	0,40	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95
	0,50	1,21	1,21	1,21	1,21	1,21	1,21	1,21	1,21	1,21	1,21	1,21
	0,55	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35	1,35
	0,63	1,56	1,56	1,56	1,56	1,56	1,56	1,56	1,56	1,56	1,56	1,56
	0,75	1,87	1,87	1,87	1,87	1,87	1,87	1,87	1,87	1,87	1,87	1,87
	0,88	2,22	2,22	2,22	2,22	2,22	2,22	2,22	2,22	2,22	2,22	2,22
	1,00	2,31	2,51	2,53	2,53	2,53	2,53	2,53	2,53	2,53	2,53	2,53
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR)-6,8xL, JF6-(FR)-6,8xL
with sealing washer $\geq \phi 11 \text{ mm}$

Annex 93

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: S280GD to S350GD – EN 10346 Component II: timber – EN 14081 Drilling capacity: $\Sigma t_i \leq 1,00 \text{ mm}$ Timber substructures: performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2 \text{ for } l_{ef} \geq 34 \text{ mm}$
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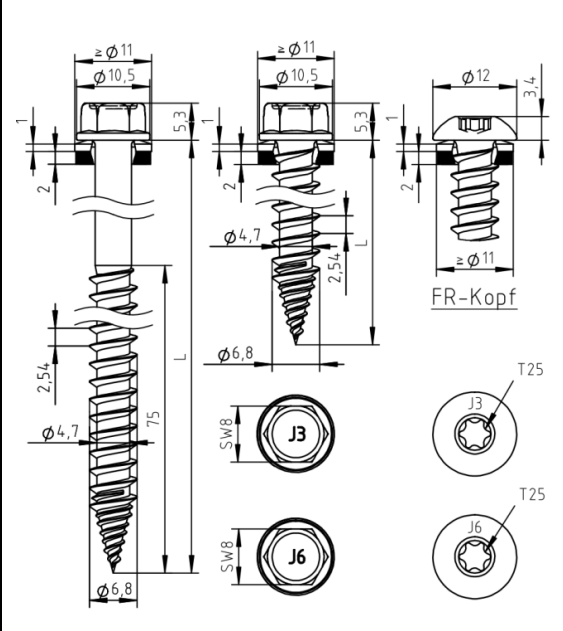
$t_{N,I}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,I} =$	0,40	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77
	0,50	2,02	2,07	2,12	2,17	2,22	2,26	2,26	2,26	2,26	2,26	2,26
	0,55	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,51
	0,63	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	0,75	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	0,88	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	1,00	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I} =$	0,40	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38
	0,50	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77	1,77
	0,55	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96
	0,63	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27
	0,75	2,31	2,51	2,71	2,73	2,73	2,73	2,73	2,73	2,73	2,73	2,73
	0,88	2,31	2,51	2,71	2,92	3,12	3,23	3,23	3,23	3,23	3,23	3,23
	1,00	2,31	2,51	2,71	2,92	3,12	3,32	3,53	3,69	3,69	3,69	3,69
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR)-6,8xL, JF6-(FR)-6,8xL
with sealing washer $\geq \varnothing 16 \text{ mm}$

Annex 94

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 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: $\Sigma t_i \leq 1,50 \text{ mm}$ Timber substructures: performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2$ for $l_{ef} \geq 34 \text{ mm}$
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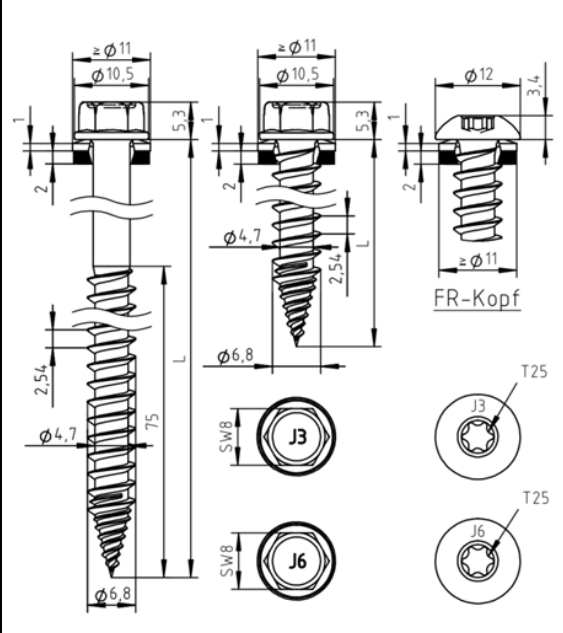
$t_{N,i}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,i} =$												
0,40	—	—	—	—	—	—	—	—	—	—	—	—
0,50	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92
0,60	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
0,70	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38
0,80	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61
0,90	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84
1,00	2,02	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
1,20	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,38	2,38	2,38	2,38
1,50	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	2,76
2,00	—	—	—	—	—	—	—	—	—	—	—	—
$N_{R,II,k}$ [kN]	2,31	2,51	2,71	2,92	3,12	3,32	3,53	3,73	3,93	4,14	4,34	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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR)-6,8xL, JF6-(FR)-6,8xL
with sealing washer $\geq \varnothing 11 \text{ mm}$

Annex 95

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 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: $\Sigma t_i \leq 1,50 \text{ mm}$ Timber substructures: performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2$ for $l_{ef} \geq 34 \text{ mm}$
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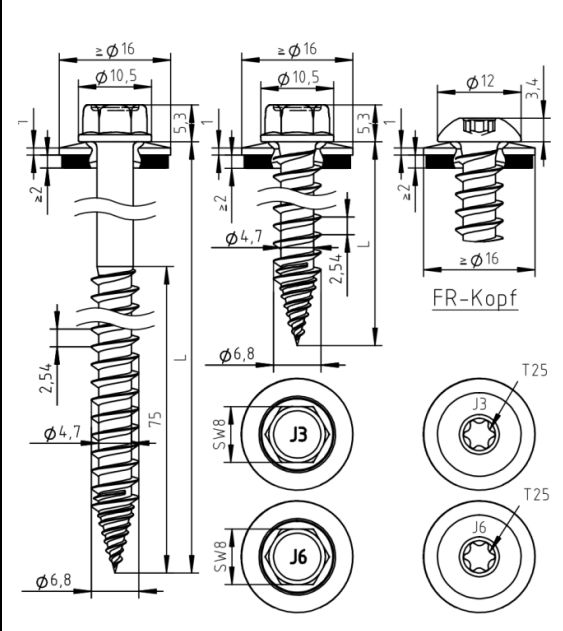
$t_{N,I}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,I} =$												
0,40	—	—	—	—	—	—	—	—	—	—	—	—
0,50	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20
0,60	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
0,70	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80
0,80	2,02	2,07	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10
0,90	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,40	2,40	2,40	2,40
1,00	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	2,70
1,20	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	3,10
1,50	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	3,60
2,00	—	—	—	—	—	—	—	—	—	—	—	—
$N_{R,II,k}$ [kN] =	2,31	2,51	2,71	2,92	3,12	3,32	3,53	3,73	3,93	4,14	4,34	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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR)-6,8xL, JF6-(FR)-6,8xL
with sealing washer $\geq \varnothing 11 \text{ mm}$

Annex 96

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 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: $\Sigma t_i \leq 1,50 \text{ mm}$ Timber substructures: performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2$ for $l_{ef} \geq 34 \text{ mm}$
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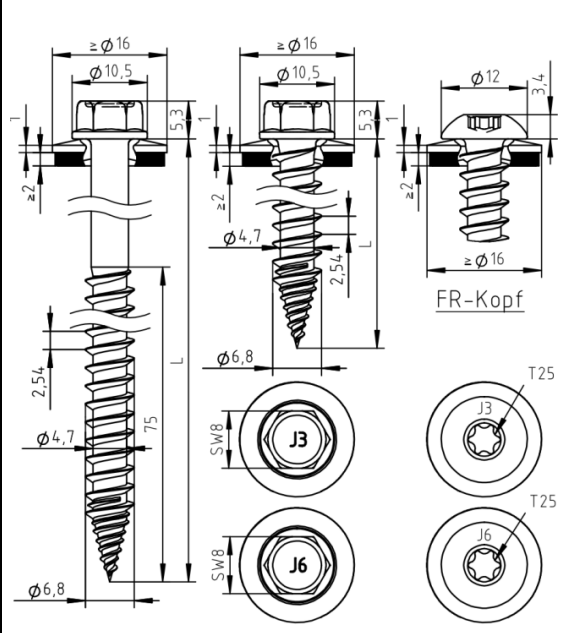
$t_{N,I}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,I} =$												
0,40	—	—	—	—	—	—	—	—	—	—	—	—
0,50	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92	0,92
0,60	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15
0,70	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38	1,38
0,80	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61	1,61
0,90	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84	1,84
1,00	2,02	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07	2,07
1,20	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,38	2,38	2,38	2,38
1,50	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	2,76
2,00	—	—	—	—	—	—	—	—	—	—	—	—
$N_{R,II,k}$ [kN] =	2,31	2,51	2,71	2,92	3,12	3,32	3,53	3,73	3,93	4,14	4,34	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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)6,8xL, JF6-(FR-)6,8xL
with sealing washer $\geq \varnothing 16 \text{ mm}$

Anhang 97

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 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: $\Sigma t_i \leq 1,50 \text{ mm}$ Timber substructures: performance determined with $M_{y,Rk} = 10,744 \text{ Nm}$ $f_{ax,k} = 11,080 \text{ N/mm}^2$ for $l_{ef} \geq 34 \text{ mm}$
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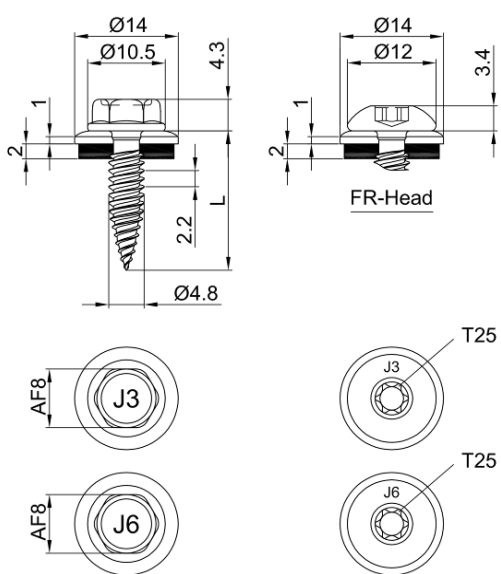
$t_{N,I}$ [mm]	l_g [mm]											
	45	48	51	54	57	60	63	66	69	72	75	
$V_{R,k}$ [kN] for $t_{N,I} =$												
0,40	—	—	—	—	—	—	—	—	—	—	—	—
0,50	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20	1,20
0,60	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50
0,70	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80	1,80
0,80	2,02	2,07	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10	2,10
0,90	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,40	2,40	2,40	2,40
1,00	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	2,70
1,20	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	3,10
1,50	2,02	2,07	2,12	2,17	2,22	2,28	2,33	2,38	2,43	2,48	2,53	3,60
2,00	—	—	—	—	—	—	—	—	—	—	—	—
$N_{R,II,k}$ [kN] =	2,31	2,51	2,71	2,92	3,12	3,32	3,53	3,73	3,93	4,14	4,34	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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)-6,8xL, JF6-(FR-)-6,8xL
with sealing washer $\geq \varnothing 16 \text{ mm}$

Annex 98

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: S280GD to S350GD – EN 10346 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 2,00 \text{ mm}$ Timber substructures: no performance determined
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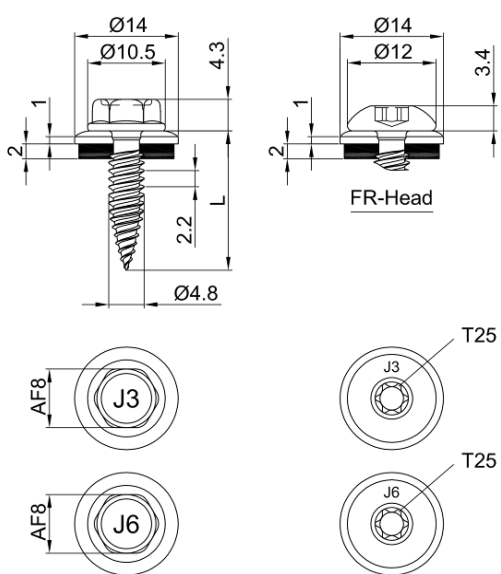
$t_{N,II} [\text{mm}]$	0,40	0,50	0,55	0,63	0,75	0,88
$M_{t,nom}$	—					
$V_{R,k} [\text{kN}] \text{ for } t_{N,I} =$	0,40	0,65	0,65	0,65	0,65	0,65
	0,50	0,65	0,81	0,81	0,81	0,81
	0,55	0,65	0,81	0,99	0,99	0,99
	0,63	0,65	0,81	0,99	1,26	1,26
	0,75	0,65	0,81	0,99	1,26	1,71
	0,88	0,65	0,81	0,99	1,26	1,71
	1,00	—	—	—	—	—
	1,13	—	—	—	—	—
	1,25	—	—	—	—	—
	1,50	—	—	—	—	—
	2,00	—	—	—	—	—
$N_{R,k} [\text{kN}] \text{ for } t_{N,I} =$	0,40	0,45	0,67	0,78	0,94	1,46
	0,50	0,45	0,67	0,78	0,94	1,50
	0,55	0,45	0,67	0,78	0,94	1,50
	0,63	0,45	0,67	0,78	0,94	1,50
	0,75	0,45	0,67	0,78	0,94	1,50
	0,88	0,45	0,67	0,78	0,94	1,50
	1,00	—	—	—	—	—
	1,13	—	—	—	—	—
	1,25	—	—	—	—	—
	1,50	—	—	—	—	—
	2,00	—	—	—	—	—

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

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2H-4,8xL, JF6-(FR-)2H-4,8xL
with sealing washer $\geq \text{Ø}14 \text{ mm}$

Annex 118

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573 Component II: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573 Drilling capacity: $\Sigma t_i \leq 2,00 \text{ mm}$ Timber substructures: no performance determined
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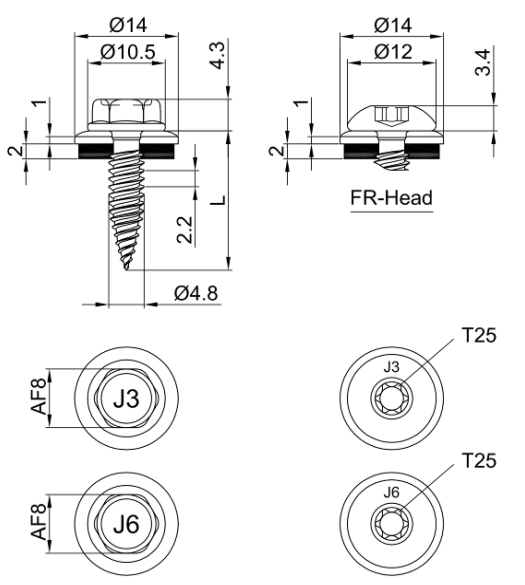
$t_{N,II} [\text{mm}]$	0,50	0,60	0,70	0,80	0,90	1,00
$M_{t,nom}$	—					
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$						
0,50	0,45 —	0,45 —	0,45 —	0,45 —	0,45 —	0,45 —
0,60	0,45 —	0,66 —	0,66 —	0,66 —	0,66 —	0,66 —
0,70	0,45 —	0,66 —	0,88 —	0,88 —	0,88 —	0,88 —
0,80	0,45 —	0,66 —	0,88 —	1,09 —	1,09 —	1,09 —
0,90	0,45 —	0,66 —	0,88 —	1,09 —	1,46 —	1,46 —
1,00	0,45 —	0,66 —	0,88 —	1,09 —	1,46 —	1,83 —
$N_{R,II,k} [\text{kN}] =$	0,32	0,42	0,51	0,61	0,71	0,80

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2H-4,8xL, JF6-(FR-)2H-4,8xL
with sealing washer $\geq \text{Ø}14 \text{ mm}$

Annex 119

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Component II: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Drilling capacity: $\Sigma t_i \leq 2,00 \text{ mm}$ Timber substructures: no performance determined
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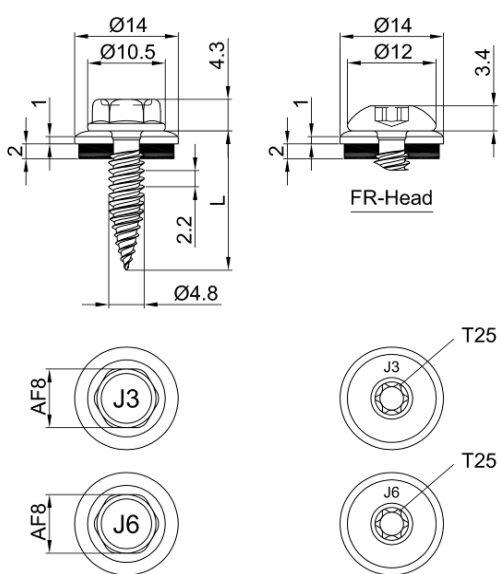
$t_{N,II}$ [mm]	0,50	0,60	0,70	0,80	0,90	1,00
$M_{t,nom}$	—					
$V_{R,k}$ [kN] for $t_{N,I} =$						
0,50	0,58 —	0,58 —	0,58 —	0,58 —	0,58 —	0,58 —
0,60	0,58 —	0,86 —	0,86 —	0,86 —	0,86 —	0,86 —
0,70	0,58 —	0,86 —	1,14 —	1,14 —	1,14 —	1,14 —
0,80	0,58 —	0,86 —	1,14 —	1,42 —	1,42 —	1,42 —
0,90	0,58 —	0,86 —	1,14 —	1,42 —	1,90 —	1,90 —
1,00	0,58 —	0,86 —	1,14 —	1,42 —	1,90 —	2,38 —
$N_{R,III,k}$ [kN] =	0,42	0,54	0,67	0,79	0,92	1,04

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2H-4,8xL, JF6-(FR-)2H-4,8xL
with sealing washer $\geq \varnothing 14 \text{ mm}$

Annex 120

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 2,00 \text{ mm}$ Timber substructures: no performance determined
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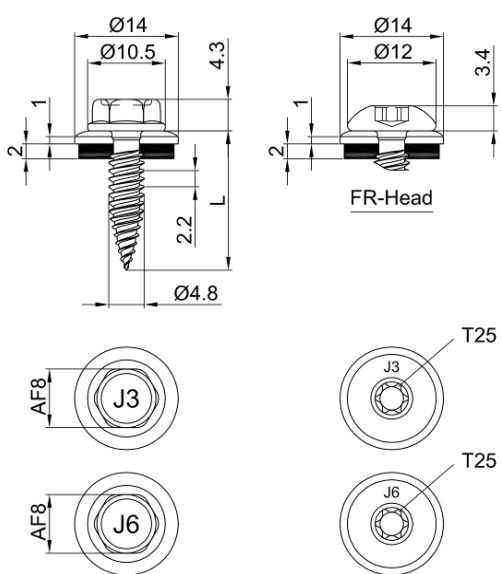
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	—					
$V_{R,k}$ [kN] for $t_{N,i} =$						
0,50	0,45 —	0,45 —	0,45 —	0,45 —	0,45 —	0,45 —
0,60	0,45 —	0,45 —	0,66 —	0,66 —	0,66 —	0,66 —
0,70	0,45 —	0,45 —	0,66 —	0,88 —	0,88 —	0,88 —
0,80	0,45 —	0,45 —	0,66 —	0,88 —	1,09 —	1,09 —
0,90	0,45 —	0,45 —	0,66 —	0,88 —	1,09 —	1,46 —
1,00	0,45 —	0,45 —	0,66 —	0,88 —	1,09 —	1,83 —
$N_{R,III,k}$ [kN] =	0,67	0,78	0,94	1,21	1,50	1,78

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2H-4,8xL, JF6-(FR-)2H-4,8xL
with sealing washer $\geq \text{Ø}14 \text{ mm}$

Annex 121

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 2,00 \text{ mm}$ Timber substructures: no performance determined
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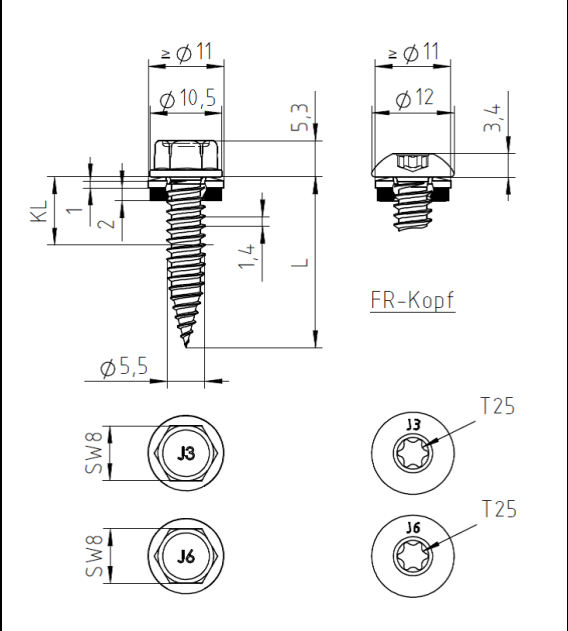
$t_{N,II} [\text{mm}]$	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	—					
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$						
0,50	0,58 —	0,58 —	0,58 —	0,58 —	0,58 —	0,58 —
0,60	0,58 —	0,58 —	0,86 —	0,86 —	0,86 —	0,86 —
0,70	0,58 —	0,58 —	0,86 —	1,14 —	1,14 —	1,14 —
0,80	0,58 —	0,58 —	0,86 —	1,14 —	1,42 —	1,42 —
0,90	0,58 —	0,58 —	0,86 —	1,14 —	1,42 —	1,90 —
1,00	0,58 —	0,58 —	0,86 —	1,14 —	1,42 —	2,38 —
$N_{R,II,k} [\text{kN}] =$	0,67	0,78	0,94	1,21	1,50	1,78

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2H-4,8xL, JF6-(FR-)2H-4,8xL
with sealing washer $\geq \text{Ø}14 \text{ mm}$

Annex 122

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: S280GD to S350GD – EN 10346 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 2 \times 1,00 \text{ mm}$ Timber substructures: no performance determined
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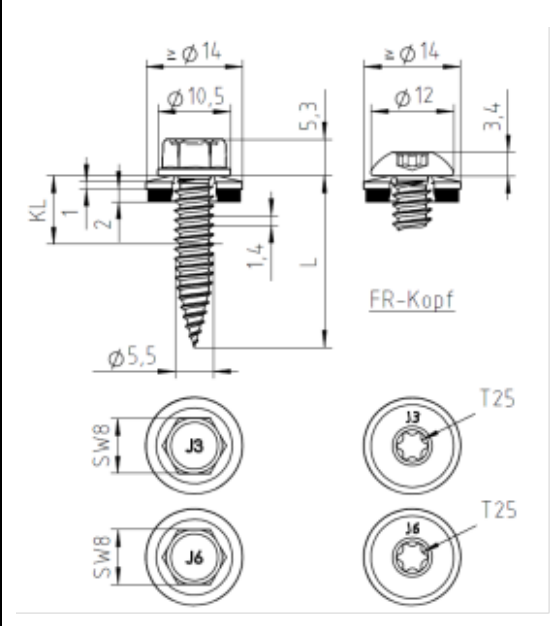
$t_{N,II} [\text{mm}]$	0,40	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	—						
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,40	0,88 —	0,88 —	0,88 —	0,88 —	0,88 —	0,88 —	0,88 —
0,50	0,88 —	1,56 —	1,56 —	1,56 —	1,56 —	1,56 —	1,56 —
0,55	0,88 —	1,56 —	1,76 —	1,76 —	1,76 —	1,76 —	1,76 —
0,63	0,88 —	1,56 —	1,76 —	2,09 —	2,09 —	2,09 —	2,09 —
0,75	0,88 —	1,56 —	1,76 —	2,09 —	2,57 —	2,57 —	2,57 —
0,88	0,88 —	1,56 —	1,76 —	2,09 —	2,57 —	3,11 —	3,11 —
1,00	0,88 —	1,56 —	1,76 —	2,09 —	2,57 —	3,11 —	3,61 —
1,13	— —	— —	— —	— —	— —	— —	— —
1,25	— —	— —	— —	— —	— —	— —	— —
$N_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,40	0,60 —	0,82 —	0,94 —	1,00 —	1,00 —	1,00 —	1,00 —
0,50	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,67 —	1,67 —
0,55	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,80 —	1,87 —
0,63	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,80 —	2,14 —
0,75	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,80 —	2,14 —
0,88	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,80 —	2,14 —
1,00	0,60 —	0,82 —	0,94 —	1,14 —	1,44 —	1,80 —	2,14 —
1,13	— —	— —	— —	— —	— —	— —	— —
1,25	— —	— —	— —	— —	— —	— —	— —

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

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)-2-5,5xL, JF6-(FR-)-2-5,5xL
with sealing washer $\geq \varnothing 11 \text{ mm}$

Annex 124

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: S280GD to S350GD – EN 10346 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 2 \times 1,00 \text{ mm}$ Timber substructures: no performance determined
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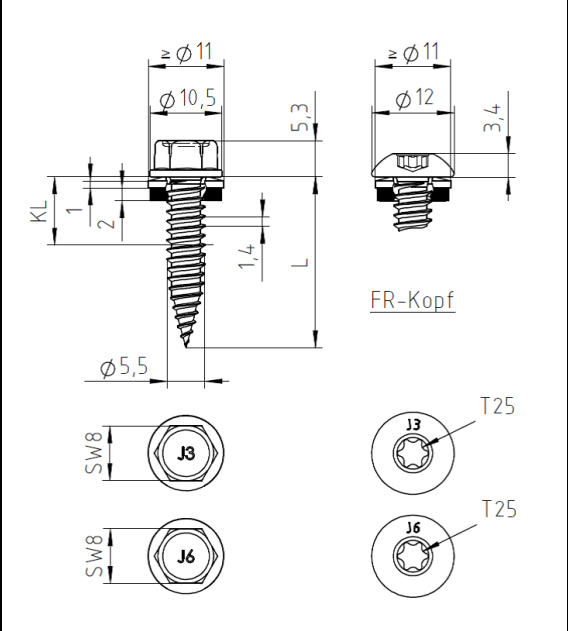
$t_{N,II} [\text{mm}]$	0,40	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	—						
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,40	0,96	—	0,96	—	0,96	—	0,96
0,50	0,96	—	1,56	—	1,56	—	1,56
0,55	0,96	—	1,56	—	1,76	—	1,76
0,63	0,96	—	1,56	—	1,76	—	1,76
0,75	0,96	—	1,56	—	2,09	—	2,09
0,88	0,96	—	1,56	—	2,09	—	2,09
1,00	0,96	—	1,56	—	2,57	—	2,57
1,13	—	—	—	—	—	—	—
1,25	—	—	—	—	—	—	—
$N_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,40	0,60	—	0,82	—	1,14	—	1,46
0,50	0,60	—	0,82	—	1,14	—	1,76
0,55	0,60	—	0,82	—	1,14	—	1,80
0,63	0,60	—	0,82	—	1,14	—	1,80
0,75	0,60	—	0,82	—	1,14	—	1,80
0,88	0,60	—	0,82	—	1,14	—	1,80
1,00	0,60	—	0,82	—	1,14	—	1,80
1,13	—	—	—	—	—	—	—
1,25	—	—	—	—	—	—	—

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

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2-5,5xL, JF6-(FR-)2-5,5xL
with sealing washer $\geq \text{Ø}14 \text{ mm}$

Annex 125

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573 Component II: aluminium alloy with $R_{m,min} = 165 \text{ N/mm}^2$ – EN 573 Drilling capacity: $\Sigma t_i \leq 2 \times 1,50 \text{ mm}$ Timber substructures: no performance determined
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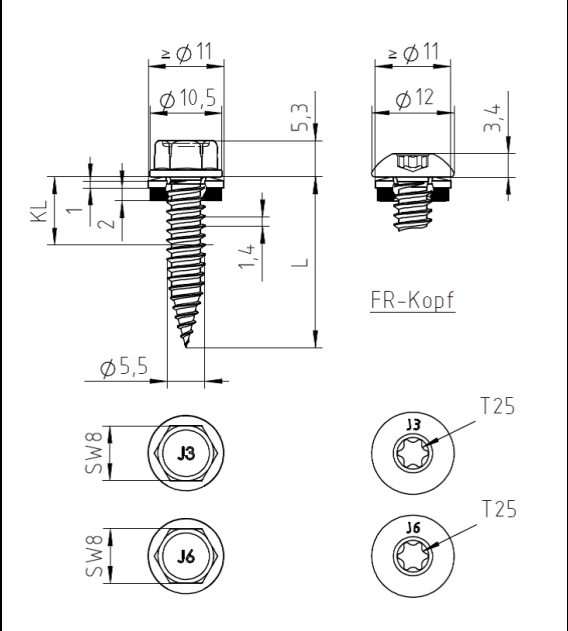
$t_{N,II} [\text{mm}]$	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,20	1,50
$M_{t,nom}$	—								
$V_{R,k} [\text{kN}] \text{ for } t_{N,I} =$	0,43 —	0,43 —	0,43 —	0,43 —	0,43 —	0,43 —	0,43 —	0,43 —	0,43 —
0,50	0,43 —	0,62 —	0,62 —	0,62 —	0,62 —	0,62 —	0,62 —	0,62 —	0,62 —
0,60	0,43 —	0,62 —	0,71 —	0,71 —	0,71 —	0,71 —	0,71 —	0,71 —	0,71 —
0,70	0,43 —	0,62 —	0,71 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —
0,80	0,43 —	0,62 —	0,71 —	0,79 —	0,88 —	0,88 —	0,88 —	0,88 —	0,88 —
0,90	0,43 —	0,62 —	0,71 —	0,79 —	0,88 —	1,04 —	1,04 —	1,04 —	1,04 —
1,00	0,43 —	0,62 —	0,71 —	0,79 —	0,88 —	1,04 —	1,19 —	0,88 —	0,88 —
1,20	0,43 —	0,62 —	0,71 —	0,79 —	0,88 —	1,04 —	1,19 —	1,24 —	1,24 —
1,50	0,43 —	0,62 —	0,71 —	0,79 —	0,88 —	1,04 —	1,19 —	1,24 —	1,87 —
$N_{R,II,k} [\text{kN}] =$	0,24	0,35	0,45	0,58	0,69	0,80	0,91	1,13	1,63

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2-5,5xL, JF6-(FR-)2-5,5xL
with sealing washer $\geq \varnothing 11 \text{ mm}$

Annex 126

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Component II: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Drilling capacity: $\Sigma t_i \leq 2 \times 1,50 \text{ mm}$ Timber substructures: no performance determined
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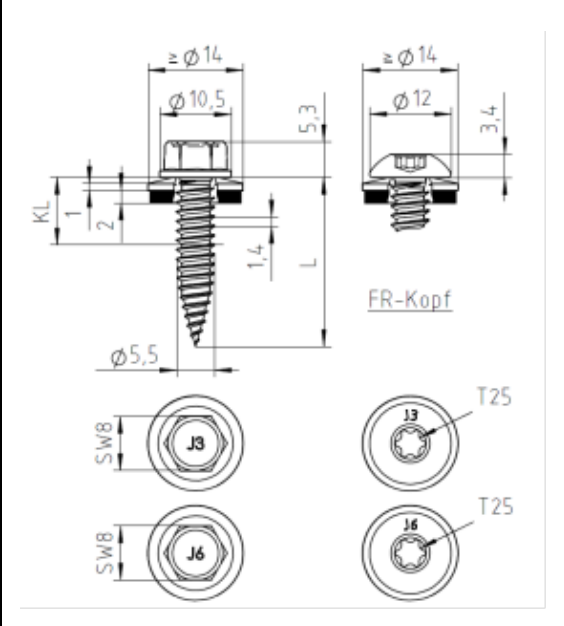
$t_{N,II}$ [mm]	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,20	1,50
$M_{t,nom}$	—								
$V_{R,k}$ [kN] for $t_{N,I} =$									
0,40	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —
0,50	0,55 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —
0,60	0,55 —	0,79 —	0,91 —	0,91 —	0,91 —	0,91 —	0,91 —	0,91 —	0,91 —
0,70	0,55 —	0,79 —	0,91 —	1,03 —	1,03 —	1,03 —	1,03 —	1,03 —	1,03 —
0,80	0,55 —	0,79 —	0,91 —	1,03 —	1,15 —	1,15 —	1,15 —	1,15 —	1,15 —
0,90	0,55 —	0,79 —	0,91 —	1,03 —	1,15 —	1,35 —	1,35 —	1,35 —	1,35 —
1,00	0,55 —	0,79 —	0,91 —	1,03 —	1,15 —	1,35 —	1,54 —	1,54 —	1,54 —
1,20	0,55 —	0,79 —	0,91 —	1,03 —	1,15 —	1,35 —	1,54 —	1,62 —	1,62 —
1,50	0,55 —	0,79 —	0,91 —	1,03 —	1,15 —	1,35 —	1,54 —	1,62 —	2,44 —
$N_{R,II,k}$ [kN] =	0,31	0,46	0,60	0,75	0,89	1,04	1,18	1,47	2,12

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2-5,5xL, JF6-(FR-)2-5,5xL
with sealing washer $\geq \varnothing 11 \text{ mm}$

Annex 127

	Materials: Fastener: stainless steel (A2) – EN ISO 3506 stainless steel (A4) – EN ISO 3506 Washer: stainless steel (A2/A4) – EN ISO 3506 with vulcanised EPDM seal Component I: aluminium alloy with $R_{m,min} = 215 \text{ N/mm}^2$ – EN 573 Component II: S280GD to S350GD – EN 10346 Drilling capacity: $\Sigma t_i \leq 1,50 \text{ mm} + 1,00 \text{ mm}$ Timber substructures: no performance determined
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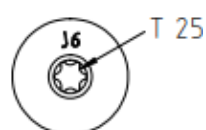
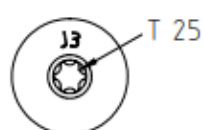
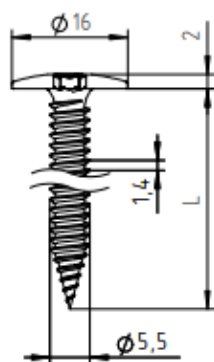
$t_{N,II} [\text{mm}]$	0,40	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	—						
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$	0,40	0,50	0,55	0,63	0,75	0,88	1,00
0,40	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —	0,55 —
0,50	0,55 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —	0,79 —
0,60	0,55 —	0,79 —	0,85 —	0,91 —	0,91 —	0,91 —	0,91 —
0,70	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,14 —	1,14 —
0,80	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,42 —	1,42 —
0,90	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,42 —	1,90 —
1,00	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,42 —	2,38 —
1,20	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,42 —	2,38 —
1,50	0,55 —	0,79 —	0,85 —	0,95 —	1,14 —	1,42 —	2,38 —
$N_{R,II,k} [\text{kN}] =$	0,60	0,82	0,94	1,14	1,44	1,80	2,14

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-(FR-)2-5,5xL, JF6-(FR-)2-5,5xL
with sealing washer $\geq \varnothing 14 \text{ mm}$

Annex 128

Materials:

Fastener: stainless steel (A2) – EN ISO 3506
stainless steel (A4) – EN ISO 3506

Washer: none

Component I: S280GD to S350GD – EN 10346

Component II: S280GD to S350GD – EN 10346

Drilling capacity: $\Sigma t_i \leq 2 \times 1,00 \text{ mm}$

Timber substructures:

no performance determined

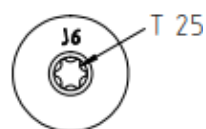
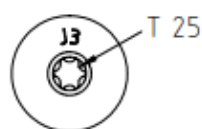
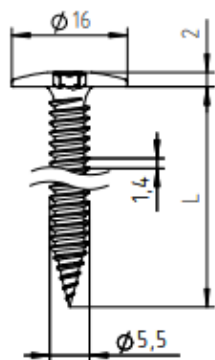
$t_{N,II} [\text{mm}]$	0,40	0,50	0,55	0,63	0,75	0,88	1,00
$M_{t,nom}$	2 Nm						
$V_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,50	0,79	0,79	0,79	0,79	0,79	0,79	0,79
0,55	0,79	1,18	1,27	1,42	1,65	1,65	1,65
0,63	0,79	1,18	1,41	1,56	1,79	1,79	1,79
0,75	0,79	1,18	1,41	1,77	2,00	2,00	2,00
0,88	0,79	1,18	1,41	1,77	2,35	2,35	2,35
1,00	0,79	1,18	1,41	1,77	2,35	2,84	2,84
$N_{R,k} [\text{kN}]$ for $t_{N,I} =$							
0,50	0,60	0,82	0,94	1,14	1,38	1,38	1,38
0,55	0,60	0,82	0,94	1,14	1,44	1,77	1,77
0,63	0,60	0,82	0,94	1,14	1,44	1,80	1,96
0,75	0,60	0,82	0,94	1,14	1,44	1,80	2,14
0,88	0,60	0,82	0,94	1,14	1,44	1,80	2,14
1,00	0,60	0,82	0,94	1,14	1,44	1,80	2,14

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

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-LT-2-5,5xL - KD16, JF6-LT-2-5,5xL - KD16

Annex 143

**Materials:**

Fastener: stainless steel (A2) – EN ISO 3506
stainless steel (A4) – EN ISO 3506

Washer: none

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

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

Drilling capacity: $\Sigma t_i \leq 1,00 \text{ mm} + 2,00 \text{ mm}$

Timber substructures:

no performance determined

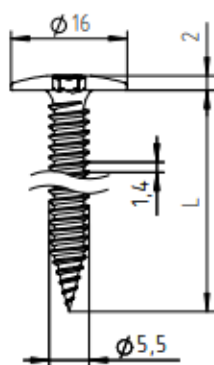
$t_{N,II}$ [mm]	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,20	1,50	2,00
$M_{t,nom}$	2 Nm									
$V_{R,k}$ [kN] for $t_{N,I} =$										
0,50	0,24	0,29	0,34	0,39	0,44	0,49	0,54	0,54	0,54	0,54
0,60	0,24	0,34	0,39	0,43	0,48	0,52	0,57	0,66	0,68	0,68
0,70	0,24	0,34	0,45	0,49	0,53	0,57	0,61	0,69	0,82	0,82
0,80	0,24	0,34	0,45	0,57	0,60	0,64	0,68	0,75	0,86	0,95
0,90	0,24	0,34	0,45	0,57	0,69	0,73	0,76	0,82	0,92	1,09
1,00	0,24	0,34	0,45	0,57	0,69	0,83	0,86	0,91	1,00	1,15
$N_{R,II,k}$ [kN]	0,24	0,35	0,45	0,58	0,69	0,80	0,91	1,13	1,63	1,63

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-LT-2-5,5xL - KD16, JF6-LT-2-5,5xL - KD16

Annex 144

**Materials:**

Fastener: stainless steel (A2) – EN ISO 3506
stainless steel (A4) – EN ISO 3506

Washer: none

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

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

Drilling capacity: $\Sigma t_i \leq 1,00 \text{ mm} + 2,00 \text{ mm}$

Timber substructures:

no performance determined

$t_{N,II}$ [mm]	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,20	1,50	2,00
$M_{t,nom}$	2 Nm									
$V_{R,k}$ [kN] for $t_{N,I} =$										
0,50	0,32	0,38	0,45	0,51	0,58	0,64	0,71	0,71	0,71	0,71
0,60	0,32	0,45	0,50	0,56	0,62	0,68	0,74	0,86	0,89	0,89
0,70	0,32	0,45	0,59	0,64	0,69	0,75	0,80	0,90	1,06	1,06
0,80	0,32	0,45	0,59	0,74	0,79	0,83	0,88	0,98	1,12	1,24
0,90	0,32	0,45	0,59	0,74	0,90	0,95	0,99	1,07	1,20	1,42
1,00	0,32	0,45	0,59	0,74	0,90	1,08	1,11	1,19	1,31	1,50
$N_{R,II,k}$ [kN]	0,31	0,46	0,60	0,75	0,89	1,04	1,18	1,47	2,12	2,12

- 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.

EJOT Fastening screws JF3

Self-drilling screw (chipless) JF3-LT-2-5,5xL - KD16, JF6-LT-2-5,5xL - KD16

Annex 145