

Leistungserklärung



Nr.: 1 - 001 - 211023 - 2021

1.) Eindeutiger Kenncode des Produkttyps:
EJOT Befestigungsschrauben EJOFAST JF3

2.) Verwendungszweck:
Befestigungsschrauben für Sandwichelemente

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 330047-01-0602
Europäisch Technische Bewertung: ETA-21/1023
Technische Bewertungsstelle: DIBt - Deutsches Institut für Bautechnik, Berlin
Notifizierte Stelle: 0769 - KIT - Karlsruher Institut für Technologie

6.) Erklärte Leitung(en):
a) Mechanische Festigkeit und Standsicherheit (BWR 1)

Wesentliche Merkmale	Leistungswerte
Querkraftbeanspruchbarkeit der Verbindung	Siehe Anhang 1-4
Zugbeanspruchbarkeit der Verbindung	Siehe Anhang 1-4
Bemessungsbeanspruchbarkeit im Fall der Kombination von Zug-/Querkraften (Interaktion)	Siehe Anhang 1-4
Überprüfung der Verformungskapazität im Fall von temperaturbedingten Zwängungskraften	NPD
Haltbarkeit	NPD

b) Brandschutz (BWR 2)

Wesentliche Merkmale	Leistungswerte
Brandverhalten	A1

Die Leistung des vorstehenden Produkts entspricht der erklärten Leitung/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 / Geschäftsführung
(Name und Funktion)

Bad Laasphe, 18.01.2022
(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: $t_{N2} \leq 1.00$ mm

Timber substructures:
 performance determined with
 $M_{y,Rk} = 10.744$ Nm $l_b = 9$ mm
 $f_{ax,k} = 12.200$ N/mm² for $l_{ef} \geq 27$ mm

t_{N1} [mm]	l_{ef} [mm]															
	27	30	33	36	39	42	45	48	51	54	57	60	63	66		
$V_{R,k}$ [kN] for $t_{N2} =$ 0.40 0.50 0.55 0.60 0.63 0.75 0.88 1.00	0.88	0.98	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	bearing resistance of component I
	0.88	0.98	1.08	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
	0.88	0.98	1.08	1.17	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	
	0.88	0.98	1.08	1.17	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
$N_{R,k}$ [kN] for $t_{N1} =$ 0.40 0.50 0.55 0.60 0.63 0.75 0.88 1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	pull-through resistance of component I
	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	
	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	
	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	
	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	
	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	
	2.02	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	
	2.02	2.24	2.46	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	
$N_{R,II,k}$ [kN] =	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.81	4.03	4.26	4.48	4.70	4.93	max u [mm] for $D_f =$	
	4	4	4	4	4	4	4	4	4	4	4	4	4	4		4
max u [mm] for $D_f =$ 30 40 60 80 100 120 ≥ 140	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	

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

Fastening screws JF

Self-drilling screw
JF3-(FR-)Plus-6.8xL, JF6-(FR-)Plus-6.8xL

with hexagon head or round head with TX-drive system and sealing washer $\geq \varnothing 11$ mm

Annex 4

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: $t_{N2} \leq 1.00$ mm

Timber substructures:

performance determined with

$M_{y,Rk} = 10.744$ Nm $l_b = 9$ mm

$f_{ax,k} = 12.200$ N/mm² for $l_{ef} \geq 27$ mm

t_{N1} [mm]	l_{ef} [mm]																
	27	30	33	36	39	42	45	48	51	54	57	60	63	66			
$V_{R,k}$ [kN] for $t_{N2} =$	0.40	0.88	0.98	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	bearing resistance of component I
	0.50	0.88	0.98	1.08	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
	0.55	0.88	0.98	1.08	1.17	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	
	0.60	0.88	0.98	1.08	1.17	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	
	0.63	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.75	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	1.00	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
$N_{R,k}$ [kN] for $t_{N1} =$	0.40	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	pull-through resistance of component I
	0.50	1.77	1.77	1.77	1.77	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	1.96	1.96	1.96	1.96	
	0.60	2.02	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	
	0.63	2.02	2.24	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	
	0.75	2.02	2.24	2.46	2.69	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	
	0.88	2.02	2.24	2.46	2.69	2.91	3.14	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	
	1.00	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.69	3.69	3.69	3.69	3.69	3.69	3.69	
$N_{R,II,k}$ [kN] =	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.81	4.03	4.26	4.48	4.70	4.93			
$\max u$ [mm] for $D_f =$	30	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	$\max u$ [mm] for $D_f =$
	40	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	100	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	120	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
≥ 140	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	

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

Fastening screws JF

Self-drilling screw
JF3-(FR-)Plus-6.8xL, JF6-(FR-)Plus-6.8xL

with hexagon head or round head with TX-drive system and sealing washer $\geq \varnothing 16$ mm

Annex 5

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: $t_{N2} \leq 1.00$ mm

Timber substructures:

performance determined with

$M_{y,Rk} = 10.744$ Nm $l_b = 9$ mm

$f_{ax,k} = 12.200$ N/mm² for $l_{ef} \geq 27$ mm

t_{N1} [mm]	l_{ef} [mm]																
	27	30	33	36	39	42	45	48	51	54	57	60	63	66			
$V_{R,k}$ [kN] for $t_{N2} =$	0.40	0.88	0.98	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	bearing resistance of component I
	0.50	0.88	0.98	1.08	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
	0.55	0.88	0.98	1.08	1.17	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	
	0.60	0.88	0.98	1.08	1.17	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	
	0.63	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.75	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	1.00	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
$N_{R,k}$ [kN] for $t_{N1} =$	0.40	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	pull-through resistance of component I
	0.50	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	
	0.55	2.02	2.24	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	
	0.60	2.02	2.24	2.46	2.69	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	
	0.63	2.02	2.24	2.46	2.69	2.91	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	
	0.75	2.02	2.24	2.46	2.69	2.91	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	
	0.88	2.02	2.24	2.46	2.69	2.91	3.14	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	
	1.00	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.69	3.69	3.69	3.69	3.69	3.69	3.69	
$N_{R,II,k}$ [kN] =	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.81	4.03	4.26	4.48	4.70	4.93			
$\max u$ [mm] for $D_f =$	30	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	$\max u$ [mm] for $D_f =$
	40	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	100	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	120	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
≥ 140	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10

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

Fastening screws JF

Self-drilling screw
JF3-(FR-)Plus-6.8xL, JF6-(FR-)Plus-6.8xL
 with hexagon head or round head with TX-drive system and sealing washer $\geq \phi 19$ mm

Annex 6

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: $t_{N2} \leq 1.00$ mm

Timber substructures:
 performance determined with
 $M_{y,Rk} = 10.744$ Nm $l_b = 9$ mm
 $f_{ax,k} = 12.200$ N/mm² for $l_{ef} \geq 27$ mm

t_{N1} [mm]	l_{ef} [mm]															
	27	30	33	36	39	42	45	48	51	54	57	60	63	66		
$V_{R,k}$ [kN] for $t_{N2} =$ 0.40 0.50 0.55 0.60 0.63 0.75 0.88 1.00	0.88	0.98	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	bearing resistance of component I
	0.88	0.98	1.08	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
	0.88	0.98	1.08	1.17	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	
	0.88	0.98	1.08	1.17	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
	0.88	0.98	1.08	1.17	1.27	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	
$N_{R,k}$ [kN] for $t_{N1} =$ 0.40 0.50 0.55 0.60 0.63 0.75 0.88 1.00	2.02	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13	pull-through resistance of component I
	2.02	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	
	2.02	2.24	2.46	2.69	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	
	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	
	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	
	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	
	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	
	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.69	3.69	3.69	3.69	3.69	3.69	3.69	
$N_{R,II,k}$ [kN] =	2.02	2.24	2.46	2.69	2.91	3.14	3.36	3.58	3.81	4.03	4.26	4.48	4.70	4.93	max u [mm] for $D_f =$	
	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
max u [mm] for $D_f =$ 30 40 60 80 100 120 ≥ 140	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	

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

Fastening screws JF

Self-drilling screw
JF3-(FR-)Plus-6.8xL, JF6-(FR-)Plus-6.8xL
 with hexagon head or round head with TX-drive system and sealing washer $\geq \varnothing 22$ mm

Annex 7