

DECLARATION OF PERFORMANCE
according Annex III of the Regulation (EU) No 305/2011

Name of the product **E-JET X partial threaded screws**
Outer thread diameter d: 6,0 – 12,0 mm; overall length l: 16 – 1.500 mm

No. **DOP 20_1-21/3**

1. Unique identification code of the product-type: DOP 20_1-21/3
2. Intended use: Screws for use in timber constructions
3. Manufacturer: Verbindungselemente Engel GmbH
Weltestraße 2+4
88250 Weingarten
5. System of AVCP: System 3
6. European Assessment Document: EAD 130118-01-0603
European Technical Assessment: ETA-21/0055 of 11.11.2024
Technical Assessment Body: Deutsches Institut für Bautechnik (DIBt)
7. Declared performances:

Essential characteristic	Unit	Performance					
		[mm]	Ø 6,0	Ø 8,0	Ø 10,0		
Basic Works Requirement1: Mechanical resistance and stability (BWR 1)							
Characteristic yield moment $M_{y,k}$	[Nm]	10,0	20,0	30,0	42,0		
Characteristic tensile strength $f_{tens,k}$	[kN]	12,0	21,0	27,0	36,0		
Characteristic torsional strength $f_{tor,k}$	[Nm]	10,0	24,0	39,0	58,0		
Characteristic withdrawal parameter $f_{ax,k}$ ($\alpha=90^\circ$) for timber/wood density 350 kg/m ³	[N/mm ²]	11,0		10,0			
Characteristic head pull-through parameter $f_{head,k}$ for timber/wood density 350 kg/m ³	[N/mm ²]	t > 20 mm: min. 9,4 12 mm ≤ t ≤ 20 mm: 8 t < 12 mm: 8; F_{max} : 400 N					
Characteristic yield strength $f_{y,k}$	[N/mm ²]	npd					
Insertion moment $f_{tor,k} / R_{tor,mean}$ ($\geq 1,5$)		complies					
Spacing, end and edge distances of the screws		Acc. to EN 1995-1-1:2004+A1:2008+A2:2014 clauses 8.3.1.2 or 8.7.2 and tables 8.2 and 8.6, as for nails with non-predrilled holes. Here, the outer thread diameter d shall be considered. For Douglas fir members minimum spacing and distances parallel to the grain shall be increased by 50 %. Minimum distances from loaded or unloaded ends shall be at least 15·d for screws with outer thread diameter d ≥ 8 mm and timber thickness t < 5·d.					
Minimum thickness for structural timber members t	[mm]	30	30	40	100		
Slip modulus for mainly axially loaded screws K_{ser}	[N/mm ²]	$780 \cdot d^{0,2} \cdot l_{ef}^{0,4}$					
Bending angle α , min.	[°]	32,9	30,5	29,0	27,9		
Durability against corrosion, coating thickness	[µm]	Zinc plated, ≥ 3 Nickel plated, ≥ 5 Zink-nickel coating, ≥ 5 Zinc flake coating, ≥ 25 VG Coating, ≥ 25 Nanocoating, ≥ 25					
Basic Works Requirement 2: Safety in case of fire							
Reaction to fire		Class A1					

Essential characteristic	Unit	Performance			
Basic Works Requirement 4: Safety and accessibility in use					
Same as BWR 1					
		Outer thread diameter d			
	[mm]	Ø 6,0	Ø 8,0	Ø 10,0	Ø 12,0
Core diameter d_1	[mm]	4,0	5,2	6,2	7,0
Shank diameter d_s	[mm]	4,25	5,7	7,0	8,0
Thread pitch P	[mm]	$ l < 180: 3,3$ $ l \geq 180: 4,5$	5,2	5,6	6,0
Head diameter d_h , countersunk head/wafer head	[mm]	11,5/15	14,5/22	18/25	21/29
Thread length l_g min.	[mm]	32	32	52	80
Thread length l_g max.	[mm]	75	100	100	120

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer.

Signed for and on behalf of the manufacturer by:

ppa. Guido Hochschorner
Weingarten, 02.12.2025

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