

**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**

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|--|---|
| 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<br>Weltestraße 2+4<br>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			
		Outer thread diameter d			
	[mm]	Ø 6,0	Ø 8,0	Ø 10,0	Ø 12,0
Basic Works Requirement1: Mechanical resistance and stability (BWR 1)					
Characteristic yield moment M <sub>y,k</sub>	[Nm]	10,0	20,0	30,0	42,0
Characteristic tensile strength f <sub>tens,k</sub>	[kN]	12,0	21,0	27,0	36,0
Characteristic torsional strength f <sub>tor,k</sub>	[Nm]	10,0	24,0	39,0	58,0
Characteristic withdrawal parameter f <sub>ax,k</sub> (α=90°) for timber/wood density 350 kg/m³	[N/mm²]	11,0		10,0	
Characteristic head pull-through parameter f <sub>head,k</sub> for timber/wood density 350 kg/m³	[N/mm²]	t > 20 mm: min. 9,4 12 mm ≤ t ≤ 20 mm: 8 t < 12 mm: 8; F <sub>max</sub> : 400 N			
Characteristic yield strength f <sub>y,k</sub>	[N/mm²]	npd			
Insertion moment f <sub>tor,k</sub> / R <sub>tor,mean</sub> (≥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 <sub>ser</sub>	[N/mm²]	780 · d <sup>0,2</sup> · l <sub>ef</sub> <sup>0,4</sup>			
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			

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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 <sub>1</sub>	[mm]	4,0	5,2	6,2	7,0
Shank diameter d <sub>s</sub>	[mm]	4,25	5,7	7,0	8,0
Thread pitch P	[mm]	l < 180: 3,3 l ≥ 180: 4,5	5,2	5,6	6,0
Head diameter d <sub>h</sub> , countersunk head/wafer head	[mm]	11,5/15	14,5/22	18/25	21/29
Thread length l <sub>g</sub> min.	[mm]	32	32	52	80
Thread length l <sub>g</sub> 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

This document is a copy in accordance with Article 7 of the EU Construction Products Regulation of the signed original declaration of performance with identical content.

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