



Declaration of Performance (DoP)

in acc. with EU-regulation 305/2011. Annex III
No. 0370-CPR-2238

1. Unique identification code of the product type

EN 15048-1

2. Type, batch or serial number

Non-preloaded structural bolting assemblies
Bolting assemblies lot number: See the label

3. Intended use

Non-preloaded structural bolting assemblies
Bolt connections are able to be shear and/or tensile loaded

4. Contact address

SHINJIN FASTENERS CO., LTD.
87-2 YONGWON 4-GIL, SEONGNAM-MYEON, DONGNAM-GU, CHEONAN-SI,
CHUNGCHEONGNAM-DO, 330-891, REPUBLIC OF KOREA

5. Contact address of the authorized representative

NPD

6. Quality rating system

System of assessment and verification of constancy of performance of the construction product as set out in Annex V:
System 2+

7. Notified body

The supervision of our own production control is effected as per the certificate No. 0370-CPR-2237, issued by the notified body 0370

LGAI TECHNOLOGICAL CENTER, S. A./Applus
Campus UAB, Apto Correos 18 08193 BELLATERRA (Barcelona) Spain

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8. Declared performance

Essential characteristics	Performance	Harmonized technical specification										
Bolt (Carbon/Alloy steel Grade 8.8)		EN 15048-1:2016										
Tolerances on dimensions, form and position	EN ISO 4759-1 For $d \leq 24$ mm and $l \leq 10 d$ or 150 mm : A For $d > 24$ mm or $l > 10 d$ or 150 mm : B											
Percent elongation after fracture (min, %)	12											
Minimum tensile strength (min, MPa)	M12 – M16		M18 – M36									
	800		830									
Stress at 0,2 % non-proportional elongation (min, MPa)	M12 – M16		M18 – M36									
	640		660									
Stress under proof load (min, MPa)	M12 – M16		M18 – M36									
	580		600									
Strength under wedge loading (min, kN)	M12		M14	M16	M18	M20	M22	M24	M27	M30	M33	M36
	70		95.5	130	159	203	252	293	381	466	576	678
Hardness (Rockwell, HRC)	23 – 34											
Impact strength at -20 °C (J)	27											
Release of dangerous substances	Less than 0.2 ppm											
Durability	NPD											
Nut (Carbon/Alloy steel Grade 10)												
Tolerances on dimensions, form and position	EN ISO 4759-1 $d \leq 16$ mm : A $d > 16$ mm : B											
Stress under proof load (min, kN)	M12	M14		M16	M18	M20	M22	M24	M27	M30	M33	M36
	88.5	120		164.9	203.5	259.7	321.2	374.2	486.5	594.7	735.6	866
Hardness (HV)	272-353											
Release of dangerous substances	Less than 0.2 ppm											
Durability	NPD											
Washers												
Tolerances on dimensions, form and position	EN ISO 4759-3 Product grade B											
Hardness	EN ISO 7089											
Release of dangerous substances	NPD											
Durability	NPD											

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Assemblies		
Tensile resistance of the assembly	$F_{bi\ max} \geq F_{ub}$	
Durability	NPD	

9. Product performance corresponds to declared performance

The performance of the products identified in no.1 and no.2 is in conformity with the declared performance in no.8.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in no.4.

Signed for and on behalf of the manufacturer by:

CHEONAN-SI, REPUBLIC OF KOREA

23rd October 2015

A handwritten signature in black ink, appearing to read 'Yoo Seon Guk'.

Head of Quality & Chief Technology Officer