



1. Unique identification code of the product-type:

EN 15048-1

**“Non preloaded structural bolting assemblies” with:
sizes: M8 to M27
strength class bolts 4.6, 5.6, 8.8, 10.9
strength class nuts 4, 5, 8, 10**

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

**Label of the manufacturer: „CLEFF“ or „C“
Charge: see label on the package**

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

Non-preloaded structural bolting assemblies

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):

**J. vom Cleff A. Sohn GmbH & Co. KG
Kemmannstr. 90
D-42349 Wuppertal**

5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):

not relevant

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:

System 2+

7. In case of the declaration of performance concerning a construction product covered by a harmonised standard:

The MATERIALPRÜFUNGSAMT NORDRHEIN-WESTFALEN (MPA NRW), Marsbruchstraße 186, 44287 DORTMUND, body-no. 0432 executed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control under system 2+ and issued a

**certificate of conformity of the factory production control
0432-CPR-900153-01**

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

not relevant



9. Declared performance

Essential characteristics	Performance	Harmonised technical specification
bolts		
measure-, form- and positiontolerances	product class corresponding productstandard acc. EN ISO 4759-1 DIN 7990; DIN 7968: productclass C ISO 4014; ISO 4017: products $d \leq 24\text{mm}$ and $l \leq 10d$ or $150\text{mm}^{1)}$: productclass A products $d > 24\text{mm}$ or $l > 10d$ or $150\text{mm}^{1)}$: productclass B <small>1) valid is the smaller value</small>	EN 15048-1
elongation	Corresponding to the property-class of the headmarking acc. : EN ISO 898-1 Cl. 4.6: 22% Cl. 5.6: 20% Cl. 8.8: 12% Cl. 10.9: 9%	EN 15048-1
tensile strength	Cl. 4.6: 400N/mm ² Cl. 5.6: 500N/mm ² Cl. 8.8: Products up to M10: 800N/mm ² Products from M12: 830N/mm ² Cl. 10.9: 1040N/mm ²	
yield point	Cl. 4.6: 240N/mm ² Cl. 5.6: 300N/mm ² Cl. 8.8:	
proof stress	Products up to M10: 640N/mm ² Products from M12: 660N/mm ² Cl. 10.9: 940N/mm ²	
proof load test	Cl. 4.6: 225MPa Cl. 5.6: 280MPa Cl. 8.8: Products up to M10: 580MPa Products from M12: 600MPa Cl. 10.9: 830MPa	
tensile test under wedge loading	Cl. 4.6: 400N/mm ² Cl. 5.6: 500N/mm ² Cl. 8.8: Products up to M10: 800N/mm ² Products from M12: 830N/mm ² Cl. 10.9: 1040N/mm ²	
hardness	Cl. 4.6: HBW 114-209 Cl. 5.6: HBW 147-209 Cl. 8.8: Products up to M10: HBW 238-304 Products from M12: HBW 242-318 Cl. 10.9: HBW 304-361	
impact test	Cl. 4.6: NPD Cl. 5.6; 8.8; 10.9: 27J <small>gilt für $d \geq M16$</small>	
durability	NPD	
emissions of dangerous substances	NPD	



Essential characteristics	Performance	Harmonised technical specification
nuts		
measure-, form- and positiontolerances	product class corresponding productstandard acc. EN ISO 4759-1 ISO 4032: Products ≤ M16: productclass A Products > M16: productclass B ISO 4034: productclass C	EN 15048-1
proofstress	Corresponding to the property-class of the headmarking acc. :EN ISO 898-2: Cl. 4.: Products ≤ M16: NPD Products > M16: 510 N/mm ² Cl. 5: Products M8 to M10: 590 N/mm ² Products M12 to M16: 610 N/mm ² Products > M16: 630 N/mm ² Cl. 8: Products M8 to M10: 870 N/mm ² Products M12 to M16: 880 N/mm ² Products > M16: 920 N/mm ² Cl. 10: Products M8 to M10: 1040 N/mm ² Products M12 to M16: 1050 N/mm ² Products > M16: 1060 N/mm ²	EN 15048-1
hardness	Cl. 4.: Products ≤ M16: NPD Products > M16: HV 117-302 Cl. 5: Products M8 to M16: HV 130-302 Products > M16: HV 146-302 Cl. 8: Products M8 to M16: HV 200-302 Products > M16: HV 233-353 Cl. 10: HV 272-353	
durability	NPD	
emmissions of dangerous substances	NPD	EN 15048-1




Essential characteristics	Performance	Harmonised technical specification																																																																								
assemblies																																																																										
tensile strength of the assembly	<p>Corresponding to the property-class of the headmarking acc EN ISO 898-1 or EN ISO 10684: $F_{bi,max} \geq F_{ub} = A_{s,norm} \times R_{m,min}$</p> <p>Cl. 4.6:</p> <table> <tr><td>Products M8:</td><td>14600N</td></tr> <tr><td>Products M8 hdg ¹⁾:</td><td>13300N</td></tr> <tr><td>Products M10:</td><td>23200N</td></tr> <tr><td>Products M10 hdg ¹⁾:</td><td>21400N</td></tr> <tr><td>Products M12 :</td><td>33700N</td></tr> <tr><td>Products M16:</td><td>62800N</td></tr> <tr><td>Products M20:</td><td>98000N</td></tr> <tr><td>Products M24:</td><td>141000N</td></tr> <tr><td>Products M27:</td><td>184000N</td></tr> </table> <p>Cl. 5.6:</p> <table> <tr><td>Products M8:</td><td>18300N</td></tr> <tr><td>Products M8 hdg ¹⁾:</td><td>16600N</td></tr> <tr><td>Products M10:</td><td>29000N</td></tr> <tr><td>Products M10 hdg ¹⁾:</td><td>26800N</td></tr> <tr><td>Products M12 :</td><td>42200N</td></tr> <tr><td>Products M16:</td><td>78500N</td></tr> <tr><td>Products M20:</td><td>12200N</td></tr> <tr><td>Products M24:</td><td>176000N</td></tr> <tr><td>Products M27:</td><td>230000N</td></tr> </table> <p>Cl. 8.8:</p> <table> <tr><td>Products M8:</td><td>29200N</td></tr> <tr><td>Products M8 hdg ¹⁾:</td><td>26600N</td></tr> <tr><td>Products M10:</td><td>46400N</td></tr> <tr><td>Products M10 hdg ¹⁾:</td><td>42900N</td></tr> <tr><td>Products M12 :</td><td>70000N</td></tr> <tr><td>Products M16:</td><td>130000N</td></tr> <tr><td>Products M20:</td><td>203000N</td></tr> <tr><td>Products M24:</td><td>293000N</td></tr> <tr><td>Products M27:</td><td>381000N</td></tr> </table> <p>Cl. 10.9:</p> <table> <tr><td>Products M8:</td><td>38100N</td></tr> <tr><td>Products M8 hdg ¹⁾:</td><td>34500N</td></tr> <tr><td>Products M10:</td><td>60300N</td></tr> <tr><td>Products M10 hdg ¹⁾:</td><td>55700N</td></tr> <tr><td>Products M12 :</td><td>87700N</td></tr> <tr><td>Products M16:</td><td>163000N</td></tr> <tr><td>Products M20:</td><td>255000N</td></tr> <tr><td>Products M24:</td><td>367000N</td></tr> <tr><td>Products M27:</td><td>477000N</td></tr> </table> <p><small>1) only hdg bolts with undersized thread toleranceclass 6az before application of surface, headmarking U</small></p>	Products M8:	14600N	Products M8 hdg ¹⁾ :	13300N	Products M10:	23200N	Products M10 hdg ¹⁾ :	21400N	Products M12 :	33700N	Products M16:	62800N	Products M20:	98000N	Products M24:	141000N	Products M27:	184000N	Products M8:	18300N	Products M8 hdg ¹⁾ :	16600N	Products M10:	29000N	Products M10 hdg ¹⁾ :	26800N	Products M12 :	42200N	Products M16:	78500N	Products M20:	12200N	Products M24:	176000N	Products M27:	230000N	Products M8:	29200N	Products M8 hdg ¹⁾ :	26600N	Products M10:	46400N	Products M10 hdg ¹⁾ :	42900N	Products M12 :	70000N	Products M16:	130000N	Products M20:	203000N	Products M24:	293000N	Products M27:	381000N	Products M8:	38100N	Products M8 hdg ¹⁾ :	34500N	Products M10:	60300N	Products M10 hdg ¹⁾ :	55700N	Products M12 :	87700N	Products M16:	163000N	Products M20:	255000N	Products M24:	367000N	Products M27:	477000N	EN 15048-1
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durability	NPD																																																																									

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Wuppertal, den 10.06.2014

Unterschrift: 
Traubitsch ppa (techn. Leiter)