
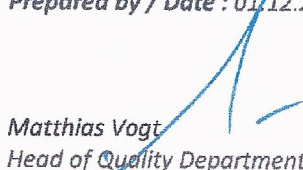
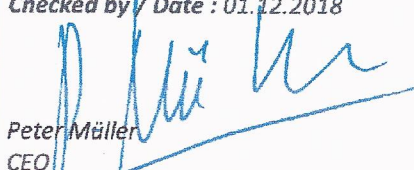


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|---|---|--------------|------------------|
|  | QUALIFICATION TEST RECORD NORSOK M-650 EDITION 4 | | QTR No.: QTR 005 |
| | | | Revision No.: 06 |
| Manufacturer Name / Address / Web Page: | Hammerschmiede Jäckel Müller GmbH Ripshorster Straße 460, D-45357, Essen, Germany www.hjm.gmbh | | |
| Reference Standard: | NORSOK M-650 Edition 4 | | |
| Material Designation and MDS No.: | ASTM A182 F51 (UNS S31803) - NORSOK M-630 MDS D44 Rev. 5 | | |
| Manufacturing Summary Doc. No.: | QTR005-MS | Rev. No.: 01 | |
| Products and Manufacturing Process(es): | Die Forged Flanges < 80kg Die Forged Flanges ≥ 80kg Forged Rings | | |
| Mandatory Conditions and Sub-Contractors: | Heat Treatment carried out in-house (Furnace no. 5) Laboratory Material Testing carried out by 3 rd Party ISO 17025 Accredited Supplier | | |
| Other Information: | Pickling & Passivation carried out by 3 rd Party Approved Supplier Forging Process for Large Items (≥ 80kg) : Ossenberg & Cie GmbH, Altena (Optional) | | |
| Qualification Expiry Date: | 29/09/2022 | | |

Tested and Qualified Thickness and Weight




| Products and Manufacturing Process(es): | Test Record No. | Tested Thickness (mm) | Qualified Thickness (mm) | Test Piece Weight (kg) | Qualified Weight (kg) |
|---|-----------------|-----------------------|--------------------------|------------------------|-----------------------|
| Die Forged Flanges (< 80kg) | QTR005-QUALTS01 | 84 | 93 | 72 | 144 |
| Die Forged Flanges (≥ 80kg) | QTR005-QUALTS02 | 120 | 120 | 190 | 380 |
| Die Forged Flanges (≥ 80kg) - Ossenberg | QTR005-QUALTS03 | 170 | 170 | 400 | All |
| Forged Rings | QTR005-QUALTS04 | 200 | 200 | 363 | All |

Qualification / Acceptance Signatures

| | | |
|---|--|---|
| Manufacturer: Hammerschmiede Jäckel Müller GmbH Essen, Germany | Prepared by / Date : 01/12.2018  Matthias Vogt Head of Quality Department | Checked by / Date : 01.12.2018  Peter Müller CEO |
|---|--|---|

Remarks / Special Remarks:

- The manufacturer and this QTR are evaluated and found to be in compliance with the requirements of NORSOK M-650 for supply of the above listed products and materials.
- This acceptance does not exempt any purchaser from his responsibility to ensure that this qualification is valid for his products within the essential variables of NORSOK M-650.

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|--|---|
| Qualified / Accepted by (Company Name / Address):  APPROVED  partner in material technology and innovation | Signature / Date :  21.12.2018 |
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