
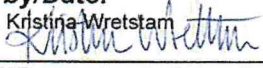
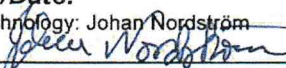

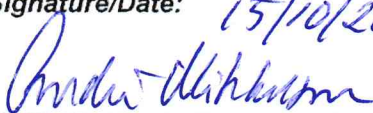


|  |  |  |   |                             |                            |
|--|--|--|---|-----------------------------|----------------------------|
| <br>high performance stainless steel   | <b>Qualification Test Record (QTR)</b><br><b>NORSOK M-650</b>  |  |   | QTR. No.:<br>2205 - 2014    |                            |
|  | Rev. No.: 5  |  |   |                             |                            |
| <b>Manufacturer name/address/ Web page:</b>  | Outokumpu Stainless AB, Avesta Works, P.O. Box 74, SE 77422 Avesta, Sweden<br>www.outokumpu.com  |  |   |                             |                            |
| <b>Reference standard</b>  | NORSOK M-650, Edition 4  |  |   |                             |                            |
| <b>Material designation and MDS No.:</b>   | ASTM A240: UNS S32205, UNS S31803; EN 10088-2 & 10028-7: 1.4462<br>MDS D45, rev 5 or Outokumpu MDS D45 rev3 (see Other information)  |  |   |                             |                            |
| <b>Manufacturing Summary doc. No.:</b>   | MS NORSOK 18 - 2205  |  |   | Rev. No.: 3                 |                            |
| <b>Products and manufacturing process(es):</b>   | Hot and cold rolled stainless steel plate, sheet and strip<br>Hot rolled: Melting – Casting – Hot Rolling – Annealing and pickling – Finishing and testing<br>Cold rolled: Melting – Casting – Hot Rolling – Annealing and pickling – Cold Rolling - Annealing and pickling – Finishing and testing  |  |   |                             |                            |
| <b>Mandatory conditions and sub-contractors:</b>   |  |  |   |                             |                            |
| <b>Other information:</b>  | 1 Verification of heat treatment procedure has been carried out. Ref report no 2012-009-v3.<br>2 The material may also be delivered according to Outokumpu MDS D45 rev 3, with enhanced tensile properties at room temperature: Rp02 min 550 MPa, Rm min 750 MPa, A50 and A min 25%<br>3. Temperature of quenching medium in AP-line is 50-55 C.<br>4. Slab supplier may also be Outokumpu Tornio Works. |  |   |                             |                            |
| <b>Qualification expires:</b>  | September 2023   |  |   |                             |                            |
| <b>Tested and qualified thickness and weight</b>   |  |  |   |                             |                            |
| <b>Products and manufacturing process(es):</b>   | <b>Test record No.</b>   | <b>Tested thickness mm</b>   | <b>Qualified thickness mm</b>   | <b>Test piece weight kg</b> | <b>Qualified weight kg</b> |
| Hot Rolled plate and strip   | 2205 HR<br>Qualification test report   | 8  | Max 10  | N/A                         | N/A                        |
| Cold Rolled plate, sheet and strip   | 2205 CR<br>Qualification test report   | 6  | Max 7,5   | N/A                         | N/A                        |
| <b>Qualification/acceptance signatures</b>   |  |  |   |                             |                            |
| <b>Manufacturer:</b><br>Outokumpu Stainless AB,<br>Avesta Works  | <b>Prepared by/Date:</b><br>Product dev. Kristina Wretstam<br>2020-10-08:   | <b>Checked by/Date:</b><br>Mgr product technology: Johan Nordström<br>2020-10-08:  |   |                             |                            |
| 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.<br><i>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.</i> |  |  |   |                             |                            |
| <b>Qualified/Accepted by (company name /address):</b><br> <b>AkerSolutions</b><br>Fomebu, Norway<br>NO 929 877 950 VAT  |  |  | <b>Signature/Date:</b> 15/10/2020<br> |                             |                            |