Qualification Test Record for 1.4462 bars Ø 20 to 75 mm
NORSOK M-650

Manufacturer name address/Web page:
UGITECH S.A.
Avenue Paul Girod, F-73403 UGINE Cedex, France  www.ugitech.com

Reference standard
NORSOK M-650 Rev. 4

Material designation and MDS No.:
Grade and specification: Type 22Cr duplex
STAINLESS STEEL DUPLEX 1.4462 (EN 10088) 22Cr5Ni X2CrNiMoN22-5-3
ASTM A479 Grade UNS S 32205 and UNS S 31803
In compliance with the requirements of NORSOK MDS D47, Rev. 6

Manufacturing summary doc. No.:
Flow chart: Synoptique AF 98  Rev. No.: dated 30/04/2018

Products and manufacturing process:
Melting process:
Electric arc furnaces
Refining AOD
Continuous cast Heat from Uginge Melting shop
Hot rolling process:
Bars diameter Ø 20 to 75 mm

Mandatory conditions and sub-contractors:
Condition:
TT4 furnaces n° 26 or n° 27 for solution heat treatment
Temperature 1020°C to 1060°C, water + polymer quenching
Time between furnace and quenching ≤ 90 s
Temperature of water + polymer bath ≤ 70°C

Other information:

Qualification expires:
February, 2025

Tested and Qualified Thickness and Weight

<table>
<thead>
<tr>
<th>Products and manufacturing process:</th>
<th>Test record No.</th>
<th>Tested thickness mm (bar OD)</th>
<th>Qualified thickness mm (bar OD)</th>
<th>Test bar weight kg</th>
<th>Qualified weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bars diameter Ø 20 to 75 mm</td>
<td>PRJ1110012761-1/1</td>
<td>75 mm</td>
<td>20 - 75 mm</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Qualification/acceptance signatures

Manufacturer:
UGITECH

Prepared by/Date: O.MARTEL 18/02/2020
Checked by/Date: G. PELLISSIER 18/02/2020

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.

Qualified/Accepted by:
Lloyd’s Register EMEA, Tour Swiss Life
1, boulevard Vivier Merle
Fr-69443 Lyon cedex 03

Signature/Date: Lloyd’s Register EMEA 18/02/2020
Qualification Test Record for 1.4462 bars Ø 75,01 to 120 mm
NORSOK M-650

Manufacturer name address/Web page:
UGITECH S.A.
Avenue Paul Girod, F-73403 UGINE Cedex, France www ugitech com

Reference standard
NORSOK M-650 Rev. 4

Material designation and MDS No.:
Grade and specification: Type 22Cr duplex
STAINLESS STEEL DUPLEX 1.4462 (EN 10088) 22Cr5Ni X2CrNiMoN22-5-3
ASTM A479 Grade UNS S 32205 and UNS S 31803
In compliance with the requirements of NORSOK MDS D47, Rev. 6

Manufacturing summary doc. No.:
Flow chart: Synoptique AF 98
Rev. No.: dated 30/04/2018

Products and manufacturing process:
Melting process:
Electric arc furnaces
Refining AOD
Continuous cast Heat from Ugine Melting shop
Hot rolling process:
Bars diameter Ø 75,01 to 120 mm

Mandatory conditions and sub-contractors:
Condition:
TT4 furnaces n° 26 or n° 27 for solution heat treatment
Ø > 75 mm : temperature 1090°C to 1130°C, water quenching
Time between furnace and quenching ≤ 90 s
Temperature of water bath ≤ 50°C

Other information:

Qualification expires:
February, 2025

Tested and Qualified Thickness and Weight

<table>
<thead>
<tr>
<th>Products and manufacturing process</th>
<th>Test record No.</th>
<th>Tested thickness mm (bar OD)</th>
<th>Qualified thickness mm (bar OD)</th>
<th>Test bar weight kg</th>
<th>Qualified weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bars diameter Ø 75,01 to 120 mm</td>
<td>SMQ 4780 rev. C</td>
<td>115 mm</td>
<td>75,01 - 120 mm</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Qualification/acceptance signatures

Manufacturer:
UGITECH

Prepared by/Date: O. MARTEL 18/02/2020
Checked by/Date: G. PELLISSIER 18/02/2020

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.

Qualified/Accepted by:
Lloyd's Register EMEA,
Tour Swiss Life
1, boulevard Vivier Merle
Fr-69443 Lyon cedex 03

Signature/Date: Lloyd's Register EMEA AFEb20
T. CUREY
Lyon Office
Reviewed

Prepared by:
O. MARTEL

Checked by:
G. PELLISSIER