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Management Systems  
Certified by  
LRQA  
ISO 9001 / SGI 6000360  
ISO 14001 / SGI 1870678

**FLOW TECHNOLOGY LTD**  
**TEST CERTIFICATE**  
**VERIFIED TRUE**  
**COPY OF ORIGINAL**

ACEROS INOXIDABLES  
**OLARRA**

**OLARRA U.K. LTD.**  
**FOREST PARK - CLEOBURY MORTIMER**  
**NR KIDDERMINSTER - DY 14 9BD - ENGLAND**

Trade Mark - Zeichen des Lieferwerkes  
Anagrama del suministrador   
Works Inspector Stamp - Werkssachverständiger  
Sello del Inspector 

|   |  |   |  |   |            |  |                          |  |  |   |      |
|---|--|---|--|---|------------|--|--------------------------|--|--|---|------|
| Certificate type - APZ Nach<br>Certificado tipo <b>EN 10204/3.1</b>   |  | Certificate n° - Prüf-Nr<br>Certificado n° <b>291530</b>  |  | Date - Datum - Fecha<br><b>11 - 11 - 2016</b> |            |  |                          |  |  |   |      |
| Our order N°<br>Werks - Nr <b>614319</b><br>N° de Referencia  | Heat<br>Schmelze <b>421925</b><br>Colada                               | Your order N°<br>Bestell - Nr <b>OL7476</b><br>Pedido N°  |  |   |            |  |                          |  |  |   |      |
| Steel Grade<br>Werkstoff <b>316-S-11 AV</b><br>Calidad  | According to<br>Entsprechend <b>BS 970:PART 3:1991.</b><br>Corresponde |   |  |   |            |  |                          |  |  |   |      |
| Shape and Size - Gegenstand<br>Perfil y dimensión<br><b>HEXAGON 31,75 mm</b>  | Tolerance - Toleranz<br>Tolerancia<br><b>h 11 /DIN 176</b>             | Bundles<br>Bunde <b>4</b><br>Bultos   | Bars<br>Stäbe <b>102</b><br>Barras   | Weight<br>Gewicht <b>2156 Kg</b><br>Peso      |            |  |                          |  |  |   |      |
| Requirements - Anforderungen - Exigencias   |  |   |  |   |            |  |                          |  |  |   |      |
| EN 10.088-3.2014.<br>EN 10.272-2007.<br>ASTM A 182 / A 182M-15.<br>ASTM A 479 / A 479M-15.<br>ASTM A 276-16a.<br>ASME SA 479 / SA 479M-15<br>SAE AMS 5653H-12.<br>NACE MR-0175/ISO 15156-3 2009.<br>NACE MR-0103-12/ISO 17945-2015.<br>316S31AV-1.4404-1.4401-Type 316-Type 316L. |  |   | PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU<br>Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC |   |            |  |                          |  |  |   |      |
| Melting process / Erschmelzungsart / Proceso de Fusión<br><b>E.A.F. / A.O.D.</b>  |  | Heat treatment / Wärmebehandlung / Tratamiento térmico<br><b>1060C 4H/Std WATER/WASSER/AGUA</b> |  |   |            |  |                          |  |  |   |      |
| Solution annealed/Abgeschreckt/Hipartemple-Cold drawn/Gezogen/Estirado-   |  |   |  |   |            |  |                          |  |  |   |      |
| Test results - Ergebnis der Prüfungen - Resultados de los ensayos   |  |   |  |   |            |  |                          |  |  |   |      |
| Dimension of Specimen<br>Abmessungen des Probestabes<br>Medida de las probetas  | Rp0,2%<br>N/mm2<br>MPA   | Rp 1%<br>N/mm2<br>MPA   | Rm<br>N/mm2<br>MPA   | A<br>%L 5D                                    | Δ<br>%L 4D | Z<br>%   | Hardness<br>Härte<br>HBw | Impact test / Kerschlag / Resiliencia<br>ISO V Jules |  |   |      |
| RD. 10,00 mm.   | Min. 325   | 375   | 550  | 20  |            |  |                          |  |  |   |      |
|   | Max.   |   |  |   |            |  |                          |  |  |   |      |
| Temperature °C<br>20  | Spec. N°<br>Probe Nr.<br>Pro N°  | 1   | 424  | 515   | 626        | 40   | 43                       | 71   | 192  |   |      |
|   |  |   |  |   |            |  |                          |  |  |   |      |
|   | C  | Si  | Mn   | P   | S          | Cr   | Mo                       | Ni   | Cu   | N   | Co   |
| Min.  |  |   |  |   |            | 16,50  | 2,00                     | 11,00  |  |   |      |
| Max.  | 0,030  | 1,00  | 2,00   | 0,045   | 0,030      | 18,50  | 2,50                     | 14,00  | 0,70                                       |   |      |
|   | 0,017  | 0,59  | 1,60   | 0,034   | 0,028      | 17,10  | 2,00                     | 11,10  | 0,31                                       | 0,0250  | 0,19 |
| Visual and dimensional inspection<br>Besichtigung und Ausmessung<br>Control visual y dimensional  | O.K.   |   | Radioactivity inspection<br>Radioaktivitätskontrolle<br>Control de Radioactividad                                | O.K.  |            | Antimixing test<br>Spektroskop Verwechslungspr<br>Antimezcla | O.K.                     |  | Grain Size<br>Korngröße<br>Tamaño de grano |   |      |
| Remarks - Bemerkungen - Observaciones   |  |   |  |   |            |  |                          |  |  |   |      |
| IC test acc./IK prüfung nach ASTM A 262 E.14. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK   |  |   |  |   |            |  |                          |  |  | EDV / EDP<br>Acc. EN 10.204<br>Marian Tejedo<br>Quality Mng.        |      |
| F13001<br>1" BSPP Swivel Cap 10K  |  |   |  |   |            |  |                          |  |  | Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica |      |