

Larrondo LOIU (VIZCAYA) España  
P.O. Box 1.323/48080 Bilbao  
Tel. 34-(4) 4 71 13 00  
Fax. 34-(4) 4 53 16 36

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

ACEROS INOXIDABLES

**OLARRA**

Trade Mark - Zeichen des Lieferwerkes  
Anagrama del suministrador

Works Inspector Stamp - Werkssachverständiger  
Sello del Inspector **3**

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

|   |                                  |   |  |  |                                   |  |        |                          |  |   |      |
|---|----------------------------------|---|--|--|-----------------------------------|--|--------|--------------------------|--|---|------|
| Certificate type - APZ Nach<br>Certificado tipo <b>EN 10204/3.1</b>   |                                  | Certificate n° - Prüf-Nr<br>Certificado n° <b>309228</b>                                      |  | Date - Datum - Fecha<br><b>10 - 04 - 2017</b>                          |                                   |  |        |                          |  |   |      |
| Our order N°<br>Werks - Nr <b>617567</b><br>N° de Referencia  |                                  | Heat<br>Schmelze <b>430983</b><br>Colada  |  | Your order N°<br>Bestell - Nr <b>0L7534</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 - Gegenstad<br>Perfil y dimensión<br><b>HEXAGON 25,65 mm</b>   |                                  | Tolerance - Toleranz<br>Tolerancia<br><b>h 11 /DIN 176</b>                                    |  | Bundles<br>Bunde <b>2</b><br>Bultos                                    | Bars<br>Stäbe <b>76</b><br>Barras |  |        |                          |  |   |      |
|   |                                  |   |  | Weight<br>Gewicht <b>1059 Kg</b><br>Peso                               |                                   |  |        |                          |  |   |      |
| Requirements - Anforderungen - Exigencias   |                                  |   |  |  |                                   |  |        |                          |  |   |      |
| EN 10.088-3.2014.<br>EN 10.272-2007.<br>ASTM A 182/A 182M-16.<br>ASTM A 479 / A 479M-15.<br>ASTM A 276/A 276M-16a.<br>ASME SA 479 / SA 479M-15<br>SAE AMS 5653H-12.<br>NACE MR-0175/ISO 15156-3 2015.<br>NACE MR-0103/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>                  |  |                                   |  |        |                          |  |   |      |
| <b>Solution annealed/Abgeschreckt/Hipertemple-Cold drawn/Gezogen/Estirado-</b>  |                                  |   |  |  |                                   |  |        |                          |  |   |      |
| 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                        | A<br>%L 4D   | Z<br>% | Hardness<br>Härte<br>HBw | Impact test / Kersbschlag / 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   | 407  | 494  | 602                               | 44   | 47     | 73                       | 187  |   |      |
|   |                                  |   |  |  |                                   |  |        |                          |  |   |      |
|   | 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   |   |      |
|   | 0,022                            | 0,65  | 1,60   | 0,038  | 0,025                             | 17,10  | 2,02   | 11,00                    | 0,44   | 0,0245  | 0,33 |
| Visual and dimensional inspection<br>Besichtigung und Ausmessung<br>Control visual y dimensional <b>O.K.</b>  |                                  | Radioactivity inspection<br>Radioaktivitätskontrolle<br>Control de Radioactividad <b>O.K.</b> |  | Antimixing test<br>Spektrosk Verwechslungspr<br>Antimezcla <b>O.K.</b> |                                   | Grain Size<br>Korngröße<br>Tamaño de grano   |        |                          |  |   |      |
| Remarks - Bemerkungen - Observaciones   |                                  |   |  |  |                                   |  |        |                          |  |   |      |
| IC test acc./IK prüfung nach ASTM A 262 E.15. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK   |                                  |   |  |  |                                   | <b>FLOW TECHNOLOGY LTD</b><br><b>TEST CERTIFICATE</b><br><b>VERIFIED TRUE</b><br><b>COPY OF ORIGINAL</b> |        |                          |  | EDV / EDP<br>Acc. EN 10.204<br>Marian Tejedo<br>Quality Mng.        |      |
| F12131<br>1/2" BSP SWIV CAPS 10K 316L   |                                  |   |  |  |                                   |  |        |                          |  | Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica |      |

369527  
369528