



Larrondo LOIU (VIZCAYA) España  
 P.O. Box 1.323/48080 Bilbao  
 Tel 34-(4) 4 71 13 00  
 Fax 34-(4) 4 53 14 36

Management Systems  
 Certified by  
 LRQA  
 ISO 9001 / SGI 6000360  
 ISO 14001 / SGI 1870478

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>231650</b> |  | Date - Datum - Fecha<br><b>07 - 05 - 2015</b> |  |   |                          |   |  |        |      |
| Our order N°<br>Werks - Nr<br>N° de Referencia  | <b>570917</b>   | Heat<br>Schmelze<br>Colada                               | <b>390260</b>  | Your order N°<br>Bestell - Nr<br>Pedido N°    | <b>OL6704</b>                            |   |                          |   |  |        |      |
| Steel Grade<br>Werkstoff<br>Calidad   | <b>316-S-11 AV</b>  |  | According to<br>Entsprechend<br>Corresponde <b>BS 970:PART 3:1991.</b>                                       |   |  |   |                          |   |  |        |      |
| Shape and Size - Gegenstand<br>Perfil y dimensión<br><b>ROUND 25,4 mm</b>   | Tolerance - Toleranz<br>Tolerancia<br><b>k 12 / ISO 286-1 / 10080</b> |  | Bundles<br>Bunde<br>Bultos <b>2</b>  | Bars<br>Stäbe<br>Barras                       | Weight<br>Gewicht<br>Peso <b>1041 Kg</b> |   |                          |   |  |        |      |
| Requirements - Anforderungen - Exigencias   |   |  |  |   |  |   |                          |   |  |        |      |
| EN 10.088-3.2014.<br>EN 10.272-2007.<br>ASTM A 182 / A 182M-14a.<br>ASTM A 479 / A 479M-14.<br>ASTM A 276-13a.<br>ASME SA 479 / SA 479M-13<br>NACE MR-0175-2003/ISO 15166-3 2009.<br>SAE AMS 5653H-12.<br>NORSOK M-630 and MDS S01.<br>316S31AV-1.4404-1.4401-Type 316-Type 316L. |   |  | PED 97/23/EC, Annex I, Parag.4.3/DGR 97/23/EG<br>Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC |   |  |   |                          |   |  |        |      |
| Melting process / Erhmelzungsart / 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/Hipertempe-Turned/Drehen/Torneado-   |   |  |  |   |  |   |                          |   |  |        |      |
| 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 / Kernschlag / Resiliencia<br>ISO V Jutes |  |        |      |
| RD. 10,00 mm.   | 190   | 225  | 490  | 40  |  |   |                          |   |  |        |      |
| Temperature °C<br>20  | Spec. N°<br>Probe Nr.<br>Pro N°                                       | 1  | 333  | 387   | 599                                      | 49  | 52                       | 73  | 179  |        |      |
| Min.  | C   | Si   | Mn   | P   | S  | Cr  | Mo                       | Ni  | Cu   | N      | Co   |
| Max.  | 0,030   | 1,00   | 2,00   | 0,045   | 0,030                                    | 18,50   | 2,00                     | 11,00   | 0,70                                       |        |      |
|   | 0,021   | 0,41   | 1,79   | 0,034   | 0,028                                    | -17,05  | 2,02                     | 11,00   | 0,57                                       | 0,0260 | 0,20 |
| 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.  |  | Anti mixing test<br>Spektrale 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. 13. OK   |   |  |  |   |  |   |                          |   |  |        |      |
| F13859<br>1/4" BSPP C/S F/F SWIV ELBOW 10K 316L   |   |  |  |   |  |   |                          |   |  |        |      |
| EDV / EDP<br>Acc. EN 10.204<br>Alfredo Molina<br>Certification<br>Mng.<br><br>Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica   |   |  |  |   |  |   |                          |   |  |        |      |