

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**

**OLARRA U.K. LTD.**  
**FOREST PARK - CLEOBURY MORTIMER**  
**NR KIDDERMINSTER - DY 149BD - ENGLAND**

Trade Mark - Zeichen des Lieferwerkes  
Anagrama del suministrador



Works Inspector Stamp - Werkssachverständiger  
Sello del Inspector

**3**

|   |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
|---|----------------------------------|--------------|---|---|-------|--|------|---|--|---|------|---|--|-----|--|---------------------------|--|---------|--|
| Certificate type - APZ Nach<br>Certificado tipo   |                                  | EN 10204/3.1 |   | Certificate n° - Prüf-Nr<br>Certificado n°          |       | 205721   |      | Date - Datum - Fecha<br>26 - 09 - 2014      |  |   |      |   |  |     |  |                           |  |         |  |
| Our order N°<br>Werks - Nr<br>N° de Referencia  |                                  | 548622       |   | Heat<br>Schmelze<br>Colada                          |       | 378158   |      | Your order N°<br>Bestell - Nr<br>Pedido N°  |  |   |      | OL6407  |  |     |  |                           |  |         |  |
| Steel Grade<br>Werkstoff<br>Calidad   |                                  |              |   | 316-S-11 AV   |       |  |      | According to<br>Entsprechend<br>Corresponde |  |   |      | BS 970:PART 3:1991.   |  |     |  |                           |  |         |  |
| Shape and Size - Gegenstand<br>Perfil y dimensión<br>HEXAGON 19,05 mm   |                                  |              |   | Tolerance - Toleranz<br>Tolerancia<br>h 11 /DIN 176 |       |  |      | Bundles<br>Bunde<br>Bultos                  |  | 2   |      | Bars<br>Stäbe<br>Barras                                     |  | 142 |  | Weight<br>Gewicht<br>Peso |  | 1080 Kg |  |
| Requirements - Anforderungen - Exigencias   |                                  |              |   |   |       |  |      |   |  |   |      | Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC |  |     |  |                           |  |         |  |
| EN 10.088-3.2005.<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>SAE AMS 5653H-12.<br>NACE MR-0175-2003/ISO 15156-3 2009.<br>316S31AV-1.4404-1.4401-Type 316-Type 316L.<br>PED 97/23/EC, Annex I, Parag.4.3/DGR 97/23/EG |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| Melting process / Erschmelzungsart / Proceso de Fusión  |                                  |              |   |   |       | Heat treatment / Wärmebehandlung / Tratamiento térmico     |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| <b>E.A.F. / A.O.D.</b>  |                                  |              |   |   |       | 1060C 4H/Std WATER/WASSER/AGUA                             |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| <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%       | Rp 1%   | Rm  | A     | A  | Z    | Hardness                                    | Impact test / Kersbschlag / Resiliencia    |   |      |   |  |     |  |                           |  |         |  |
| RD. 10,00 mm.   |                                  | N/mm2<br>MPA | N/mm2<br>MPA  | N/mm2<br>MPA  | %L 5D | %L 4D  | %    | Härte<br>HBw                                | ISO V Jules                                |   |      |   |  |     |  |                           |  |         |  |
| Min.  |                                  | 325          | 375   | 550   | 20    |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| Max.  |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| Temperature °C<br>20  | Spec. N°<br>Probe Nr.<br>Pro N°. | 1            | 446   | 557   | 640   | 38   | 41   | 74  | 212  |   |      |   |  |     |  |                           |  |         |  |
|   |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
|   | 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                                       |   |      |   |  |     |  |                           |  |         |  |
|   | 0,024                            | 0,47         | 1,81  | 0,033   | 0,027 | 17,00  | 2,01 | 11,05                                       | 0,38                                       | 0,0270  | 0,17 |   |  |     |  |                           |  |         |  |
| Visual and dimensional inspection<br>Besichtigung und Ausmessung<br>Control visual y dimensional  |                                  |              | Radioactivity inspection<br>Radioaktivitätskontrolle<br>Control de Radioactividad |   |       | Antimixing test<br>Spektrosk Verwechslungspr<br>Antimezcla |      |   | Grain Size<br>Korngröße<br>Tamaño de grano |   |      |   |  |     |  |                           |  |         |  |
| O.K.  |                                  |              | O.K.  |   |       | O.K.   |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| Remarks - Bemerkungen - Observaciones   |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |
| IC test acc./IK prüfung nach ASTM A 262 E.02. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK   |                                  |              |   |   |       |  |      |   |  | 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 |      |   |  |     |  |                           |  |         |  |
| F11875<br>1/2" UNF X 1/4" BSPP CS M X M ADAPTOR 10K HEX 27MM WIDE 316L  |                                  |              |   |   |       |  |      |   |  |   |      |   |  |     |  |                           |  |         |  |