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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 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   |  | EN 10204/3.1                     |  | Certificate n° - Prüf-Nr<br>Certificado n°          |  | 285366   |  | Date - Datum - Fecha<br>20 - 09 - 2016  |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| Our order N°<br>Werks - Nr<br>N° de Referencia  |  | 606532                           |  | Heat<br>Schmelze<br>Colada                          |  | 417691   |  | Your order N°<br>Bestell - Nr<br>Pedido N°  |  |            |  | OL7352  |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| 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 31,75 mm   |  |                                  |  | Tolerance - Toleranz<br>Tolerancia<br>h 11 /DIN 176 |  |  |  | Bundles<br>Bunde<br>Bultos  |  | 7          |  | Bars<br>Stäbe<br>Barras                                     |  | 174                      |  | Weight<br>Gewicht<br>Peso                                  |  | 3837 Kg |  |        |  |      |  |   |  |  |  |
| Requirements - Anforderungen - Exigencias   |  |                                  |  |   |  |  |  |   |  |            |  | Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| 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>NACE MR-0175/ISO 15156-3 2009.<br>SAE AMS 5653H-12.<br>316S31AV-1.4404-1.4401-Type 316-Type 316L.<br>PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU |  |                                  |  |   |  |  |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| Melting process / Erschmelzungsart / Proceso de Fusión  |  |                                  |  |   |  | Heat treatment / Wärmebehandlung / Tratamiento térmico |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| E.A.F. / A.O.D.   |  |                                  |  |   |  | 1060C 4H/Std WATER/WASSER/AGUA                         |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| Solution annealed/Abgeschreckt/Hipertemple-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  |  | A<br>%L 4D |  | Z<br>%  |  | Hardness<br>Härte<br>HBw |  | Impact test / Kerschschlag / 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   |  | 391  |  | 480   |  | 584        |  | 46  |  | 49                       |  | 74   |  | 183     |  |        |  |      |  |   |  |  |  |
| 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    |  |        |  |      |  |   |  |  |  |
|   |  | 0,025                            |  | 0,38  |  | 1,75   |  | 0,034   |  | 0,020      |  | 17,10   |  | 2,00                     |  | 11,05  |  | 0,30    |  | 0,0265 |  | 0,18 |  |   |  |  |  |
| 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>Spektrisk 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   |  |                                  |  |   |  |  |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| F11878<br>1" BSPP F/F SWIV STR 10K 316L   |  |                                  |  |   |  |  |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |
| EDV / EDP<br>Acc. EN 10.204<br>Marian Tejedo<br>Quality Mng.<br><br>Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica   |  |                                  |  |   |  |  |  |   |  |            |  |   |  |                          |  |  |  |         |  |        |  |      |  |   |  |  |  |