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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 - DY14 9BD - 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°  |  | 219247   |  | Date - Datum - Fecha                                      |  | 26 - 01 - 2015 |  |  |  |                           |  |   |  |      |  |        |  |      |  |
| Our order N°<br>Werks - Nr<br>N° de Referencia  |  | 550520                          |  | Heat<br>Schmelze<br>Colada  |  | 381186   |  | Your order N°<br>Bestell - Nr<br>Pedido N°                |  | OL6457         |  |  |  |                           |  |   |  |      |  |        |  |      |  |
| 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 15,88 mm   |  |                                 |  | Tolerance - Toleranz<br>Tolerancia<br>h 11 / DIN 176                              |  |  |  | Bundles<br>Bunde<br>Bultos                                |  | 5              |  | Bars<br>Stäbe<br>Barras  |  | Weight<br>Gewicht<br>Peso |  | 2610 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, Paraq.4.3/DGR 97/23/EG |  |                                 |  |   |  |  |  |   |  |                |  |  |  |                           |  |   |  |      |  |        |  |      |  |
| Melting process / Erschmelzungsart / Proceso de Fusión  |  |                                 |  |   |  | Heat treatment / Wärmebehandlung / Tratamiento térmico |  |   |  |                |  | 1060C 4H/Std WATER/WASSER/AGUA   |  |                           |  |   |  |      |  |        |  |      |  |
| E.A.F. / A.O.D.   |  |                                 |  |   |  |  |  |   |  |                |  |  |  |                           |  |   |  |      |  |        |  |      |  |
| 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. 315                        |  | 425   |  | 600  |  | 15  |  |                |  |  |  |                           |  |   |  |      |  |        |  |      |  |
|   |  | Max.                            |  |   |  |  |  |   |  |                |  |  |  |                           |  |   |  |      |  |        |  |      |  |
| Temperature °C<br>20  |  | Spec. N°<br>Probe Nr.<br>Pro N° |  | 1   |  | 579  |  | 660   |  | 697            |  | 38   |  | 41                        |  | 67  |  | 207  |  |        |  |      |  |
| 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                           |  | 0,38  |  | 1,81   |  | 0,032   |  | 0,029          |  | 17,00  |  | 2,01                      |  | 11,00   |  | 0,44 |  | 0,0225 |  | 0,16 |  |
| Visual and dimensional inspection<br>Besichtigung und Ausmessung<br>Control visual y dimensional  |  |                                 |  | Radioactivity inspection<br>Radioaktivitätskontrolle<br>Control de Radioactividad |  |  |  | Antimixing test<br>Spekrosk 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. |  |                           |  |   |  |      |  |        |  |      |  |
| F12048<br>9/16" JIC Male x 7/16" JIC Swivel Female 10K - Body   |  |                                 |  |   |  |  |  |   |  |                |  | Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica    |  |                           |  |   |  |      |  |        |  |      |  |