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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 149BD - 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>159777</b>                                      |   | Date - Datum - Fecha<br><b>03 - 07 - 2013</b>                            |                                   |  |        |                          |  |  |      |
| Our order N°<br>Werks - Nr <b>515133</b><br>N° de Referencia   |                                 | Heat<br>Schmelze <b>355859</b><br>Colada  |   | Your order N°<br>Bestell - Nr <b>OL5670</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 - Gegenstand<br>Perfil y dimensión<br><b>HEXAGON 23,37 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>75</b><br>Barras |  |        |                          |  |  |      |
|  |                                 |   |   | Weight<br>Gewicht <b>854 Kg</b><br>Peso                                  |                                   |  |        |                          |  |  |      |
| Requirements - Anforderungen - Exigencias  |                                 |   |   |  |                                   |  |        |                          |  |  |      |
| EN 10.088-3.2005.<br>EN 10.272-2007.<br>ASTM A 182 / A 182M-12b.<br>ASTM A 479 / A 479M-12.<br>ASTM A 276-10.<br>ASME SA 479 / SA 479M-11a.<br>SAE AMS 5653H-12.<br>NACE MR-0175-2003/ISO 15156-3 2009.<br>316S31AV-1.4404-1.4401-TP.316L-TP.316.<br>PED 97/23/EC, Annex I, Parag.4.3/DGR 97/23/EG |                                 |   | Anhang I Bsatz 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> |  |                                   |  |        |                          |  |  |      |
| 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<br><b>RD. 10,00 mm.</b>   |                                 | 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 |  |      |
| Min.   |                                 | 325   | 375   | 550  | 20                                |  |        |                          |  |  |      |
| Max.   |                                 |   |   |  |                                   |  |        |                          |  |  |      |
| Temperature °C<br><b>20</b>  | Spec. N°<br>Probe Nr.<br>Pro N° | 1   | 493   | 585  | 685                               | 35   |        | 70                       | 217  |  |      |
|  | 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  | 1,77  | 0,033  | 0,026                             | 17,10                                      | 2,07   | 11,05                    | 0,36   | 0,0240   | 0,18 |
| Visual and dimensional inspection<br>Besichtigung und Ausmessung <b>O.K.</b><br>Control visual y dimensional   |                                 | Radioactivity inspection<br>Radioaktivitätskontrolle <b>O.K.</b><br>Control de Radioactividad |   | Antimixing test<br>Spektroskop Verwechslungspr <b>O.K.</b><br>Antimezcla |                                   | Grain Size<br>Korngröße<br>Tamaño de grano |        |                          |  |  |      |
| Remarks - Bemerkungen - Observaciones  |                                 |   |   |  |                                   |  |        |                          |  | EDV / EDP<br>Acc. EN 10.204<br>Alfredo Molina<br>Certification<br>Mng. |      |
| IC test acc./IK prüfung nach ASTM A 262 E.02. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK  |                                 |   |   |  |                                   |  |        |                          |  | Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica    |      |
| <div style="border: 2px solid red; padding: 5px; display: inline-block;"> <b>FLOW TECHNOLOGY LTD</b><br/> <b>TEST CERTIFICATE</b><br/> <b>VERIFIED TRUE</b><br/> <b>COPY OF ORIGINAL</b> </div>  |                                 |   |   |  |                                   |  |        |                          |  |  |      |
| <b>F11414</b><br><b>9/16" MP Male x 3/8" MP Female Adaptor 20K</b>   |                                 |   |   |  |                                   |  |        |                          |  | <b>317818</b>  |      |