

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


FLOW TECHNOLOGY LTD


TEST CERTIFICATE  
VERIFIED TRUE  
COPY OF ORIGINAL

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>275333</b>                                      |   | Date - Datum - Fecha<br><b>01 - 06 - 2016</b>                            |                                    |  |           |                          |   |   |           |
| Our order N°<br>Werks - Nr <b>602845</b><br>N° de Referencia   |                                  | Heat<br>Schmelze <b>411298</b><br>Colada  |   | Your order N°<br>Bestell - Nr <b>OL7280</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 - Gegenstad<br>Perfil y dimensión<br><b>HEXAGON 25,65 mm</b>  |                                  | Tolerance - Toleranz<br>Tolerancia<br><b>h 11 /DIN 176</b>                                    |   | Bundles<br>Bunde <b>5</b><br>Bultos                                      | Bars<br>Stäbe <b>183</b><br>Barras |  |           |                          |   |   |           |
| Weight<br>Gewicht <b>2438 Kg</b><br>Peso   |                                  |   |   |  |                                    |  |           |                          |   |   |           |
| Requirements - Anforderungen - Exigencias  |                                  |   |   |  |                                    |  |           |                          |   |   |           |
| 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 276-15.<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 97/23/EC, Annex I, Parag.4.3/DGR 97/23/EG |                                  |   | Anhang I Absatz 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> |  |                                    |  |           |                          |   |   |           |
| <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<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 / Kerschschlag / 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° | <b>1</b>  | <b>421</b>  | <b>508</b>   | <b>634</b>                         | <b>41</b>                                  | <b>44</b> | <b>72</b>                | <b>192</b>  |   |           |
|  | <b>C</b>                         | <b>Si</b>   | <b>Mn</b>   | <b>P</b>   | <b>S</b>                           | <b>Cr</b>                                  | <b>Mo</b> | <b>Ni</b>                | <b>Cu</b>   | <b>N</b>  | <b>Co</b> |
| 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  |   |           |
|  | 0,022                            | 0,38  | 1,65  | 0,033  | 0,028                              | 16,95                                      | 2,01      | 11,10                    | 0,47  | 0,0295  | 0,17      |
| 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  |                                  |   |   |  |                                    |  |           |                          |   |   |           |
| IC test acc./IK prüfung nach ASTM A 262 E.14. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK  |                                  |   |   |  |                                    |  |           |                          |   | EDV / EDP<br>Acc. EN 10.204<br>Marian Tejado<br>Quality Mng.        |           |
| F13391<br>1/4" NPT FEM X 1/2" NPT MALE HEX ADAPTOR 10K 316L  |                                  |   |   |  |                                    |  |           |                          |   | Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica |           |