

Larrondo LOIU (VIZCAYA) España  
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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 | EN 10204/3.1 | Certificate n° - Prüf-Nr<br>Certificado n° | 202590 | Date - Datum - Fecha | 01 - 09 - 2014 |
|---|--------------|--|--------|----------------------|----------------|

|  |        |                            |        |  |        |
|--|--------|----------------------------|--------|--|--------|
| Our order N°<br>Werks - Nr<br>N° de Referencia | 546893 | Heat<br>Schmelze<br>Colada | 377523 | Your order N°<br>Bestell - Nr<br>Pedido N° | OL6330 |
|--|--------|----------------------------|--------|--|--------|

|                                     |             |   |                     |
|-------------------------------------|-------------|---|---------------------|
| Steel Grade<br>Werkstoff<br>Calidad | 316-S-11 AV | According to<br>Entsprechend<br>Corresponde | BS 970:PART 3:1991. |
|-------------------------------------|-------------|---|---------------------|

|  |  |                            |    |                         |     |                           |         |
|--|--|----------------------------|----|-------------------------|-----|---------------------------|---------|
| Shape and Size - Gegenstad<br>Perfil y dimensión<br>HEXAGON 31,75 mm | Tolerance - Toleranz<br>Tolerancia<br>h 11 / DIN 176 | Bundles<br>Bunde<br>Bultos | 10 | Bars<br>Stäbe<br>Barras | 236 | Weight<br>Gewicht<br>Peso | 5074 Kg |
|--|--|----------------------------|----|-------------------------|-----|---------------------------|---------|

Requirements - Anforderungen - Exigencias

|  |   |
|--|---|
| EN 10.088-3.2005.<br>EN 10.272-2007.<br>ASTM A 182 / A 182M-13a.<br>ASTM A 479 / A 479M-13b.<br>ASTM A 276-13a.<br>ASME SA 479 / SA 479M-13<br>NACE MR-0175-2003/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, Paraq.4.3/DGR 97/23/EG | Anhang   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>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 / Kerbschlag / 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                     | 397                | 441        | 588        | 44     | 47                       | 72  | 179 |

|      | 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 | 0,44 | 1,68 | 0,033 | 0,029 | 17,00 | 2,02 | 11,10 | 0,38 | 0,0275 | 0,19 |

|  |      |   |      |  |      |  |
|--|------|---|------|--|------|--|
| 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>Spektroskop 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.02. OK  
 Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK

**FLOW TECHNOLOGY LTD**  
**TEST CERTIFICATE**  
**VERIFIED TRUE**  
**COPY OF ORIGINAL**

F9503  
 9/16" HIGH PRESSURE MALE  
 X 9/16" JIC MALE ADAPTOR 15K 316L

EDV / EDP  
 Acc. EN 10.204  
 Alfredo Molina  
 Certification  
 Mng.

Works Inspector  
 Der Werkssachverständige  
 Inspector de fábrica