

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 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° | 253173 | Date - Datum - Fecha | 27 - 11 - 2015 |
|-------------------------------------------------|--------------|--------------------------------------------|--------|----------------------|----------------|

|                                                |        |                            |        |                                            |        |
|------------------------------------------------|--------|----------------------------|--------|--------------------------------------------|--------|
| Our order N°<br>Werks - Nr<br>N° de Referencia | 590217 | Heat<br>Schmelze<br>Colada | 400697 | Your order N°<br>Bestell - Nr<br>Pedido N° | OL7055 |
|------------------------------------------------|--------|----------------------------|--------|--------------------------------------------|--------|

|                                     |             |                                             |                     |
|-------------------------------------|-------------|---------------------------------------------|---------------------|
| 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 27,94 mm | Tolerance - Toleranz<br>Tolerancia<br>h 11 /DIN 176 | Bundles<br>Bunde<br>Bultos | 8 | Bars<br>Stäbe<br>Barras | 290 | Weight<br>Gewicht<br>Peso | 4901 Kg |
|-----------------------------------------------------------------------|-----------------------------------------------------|----------------------------|---|-------------------------|-----|---------------------------|---------|

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-14.<br>ASTM A 276-15.<br>ASME SA 479 / SA 479M-13<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, Para.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>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 / Kerschlag / 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                     | 398                | 486        | 592        | 44     | 47                       | 73                                                   | 187 |

|      | 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 |        |      |
|      | 0,022 | 0,42 | 1,69 | 0,029 | 0,028 | 17,15 | 2,02 | 11,10 | 0,24 | 0,0280 | 0,26 |

|                                                                                                  |      |                                                                                   |      |                                                      |      |                                            |
|--------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|------------------------------------------------------|------|--------------------------------------------|
| 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>Spektralkontrollspr<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. 13. OK  
Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK

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

F11156  
1/2" BSP P Cone Seat x 1/2" NPT Male x Male Adaptor 10K

EDV / EDP  
Acc. EN 10.204  
Marian Tejedo  
Quality Mng.  
Works Inspector  
Der Werkssachverständige  
Inspector de fábrica