

**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>357572</b> | Date - Datum - Fecha | <b>19 - 06 - 2018</b> |
|---|---------------------|--|---------------|----------------------|-----------------------|

|  |               |                            |               |  |               |
|--|---------------|----------------------------|---------------|--|---------------|
| Our order N°<br>Werks - Nr<br>N° de Referencia | <b>663746</b> | Heat<br>Schmelze<br>Colada | <b>455972</b> | Your order N°<br>Bestell - Nr<br>Pedido N° | <b>OL8495</b> |
|--|---------------|----------------------------|---------------|--|---------------|

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

|   |  |                            |          |                         |            |                           |                |
|---|--|----------------------------|----------|-------------------------|------------|---------------------------|----------------|
| Shape and Size - Gegenstad<br>Perfil y dimensión<br><b>HEXAGON 27,94 mm</b> | Tolerance - Toleranz<br>Tolerancia<br><b>h 11 /DIN 176</b> | Bundles<br>Bunde<br>Bultos | <b>4</b> | Bars<br>Stäbe<br>Barras | <b>150</b> | Weight<br>Gewicht<br>Peso | <b>2561 Kg</b> |
|---|--|----------------------------|----------|-------------------------|------------|---------------------------|----------------|

|   |  |
|---|--|
| Requirements - Anforderungen - Exigencias   |  |
| EN 10.088-3.2014.<br>EN 10.272-2016.<br>ASTM A 182/A 182M-16.<br>ASTM A 479 / A 479M-17.<br>ASTM A 276/A 276M-17.<br>ASME SA 479 / SA 479M-15<br>SAE AMS 5653H-12.<br>NACE MR-0175/ISO 15156-3 2015.<br>NACE MR-0103/ISO 17945-2015.<br>NORSOK M-630 and MDS S01. | 316S31AV-1.4404-1.4401-Type 316-Type 316L.<br>PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU<br>Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC |

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

|  |                        |  |                                       |
|--|------------------------|--|---------------------------------------|
| Melting process / Erschmelzungsart / Proceso de Fusión | <b>E.A.F. / A.O.D.</b> | Heat treatment / Wärmebehandlung / Tratamiento térmico | <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 | 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 |     |
|--|----------------------------------|-----------------------|--------------------|------------|------------|--------|--------------------------|--|-----|
| RD. 10,00 mm.  | Min.                             | 325                   | 375                | 550        | 20         |        |                          |  |     |
|  | Max.                             |                       |                    |            |            |        |                          |  |     |
| Temperature °C<br>20   | Spec. N°<br>Probe Nr.<br>Pro N°. | 1                     | 434                | 529        | 643        | 40     | 43                       | 72   | 202 |

|      | 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 |        |      |
|      | 0,016 | 0,50 | 1,59 | 0,032 | 0,028 | 17,15 | 2,02 | 11,05 | 0,31 | 0,0195 | 0,21 |

|  |             |   |             |  |             |   |                          |
|--|-------------|---|-------------|--|-------------|---|--------------------------|
| Visual and dimensional inspection<br>Besichtigung und Ausmessung<br>Control visual y dimensional | <b>O.K.</b> | Radioactivity inspection<br>Radioaktivitätskontrolle<br>Control de Radioactividad | <b>O.K.</b> | Antimixing test<br>Spektrsk Verwechlungspr<br>Antimezcla | <b>O.K.</b> | Grain Size<br>Korngrösse<br>Tamaño de grano | <b>5-6 ASTM E-112-13</b> |
|--|-------------|---|-------------|--|-------------|---|--------------------------|

|  |   |
|--|---|
| Remarks - Bemerkungen - Observaciones  | EDV / EDP<br>Acc. EN 10.204<br>Marian Tejado<br>Quality Mng.<br><br>Works Inspector<br>Der Werkssachverständige<br>Inspector de fábrica |
| IC test acc./IK prüfung nach ASTM A 262 E.15. OK<br>Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK<br><br><b>F14371</b><br><b>1/2" BSPP C/S X 1/4" NPT M/M RED ADAPTOR 10K 316L</b> |   |

We hereby certify that material described herein complies with the requirements agreed on the order.