

**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

3

|   |                     |  |               |                      |                       |
|---|---------------------|--|---------------|----------------------|-----------------------|
| Certificate type - APZ Nach<br>Certificado tipo | <b>EN 10204/3.1</b> | Certificate n° - Prüf-Nr<br>Certificado n° | <b>360003</b> | Date - Datum - Fecha | <b>10 - 07 - 2018</b> |
|---|---------------------|--|---------------|----------------------|-----------------------|

|  |               |                            |               |  |               |
|--|---------------|----------------------------|---------------|--|---------------|
| Our order N°<br>Werks - Nr<br>N° de Referencia | <b>667799</b> | Heat<br>Schmelze<br>Colada | <b>457044</b> | Your order N°<br>Bestell - Nr<br>Pedido N° | <b>OL8593</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 24 mm</b> | Tolerance - Toleranz<br>Tolerancia<br><b>h 11 /DIN 176</b> | Bundles<br>Bunde<br>Bultos | <b>2</b> | Bars<br>Stäbe<br>Barras | <b>98</b> | Weight<br>Gewicht<br>Peso | <b>1193 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. | <b>316S31AV-1.4404-1.4401-Type 316-Type 316L.</b><br><b>PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU</b><br><b>Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC</b> |
|---|---|

**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                     | 509                | 561        | 634        | 36     | 39                       | 71   | 207 |

|      | 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 |        |      |
|      | 0,010 | 0,49 | 1,64 | 0,033 | 0,024 | 17,25 | 2,05 | 11,25 | 0,45 | 0,0185 | 0,27 |

|  |             |   |             |  |             |  |                          |
|--|-------------|---|-------------|--|-------------|--|--------------------------|
| 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**

IC test acc./IK prüfung nach ASTM A 262 E.15. OK  
Crack control/Rissgeprüft acc. EN 10277-1 class 2. OK  
No welding or weld repair.  
Free from mercury or radio-activity contamination.

**F14854**  
**3/4" JIC TUBE SLEEVE 10K 316L**

**EDV / EDP**  
**Acc. EN 10.204**  
**Marian Tejado**  
**Quality Mng.**

Works Inspector  
Der Werkssachverständige  
Inspector de fábrica

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