

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 Certificado tipo | EN 10204/3.1 | Certificate n° - Prüf-Nr Certificado n° | 327633 | Date - Datum - Fecha | 09 - 10 - 2017 |
|---|---------------------|--|---------------|----------------------|-----------------------|

| | | | | | |
|--|---------------|----------------------------|---------------|--|---------------|
| Our order N° Werks - Nr N° de Referencia | 638045 | Heat Schmelze Colada | 440131 | Your order N° Bestell - Nr Pedido N° | OL7885 |
|--|---------------|----------------------------|---------------|--|---------------|

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

| | | | | | | | |
|---|--|----------------------------|----------|-------------------------|------------|---------------------------|----------------|
| Shape and Size - Gegenstad Perfil y dimensión HEXAGON 22,23 mm | Tolerance - Toleranz Tolerancia h 11 /DIN 176 | Bundles Bunde Bultos | 2 | Bars Stäbe Barras | 113 | Weight Gewicht Peso | 1167 Kg |
|---|--|----------------------------|----------|-------------------------|------------|---------------------------|----------------|

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|---|--|--|--|--|--|--|--|
| Requirements - Anforderungen - Exigencias | | | | | | | |
| EN 10.088-3.2014. EN 10.272-2007. ASTM A 182/A 182M-16. ASTM A 479 / A 479M-17. ASTM A 276/A 276M-17. ASME SA 479 / SA 479M-15 SAE AMS 5653H-12. NACE MR-0175/ISO 15156-3 2015. NACE MR-0103/ISO 17945-2015. NORSOK M-630 and MDS S01. | | | | 316S31AV-1.4404-1.4401-Type 316-Type 316L. PED 2014/68/EU, Annex I, Parag.4.3/DGR 2014/68/EU Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC | | | |

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|--|------------------------|--|---------------------------------------|
| Melting process / Erschmelzungsart / Proceso de Fusión | E.A.F. / A.O.D. | Heat treatment / Wärmebehandlung / Tratamiento térmico | 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 Abmessungen des Probestabes Medida de las probetas | Rp0,2% N/mm2 MPA | Rp 1% N/mm2 MPA | Rm N/mm2 MPA | A %L 5D | A %L 4D | Z % | Hardness Härte HBw | Impact test / Kersbschlag / Resiliencia ISO V Jules | |
|--|----------------------------------|-----------------------|--------------------|------------|------------|--------|--------------------------|--|-----|
| RD. 10,00 mm. | Min. | 325 | 375 | 550 | 20 | | | | |
| | Max. | | | | | | | | |
| Temperature °C 20 | Spec. N° Probe Nr. Pro N°. | 1 | 519 | 599 | 665 | 35 | 38 | 73 | 217 |

| | 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 | | |
| | 0,017 | 0,56 | 1,60 | 0,035 | 0,027 | 17,15 | 2,00 | 11,00 | 0,39 | 0,0225 | 0,16 |

| | | | | | | | |
|--|-------------|---|-------------|---|-------------|--|--------------------------|
| Visual and dimensional inspection Besichtigung und Ausmessung Control visual y dimensional | O.K. | Radioactivity inspection Radioaktivitätskontrolle Control de Radioactividad | O.K. | Antimixing test Spektrsk Verwechslungspr Antimezcla | O.K. | Grain Size Korngröße Tamaño de grano | 5-6 ASTM E-112-13 |
|--|-------------|---|-------------|---|-------------|--|--------------------------|

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

FLOW TECHNOLOGY LTD
TEST CERTIFICATE
VERIFIED TRUE
COPY OF ORIGINAL

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

F15112
9/16" X 3/4" JIC SWIV FEM/MALE 10K 316L

Works Inspector
Der Werkssachverständige
Inspector de fábrica

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