Larrondo LOIU (VIZCAYA) España P.O. Box 1.323/48080 Bilbao Tel. 34-(4) 4 71 13 00 Fax.34-(4) 4 53 16 36

Management Systems
Certified by
LRQA
ISO 9001 / SGI 6000360
ISO 14001 / SGI 1870678

## OIARRA

ACEROS INOXIDABLES

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               | Certificate r<br>Certificado | 26598                       | 265986                                    |                                    |       | Date-Datum-Fecha<br>14 - 03 - 2016 |        |                            |         |     |
|--|------------------------------|-----------------------------|---|------------------------------------|-------|------------------------------------|--------|----------------------------|---------|-----|
| Our order N°<br>Werks - Nr 596388<br>N°de Referencia             | Heat<br>Schmelze<br>Colada   | 407486                      | Your order N<br>Bestell - Nr<br>Pedido N° |                                    | .7136 |                                    |        |                            |         |     |
| Steel Grade<br>Werkstoff 316-S-11 AV<br>Calidad                  |                              |                             |   | According to Entspreche Correspond | end B | S 97                               | '0:PAI | RT 3:1                     | 1991.   | 11. |
| Shape and Size - Gegens<br>Perfil y dimensión<br>HEXAGON 19,05 m |                              | Tolerance<br>Tole<br>h 11 / |   | Bundles<br>Bunde<br>Bultos         | 4     | Bars<br>Stäbe<br>Barras            | 339    | Weight<br>Gewitcht<br>Peso | 2578 Kg |     |

Requirements - Anforderungen - Exigencias

EN 10.088-3.2014. EN 10.272-2007.

ASTM A 182 / A 182M-15.

ASTM A 479 / A 479M-15.

ASTM A 276-15.

ASME SA 479 / SA 479M-13

SAE AMS 5653H-12.

NACE MR-0175/ISO 15156-3 2009.

316S31AV-1.4404-1.4401-Type 316-Type 316L.

PED 97/23/EC, Annex I, Parag.4.3/DGR 97/23/EG

Melting process / Erschmelzungsart / Proceso de Fusión

FLOW TECHNOLOGY LTD

TEST CERTIFICATE

VERIFIED TRUE

COPY OF ORIGINAL

Anhang I Absatz 4.3 Certificate/Zertifikat Nr. 348/2008/MUC

Heat treatment / Wärmebehandlung / Tratamiento térmico 1060C 4H/Std WATER/WASSER/AGUA

E.A.F. / A.O.D.

## Solution annealed/Abgeschreckt/Hipertemple-Cold drawn/Gezogen/Estirado-

|                                |          |                                       |                     |        | Te                                 | st results                               | - Ergebnis  | der Pri | ifungen - I                              | Resultad                 | os de los ens  | ayos                               |                          |             |
|--------------------------------|----------|---------------------------------------|---------------------|--------|------------------------------------|--|-------------|---------|--|--------------------------|--|------------------------------------|--------------------------|-------------|
| Abmessungendes Probestabes N/m |          |                                       | Rp0,:<br>N/mr<br>MP | m2   J | Rp 1% Rm<br>N/mm2 N/mm2<br>MPA MPA |  | A<br>%L 50  | _       |  | Hardness<br>Härte<br>HBw | Impact test / Kersbschlag / Resiliencia<br>ISO V Jules |                                    |                          |             |
| RD. 10,00 mm.                  |          | Min.                                  | 325 3               |        | 375                                | 550                                      | 50 20       | )       |  |                          | <del> </del>   |                                    |                          |             |
|                                |          |                                       | Max.                |        |                                    |  |             |         |  | :                        |  |                                    |                          |             |
| 20                             |          | Spec. Nº.<br>Probe Nr.<br>Pro Nº.     | 1                   | 452    | 2                                  | 532                                      | 627         | 40      | 43                                       | 73                       | 207  |                                    | The second second second |             |
|                                | С        | Si                                    | M                   | n      | P                                  | S  |             | )r      | Mo                                       | Ni                       | Cu   | N                                  | Со                       |             |
| Min.                           |          |                                       |                     | 1      |                                    | !  | 16          | ,50     | 2,00                                     | 11,00                    |  |                                    |                          |             |
| Max                            | 0,030    | 1,00                                  | 2,0                 | 00     | 0,045                              | 0,0                                      | 30 18       | ,50     | 2,50                                     | 14,00                    | 0,70   |                                    |                          | 1<br>1<br>1 |
|                                | 0,022    | 0,45                                  | 1,7                 | 72     | 0,034                              | 0,0                                      | 29 17       | ,05     | 2,00                                     | 11,10                    | 0,32   | 0,0240                             | 0,26                     |             |
| Besid                          | htingung | ensionalins<br>und Ausme<br>dimension | ssung (             | O.K.   | Radioa                             | activity in:<br>aktivitätsi<br>Ide Radio | controlle ( | ).K. S  | ntimixing to<br>pektrosk Ve<br>ntimezcia | est<br>erwechsil         | ingspr O.K.  | Grain Size<br>Komgröss<br>Tamaño d | e                        |             |

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

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

F13349 1/4" BSPP Cone Seat x 9/16" JIC Male x Male Adaptor 10K

Works Inspector Der Werkssachverständige Inspector de fäbrica