



Tel. (+39),(030).6829911
 Fax. (39),(030).6820616
 Via Industriale, 1 - 25021 BAGNOLO MELLA (BS) ITALY

CERTIFICATE OF QUALITY AND MATERIAL TESTING

INSPECTION CERTIFICATE N. **AC/ 4059** DATE : **19/12/17**
 according to EN 10204.3.1

FIRM :
 ORDER : ORDER CONFIRMATION : **205831**

HEAT	N. of PCS	MATERIAL DESCRIPTION	MATERIAL GRADE
61141	1	FORGED ROUND PEELED BAR Ø24" Lbs 18887,017 x 11,89304 feet	316/316L UNS S31600 /S31603 SS1 Rev.5 ASTM A276-17 ASTM A479-17 ASTM A484-15 ASME Code Sec.II Part. A SA479-15 AMS 5653H AMS QQS 763D Cond.A AMS 5648M AMS S-7720 316 NACE MR 0103-15 NACE MR 0175/ISO 15156-2015

H.T. CONDITION: Solution annealed 1050°C (11h) + water quenched

HEAT ANALYSIS

C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Sn (ppm)
0,011	1,77	0,41	0,025	0,0004	16,54	10,53	2,23	0,308	<100
Ca	Al	V	Ti	W	Ta	As (ppm)	Co	Nb	Pb (ppm)
0,0026	0,012	0,039	0,005	0,039	0,0039	<20	0,057	0,047	<1
B	N	Zr	Sb	Fe	PRE	Ferrite (%) ASTM E562	Grain size ASTM E112		
0,0022	0,074						5		

TEST RESULTS ON ACTUAL BAR PROLONGATION

Temp. [°C]	Direction	Rp0,2 [KSi]	Rm [KSi]	A [%]	Z [%]	KV (10 x 10 mm) [J]	Hardness
RT	L	41	81	63,2	77,5		HBw 137 HRC 1

Steelmaking process E.A.F. + A.O.D. refining
 No welding performed on material
 Material free from Mercury contamination
 Material inspected with a gamma spectrometer and with no radioactive contamination beyond the limits provided for by the EU-Radiation Protection 122- part 1, when relevant
 Mechanical tests performed according to ASTM A370-17 (Ø12,5mm-50mm length) + ASTM E10-17 + ASTM E18-17
 Corrosion test according to ASTM A262 Pr.E satisfactory performed
 Chemical analysis and mechanical properties according to ASTM A182-17-ASME SA182-15 (F316-F316L) - ASTM A193-16 - ASME SA193-15 (Grade B8M Class 1)
 Country of melt and country of manufacture: Italy
 Italfond is in compliance with CEARS regulation 252.225-7017
 Forging ratio 3,5:1
 PMI performed

SURVEYORS	CUSTOMER INSPECTION	ITALFOND S.p.A. Quality Assurance GARANZIA QUALITA'
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CERTIFICATE OF QUALITY AND MATERIAL TESTING

MICROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N.

ME/ 4059

DATE : 19/12/17

according to EN 10204.3.1

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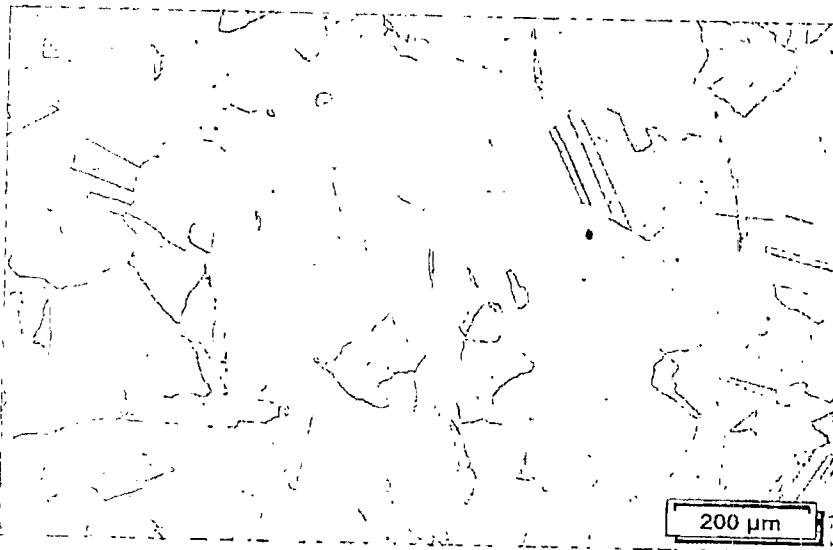
H.T. CONDITION :

Solution annealed 1050°C (11h) + water quenched

MICROGRAPHIC EXAMINATION - MID RADIUS

Magnification: 100 x

Etching: electrolytic, Oxalic Acid 3v 90s according to ASTM E407



RESULT: Omogeneous structure free from detrimental phases and precipitates

SURVEYORS

CUSTOMER INSPECTION

ITALFOND S.p.A.

Quality Assurance

ITALFOND
STAINLESS STEEL AND SUPERALLOYS
GARANZIA QUALITA'

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Via Industriale, 1 - 25021 BAGNOLO MELLA (BS) ITALY

CERTIFICATE OF QUALITY AND MATERIAL TESTING
MACROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N.

ME2/ 4059

DATE : 19/12/17

according to EN 10204.3.1

FIRM :

ORDER :

ORDER CONFIRMATION:

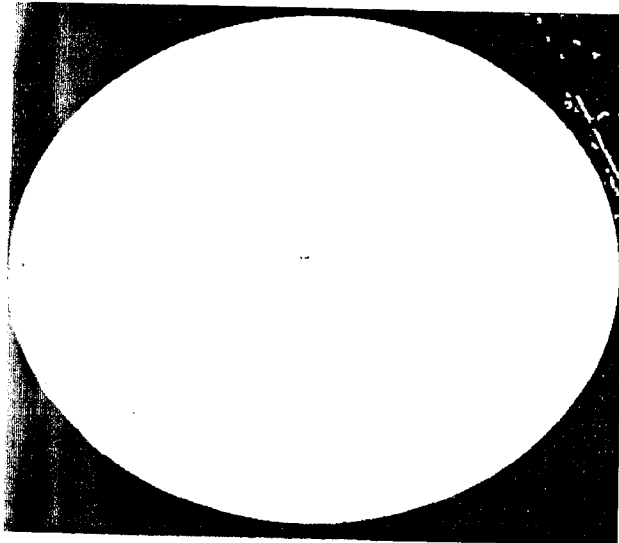
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H.T. CONDITION : Solution annealed 1050°C (11h) + water quenched

MACROGRAPHIC EXAMINATION

Etching: 50% H₂O + 50% Hcl



SURVEYORS	CUSTOMER INSPECTION	ITALFOND S.p.A. Quality Assurance
		 GARANZIA QUALITA'

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