

C 173416

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

CERTIFICATE OF QUALITY AND MATERIAL TESTING

INSPECTION CERTIFICATE N. **AC/ 4096** DATE : 14/12/16
 according to EN 10204.3.1

FIRM :
 ORDER : **P04610** ORDER CONFIRMATION : **204758**

HEAT	N. of PCS	MATERIAL DESCRIPTION	MATERIAL GRADE
59999	1	FORGED ROUND TURNED BAR Ø19" Lbs 16510,432 x 16,43701 feet	316/316L UNS S31600 /S31603 SS1 Rev.5 ASTM A276-16a ASTM A479-16a ASTM A484-16 ASME Code Sec.II Part. A SA479-15 NACE MR 0103-15 NACE MR 0175/ISO 15156-2015 AMS 5653H AMS QQS 763B Cond.A AMS 5648M AMS S-7720 316

H.T. CONDITION: Solution annealed 1050°C (8h30') + water quenched

HEAT ANALYSIS

C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Sn
0,026	1,77	0,16	0,028	0,0236	16,83	10,65	2,14	0,361	0,005
Ca	Al	V	Ti	W	Ta	As	Co	Nb	Pb
0,0028	0,003	0,046	0,002	0,043	0,0037	0,005	0,097	0,040	0,0059
B	N	Zr	Sb	Fe	PRE	Ferrite (%) ASTM E562	Grain size ASTM E112		
0,0001	0,061						4		

TEST RESULTS ON ACTUAL BAR PROLUNGATION

Temp. [°C]	Direction	R _{p0,2} [KSi]	R _m [KSi]	A [%]	Z [%]	KV (10 X 10 mm) [J]	Hardness
RT	L	40	78	51,2	51,5		HBw 158 HRc 2

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 A370-14 (Ø12,5mm-50mm length) + ASTM E10-14 + ASTM E18-14a
 Corrosion test according to ASTM A262 Pr.E satisfactory performed
 Chemical analysis and mechanical properties according to ASTM A182-16a-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 DFARS regulation 252.225-7017
 Forging ratio ≥3:1
 PMI performed

SURVEYORS	CUSTOMER INSPECTION	ITALFOND S.p.A. Quality Assurance

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CERTIFICATE OF QUALITY AND MATERIAL TESTING
MICROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N. **ME/ 4096** DATE : **14/12/16**
 according to EN 10204.3.1

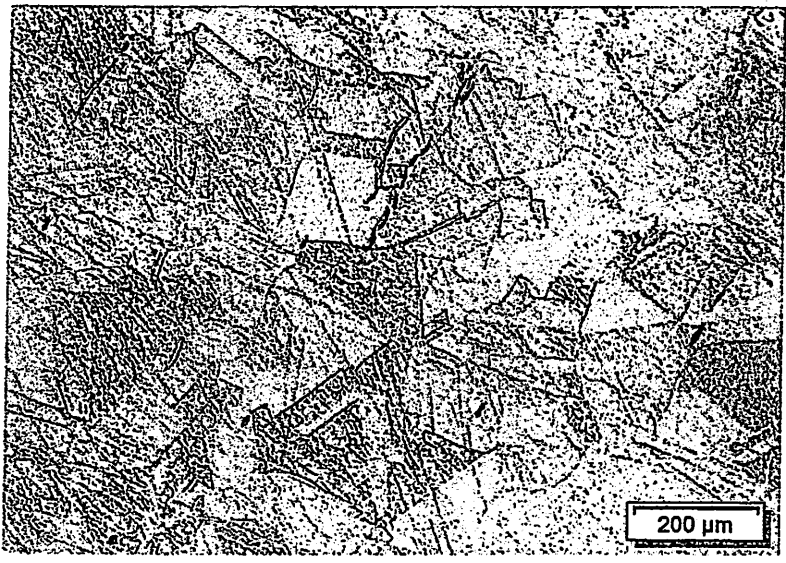
FIRM :
 ORDER : **P04610** ORDER CONFIRMATION: **204758**

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H.T. CONDITION : Solution annealed 1050°C (8h30') + 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
		 GARANZIA QUALITA'

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CERTIFICATE OF QUALITY AND MATERIAL TESTING
MACROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N. **ME2/ 4096** DATE : **14/12/16**
according to EN 10204.3.1

FIRM :

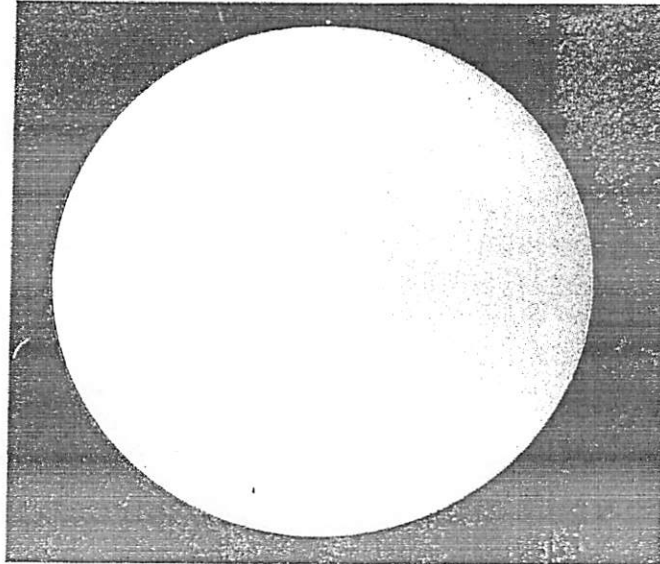
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H.T. CONDITION : Solution annealed 1050°C (8h30') + water quenched

MACROGRAPHIC EXAMINATION

Etching: 50% H₂O + 50% Hcl



SURVEYORS

CUSTOMER INSPECTION

ITALFOND S.p.A.
Quality Assurance

