
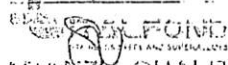


C174670

 ITALFOND <small>STAINLESS STEEL AND SUPERALLOYS</small> <small>GIUR GROUP</small>		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/ 3479	DATE : 19/10/16						
		according to EN 10204.3.1							
FIRM :		ESP SPECIALTY STEEL PRODUCTS - HOUSTON (TX)							
ORDER :		P04575	ORDER CONFIRMATION : 204554						
HEAT	N. of PCS	MATERIAL DESCRIPTION	MATERIAL GRADE						
59626	1	FORGED ROUND TURNED BAR Ø16" Lbs 10648,336 x 15,05906 feet	316/316L UNS S31600 /S31603 SS1 Rev.5 ASTM A276-16a ASTM A479-16a ASTM A484-15 ASME Code Sec.II Part. A SA479-15 NACE MR 0103-12 NACE MR 0175/ISO 15156-2015 AMS 5653H AMS QQS 763B Cond.A AMS 5648L / AMS S-7720 316						
H.T. CONDITION: <input checked="" type="checkbox"/> Solution annealed 1050°C (7h30') + water quenched									
HEAT ANALYSIS									
C /	Mn /	Si /	P /	S /	Cr /	Ni /	Mo /	Cu /	Sn
0,017	1,76	0,47	0,031	0,0264	17,34	10,36	2,11	0,402	0,005
Ca	Al	V	Ti	W	Ta	As	Co	Nb	Pb
0,0032	0,005	0,058	0,003	0,046	0,0031	0,006	0,102	0,038	0,0063
B	N	Zr	Sb	Fe	PRE	Ferrite (%) ASTM E562	Grain size ASTM E112		
0,0002	0,072						4		
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	38	78	49,7	58,8		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 - 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  GARANZIA QUALITÀ			

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CERTIFICATE OF QUALITY AND MATERIAL TESTING
MICROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N. ME/ 3479 **DATE :** 19/10/16
according to EN 10204.3.1

FIRM : ESP SPECIALTY STEEL PRODUCTS - HOUSTON (TX)
ORDER : P04575 **ORDER CONFIRMATION:** 204554

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H.T. CONDITION : Solution annealed 1050°C (7h30') + water quenched

MICROGRAPHIC EXAMINATION - MID RADIUS

Magnification: 100 x
Etching: electrolytic, Oxalic Acid 3V 15s according to ASTM E407



RESULT: Omogeneous structure free from detrimental phases and precipitates

SURVEYORS	CUSTOMER INSPECTION	ITALFOND S.p.A. Quality Assurance GARANZIA QUALITÀ
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CERTIFICATE OF QUALITY AND MATERIAL TESTING
MACROGRAPHIC EXAMINATION

INSPECTION CERTIFICATE N. **ME2/ 3479** DATE : **19/10/16**
according to EN 10204.3.1

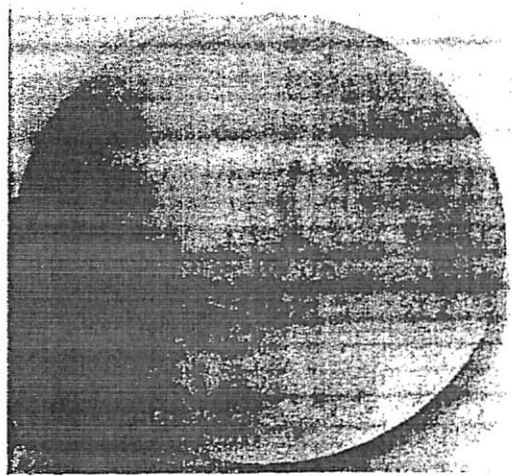
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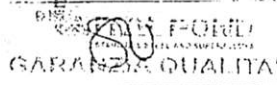
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H.T. CONDITION : Solution annealed 1050°C (7h30') + water quenched

MACROGRAPHIC EXAMINATION

Etching: 50% H₂O + 50% Hcl



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