

HT# 62889



**Frisa Forjados SA, de C.V.**

Valentin G. Rivero No. 127 Los Treviño  
 C.P. 66350  
 Tels- +52(81) 8153-0321, 8153-0302  
 Fax: +52(81) 8336-2153  
 Sta. Catarina, N.L., México

CERTIFIED COMPANY  
**ISO 9001: 2015**

Material Test Report No.684231

Rev. 1

Certificate per: EN 10204:2004 3.1

Client: SAMUEL, SON & CO., LIMITED

Spec: A182/A182M Grade F316/316L Rev. 18

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Qty	Date	P.O. Number	Part No.	Job Order
2	09/11/2018	W67256C	6760	556265
Description Forged Disc 40.500" X 0.000" X 7.850" .MELTING PRACTICE: EAF AOD .SERIAL NUMBER NOTE: 01, 02 .LINE ITEM: 2				

**HEAT: 62889 (2/2) PCS**  
**CHEMICAL ANALYSIS**

HEAT No.		C %	Mn %	P %	S %	Si %	Ni %	Cr %	Mo %
62889	Ladle	0.01000	1.75000	0.03000	0.00040	0.44000	10.46000	16.73000	2.12000
Supplier		N %							
ITA	Ladle	0.06200							

Hardness (HBW) PCS	
	Hardness
	143
	143

**HEAT TREATMENT**

Quantity	Heat Treat Lot No.	Heat Treatment	Temp. (°F)	Time at Temp (Hrs)	Cooling Medium	Quench. M. Temp. (°F)
2 PCS	553298	Solution annealed	1922	5.00	Water	

Heat: 62889

Track ID: 254/002-18

**MECHANICAL PROPERTIES**

**TENSILE TEST**

Orientation	Position	Location	Heat Treat Lot No.	Yield Strength (PSI)	Tensile Strength (PSI)	Elong. (%)	A.R. (%)	Temp Tens °F	Post Welding HT		
									Temp °F	Time	Cycle
Long	1/4 T		549524	40300	80400	64	82	77			

Heat: 62889

**HARDNESS HBW QTC**

Orientation	Position	Location	Heat Treat Lot No.	Point	Hardness	Post Welding HT		
						Temp °F	Time	Cycle
Long	1/4 T		549524		147			
Long	1/4 T		549524		151			

WE HEREBY CERTIFY THAT ALL TEST RESULTS AND PROCESS INFORMATION CONTAINED HEREIN ARE CORRECT AND TRUE AS CONTAINED IN THE RECORDS OF THE COMPANY AND MEET THE PURCHASE ORDER / SPECIFICATIONS REQUIREMENTS.

NO WELDING REPAIRS IS ALLOWED AND USED IN FRISA ALL MATERIALS ARE MERCURY FREE

CER F-001-3

Gloria Carolina Lugo Perez

QUALITY ASSURANCE ENGINEER



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**OBSERVATIONS**

- . FORGING RATIO: 11.7 TO 1
- . QTC SIZE (4 X 4 X 12)
- . TENSILE TEST: 0.500" DIAMETER SPECIMEN AND 2.0" GAUGE LENGTH
- . FURNACE CALIBRATED AND SURVEYED PER API 6A ANNEX M 20th EDITION REQUIREMENTS
- . HARDNESS ON TEST SPECIMEN IS REPRESENTED BY TWO VALUES.
- . FURNACE TEMPERATURE MONITORING AND RECORDING METHOD: AIR THERMOCOUPLE
- . TESTING ACCORDING TO ASTM A370 REV.17
- . NACE MR0175 / ISO 15156-3

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