



FRISA FORJADOS S.A. DE C.V.
 Valentín G. Rivero No. 127. Los Treviño
 Santa Catarina NL 66150
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 www.frisa.com

CERTIFIED COMPANY
AS9100D | ISO9001:2015

Material Test Report No.749278

Certificate per: **EN 10204:2004 3.1**
 Client: **SAMUEL, SON & CO., LIMITED**
(CANADA)

Spec: **A182/A182M Grade F316 Rev. 19**

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Qty	Date	P.O. Number	Part No.	Job Order
4	16/10/2020	1PP022790	072927	626024
Description Forged Disc 34.000" X 5.500" X 6.750" .MELTING PRACTICE: EAF LR VOD .SERIAL NUMBER NOTE: 626024-01, 626024-02, 626024-03, 626024-04 .LINE ITEM: 1				

HEAT: 1195973 (4/4) PCS
CHEMICAL ANALYSIS

HEAT No.		C %	Mn %	P %	S %	Si %	Ni %	Cr %	Mo %
1195973	Ladle	0.02000	1.58000	0.03000	0.00040	0.52000	10.27000	16.46000	2.23000
Supplier		N %							
FRISA	Ladle	0.06000							

Hardness (HBW) PCS	
Hardness	184
	150

HEAT TREATMENT

Quantity	Heat Treat Lot No.	Heat Treatment	Temp. (°F)	Time at Temp (Hrs)	Cooling Medium	Quench. M. Temp. (°F)
4 PCS	619146	Solution annealed	1922	5.00	Water	

Heat: 1195973 Track 57/020-20
 ID:

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		599596	36400	78700	68	81	77			

Heat: 1195973

HARDNESS HBW QTC

Orientation	Position	Location	Heat Treat Lot No.	Point	Hardness	Post Welding HT		
						Temp °F	Time	Cycle
Long	1/4 T		599596		147			
Long	1/4 T		599596		147			

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

Jorge Lobeira Villarreal

QUALITY ASSURANCE ENGINEER

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OBSERVATIONS

. FORGING RATIO: 8.4 TO 1
 . TEST SPECIMEN REMOVED FROM A SEPARATE TEST BAR: (4" X 4" X 12")
 . TENSILE TEST: 0.500" DIAMETER SPECIMEN AND 2.0" GAUGE LENGTH
 . FURNACE CALIBRATED AND SURVEYED PER API 6A SECTION 6.5 AND ANNEX M 21st 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.19e1
 . HBW 3000 KG LOAD, 10 MM TUNGSTEN CARBIDE BALL AND 20X SCOPE USED, TEST PERFORMED AT ROOM TEMPERATURE,
 TESTING ACCORDING ASTM E-10
 . NACE MR0175 / ISO 15156-3
 . COMPLIES WITH EN 10204:2004 3.1b

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