



# GLORIA MATERIAL TECHNOLOGY CORP. INSPECTION CERTIFICATE



Messrs: Ryerson Canada Inc.  
 Order No.: 2020005865-14  
 File No.: 2021001958-A  
 Grade: 316/316L  
 Size: 4"  
 Heat-Lot No.: SL1633-70X  
 Condition: HF-Solution Annealed-Ground

P.O.No.: 4501051013  
 Date: 07/16/2021  
 Weight: 202KG 445.33LB  
 P'cs: 1

Chemical Composition (wt%)							
	C	Si	Mn	P	S	Ni	Cr
Min.						10.00	16.00
Max.	0.030	1.00	2.00	0.045	0.030	14.00	18.00
Result	0.012	0.32	1.61	0.029	0.023	10.20	16.18
	Mo	Ni+2Mo	PREN				
Min.	2.00	14	23				
Max.	3.00	20	28				
Result	2.10	14	24				

### Mechanical Properties Spec.

	Hardness	Grain Size
		ASTM E112
Spec. Min.	1/2R	T
Spec. Max.	237HBW	5
Result	156HBW	7

### Corrosion Test

ASTM A262 PRACTICE E

Spec. Max.  
 Result: OK

### Tensile Test

	Elongation(A)	Tensile Strength(Rm)	Yield Strength(0.2% Rp)	Reduction of Area(Z)
	Solution	Solution	Solution	Solution
	1/2R L	1/2R L	1/2R L	1/2R L
	(Ave)	(Ave)	(Ave)	(Ave)
Unit	%	PSI	PSI	%
Min.	40	75000	30000	50
Max.		115000		
Result	58	85500	39900	76

REDUCTION-RATIO: Min 5.0:1



AS 9100  
Aerospace



ISO 9001  
Quality



Heat Treating  
 Material Testing Laboratory  
 Bonded to the Testing

Kevin Wen  
 Quality Manager  
*Kevin Wen*

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Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OHS&S, and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. Inspection Certificate comply with EN 10204 3.1.



台灣台南市新營區新中路35號/NO.35, HSEN CHUNG RD., HSEN YING, TAINAN, TAIWAN  
 TEL: 886-6-6520031 / FAX: 886-6-6230877  
 http://www.gmtc.com.tw



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ACTUAL REDUCTION RATIO: 10.8:1

Specification:

1. RY316SA REV.4
2. NACE MRO175/ ISO 15156(EXCEPT H2S TEST AND SURFACE HARDNESS)

Remark:

1. MELTING PROCESS : EAF+LEF+VOD OR EAF+AOD
2. PASSED INTERGRANULAR CORROSION TEST PER ASTM A262 PRACTICE E.
3. ULTRASONIC TESTED CONFORM TO API6A.
4. MATERIAL IS MERCURY FREE.
5. NO WELDING OR WELD REPAIR STATEMENT.
6. SOLUTION ANNEALING WITH CONDITION A OF ASTM A479. (1040 DEGREE C MINIMUM AND WATER QUENCHED.)
7. FINISHED CONDITION TO BE REPORT.
8. SOLUTION TREATMENT AT 1040 DEGREE C(1900 DEGREE F) MINIMUM AND LIQUID QUENCHED.



Kevin Wan  
Quality Manager

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