



North American Stainless Canada Inc.  
740 Imperial Road North  
Guelph, ON N1K1Z3  
Canada

# METALLURGICAL TEST REPORT

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 348009 2      Mail To:      Ship To:      Date: 10/27/2017      Page: 1  
Customer: 007175 007      ENCORE METALS LIMITED PARTNERSHIP      ENCORE METALS LIMITED PARTNERSHIP  
7805 51ST STREET S.E.      7805 51ST STREET S.E.  
CALGARY, AB T2C2Z3      CALGARY, AB T2C2Z3  
Steel: 316/316L  
Finish: RT  
Corrosion: ASTM A262 Prac E OK  
Your Order: P116496875      NAS Order: IN 0254549 09      Heat Treat Code: 40,635      Red Ratio: 5.3 :1

**PRODUCT DESCRIPTION:**  
NACE MR0175 (MID RADIUS ONLY)  
Round Bar, Hot Rolled, Annealed, Rough Turned  
UNS S31600/S31603 EN 10204 3.1, ASTM A484/16  
ASTM A276/16A, ASTM A479/16A, ASTM A182/16A CHEM ONLY,  
ASME SA479/16A, ASME SA182/16A CHEM ONLY, ASTM F899/11  
AMS 5648M/AMS 5653H, AMS QQS-763D, QQS 763F  
SOLUTION ANNEAL TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8M  
ASTM A193/10A-ASME SA193/10 CL 1 GR B8M(EXC PAR 7.2)

**REMARKS:**  
COMPLIES W/REQUIREMENTS OF DFMAR 252.225-7009 EU DIRECTIVE  
2011/65/EU.ROHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG  
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

*P116496 R144865 I-509356 H-369Y 875*

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BI7616 5		3.7500		1,383	144.00	22	1	509356

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

**CHEMICAL ANALYSIS**      CM(Country of Melt)      ES(Spain)      US(United States)      ZA(South Africa)      JP(Japan)      Chemical Analysis per ASTM A751/14a

NAS Heat	CM	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
369Y	US	.024	.28	16.58	.31	1.33	2.04	.035	10.54	.030
		S %	SI %							
		.0179	.25							

## MECHANICAL PROPERTIES

Product Id	1 d o i c r	HB No.	.2YS KSI	UTS KSI	RA %	Elong % 4D
BI7616 5	R L	152.0	39.00	85.00	69.00	55.00

*NAS*

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical Dept. Mgr.   
KRIS LARK      10/27/2017