



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 19 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 A262/15 Prac A/E OK
Red Ratio: 3.7 :1
Your Order: P116496875 NAS Order: IN 0254549 11 Heat Treat Code: 43,081

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 A276/17, ASTM A479/17, ASTM A182/16a CHEM ONLY,
ASME SA479/13, ASME SA182/13 CHEM ONLY, ASTM F899/12b
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 DFAR 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 R144867 I-509362 H-523T 875

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BJ0041 8		4.5000		1,337	144.00	24	1	509362

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 %
523T	US	.018	.13	16.56	.40	1.35	2.02	.035	10.57	.029
		S %	SI %							
		.0265	.22							

MECHANICAL PROPERTIES

Product Id	i d o i c r	HB No.	.2YS KSI	UTS KSI	RA %	Eing % 4D
BJ0041 8	R L	141.0	35.00	81.00	73.00	64.00

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.

[Signature]
KRIS LARK

10/27/2017