



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

0230440

Ship To: *Zys*
ASA ALLOYS
81 STEINWAY BLVD.
ETOBICOKE, ON M9W 6H6
Date: 2/01/2019 Page: 1
Steel: 304/304L
Finish: ST

Mail To:
ASA ALLOYS
81 STEINWAY BLVD.
ETOBICOKE, ON M9W 6H6

Certificate: 480180 1
Customer: 007225 001
Your Order: P057863

NAS Order: PN 0102155 05 Heat Treat Code: 51,105
Corrosion: EN ISO 3651-2 ASTM A 262-E
Red Ratio: 3.0 : 1

PRODUCT DESCRIPTION:

EN 10272-08, EN 10204 3.1, EN 10088.3, 1.4301/1.4307
SOLUTION ANNEAL TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8
ASTM A276/17, ASTM A479/18, ASTM A182/18 CHEM ONLY,
ASME SA479/17, ASME SA182/18 CHEM ONLY, ASTM F899/12B
AMS 5639/J, AMS 5647/K, AMS-QQS-763/D, QQS:763/F
NACE MR0175/15 (MID RADIUS ONLY), MR0103/15 (MID RADIUS ONLY)
ASTM A193/17, ASME SA193/10 CL 1 GR B8 (EXC PAR 7.2)

REMARKS:

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

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BK0940 6	5.0000			1,598	144.00	3	1	

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)
ANAB, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/14a

NAS Heat	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
A77P	US	.024	18.15	.48	1.37	.319	.063	8.68	.034	.0152
SI %										
.21										

MECHANICAL PROPERTIES

Product Id	Y S - P	TS - PED	YS - P	LYSPED	E1 - PED	RA - PED	HB	No.	.2YS	UTS
	KSI	KSI	KSI	KSI	% 5D	%			KSI	KSI
BK0940 6	33.33	81.28	33.33	38.27	62.68	74.23	160.0		46.00	86.00

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
2/01/2019



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 81 STEINWAY BLVD. 81 STEINWAY BLVD. Steel: 304/304L
 Customer: 007225 001 ETOBICOKE, ON M9W 6H6 ETOBICOKE, ON M9W 6H6 Finish: ST
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 ANAB, ISO/IEC 17025, Certificate# L2323
 Chemical Analysis per ASTM A751/14a

NAS Heat	CM
A77P	US

MECHANICAL PROPERTIES

Product Id	l o c k	RA	%	Elong	% 4D
BK0940 6	RL	57.00		47.00	

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
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2/01/2019