12 x 8-3 3000 # OLETS

P.O. 135095

## **CERTIFIED MILL TEST REPORT**

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CUSTOMER: MRC CANADA ULC

DATE 10/14/2014

CUSTOMER

ORDER NO.: S759271927

BONNEY ORDER NO. B000174921

SHIP TO: MRC CANADA ULC - BRCH 759

**502-25 AVENUE** 

NISKU AB T9E 0K6

Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
54	2	6921	4 3M A105N COUP T SA/A105N
18C10822			A10.029 C 0.270 Co 0.000 Cr 0.080 Cu 0.180 Mn 0.840 Mo 0.040 Ni 0.100 P 0.007 S 0.018 Si 0.250 V 0.001 CE(Long Formula) = 0.45 T/S(PSI) 78,862 Y/S(PSI) 51,125 EL(%) 33.60 RA(%) 57.13 Brinell 141 BHN 147 BHN
54	118	6922	4 3M A105N COUP T SA/A105N
18C10822		<i>5722</i>	A1 0.001 C 0.260 Co 0.000 Cr 0.140 Cu 0.200 Mn 0.850 Mo 0.030 Ni 0.090 P 0.014 S 0.018 Si 0.250 V 0.001 CE(Long Formula) = 0.46 T/S(PSI) 78,005 Y/S(PSI) 50,850 EL(%) 33.70 RA(%) 58.18 Brinell 139 BHN 139 BHN
179	500	59582	8 -3 X 1/2 3000 A105N THRD T SA/A105N
18C13243			Al 0.027 C 0.210 Cb 0.000 Co 0.004 Cr 0.040 Cu 0.050 Mn 1.020 Mo 0.006 Nb 0.014 Ni 0.013 P 0.006 S 0.021 Si 0.210 V 0.004 CE(Long Formula) = 0.39 T/S(PSI) 73,011 Y/S(PSI) 48,661 EL(%) 36.10 RA(%) 64.90 Brinell 132 BHN 135 BHN
220 18C13975	50	59576	6 X 2 XS A105N WELD B SA/A105N  Al 0.028 C 0.210 Co 0.002 Cr 0.040 Cu 0.050 Mn 0.990 Mo 0.006 N 0.003  Nb 0.012 Ni 0.020 P 0.004 S 0.021 Si 0.220 V 0.004  CE(Long Formula) = 0.39  T/S(PSI) 73,704 Y/S(PSI) 50,904 EL(%) 36.85 RA(%) 59.09  Brinell 137 BHN 135 BHN

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

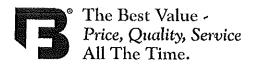
Meloney Specht

**QUALITY PROCESS MANAGER** 

Meloney Speckt

CMTR: REV2

## **CERTIFIED MILL TEST REPORT**



**LOG NO.** F0000000064542

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Canada

BONNEY ORDER NO. B000174921

QUANTITY ITEM LOT NO.

GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- 1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. CERTIFYING TO ASTM A350 LF2 07 REVISION.
- 3. THE MATERIAL SUPPLIED IDENTIFIED AS A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
- 4. THE MATERIAL SUPPLIED AS A 105N MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2007 AND NACE MR0175/ISO 15156-2.
- 5. CERTIFYING ASTM A105-13 / ASME SA105-10 EDITION.
- 6. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.
- 7. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2,
- 8. THE MATERIAL SUPPLIED AS A350 LF2 CL1 MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156-2.
- 9. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
- THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT, (EUROPEAN STANDARD)
- 11. THE UNIT OF MEASURE FOR TENSILE AND YIELD (0.2%) STRENGTH ARE REPORTED IN PSI.
- 12. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

Meloney Specht

QUALITY PROCESS MANAGER

Meloney Speckt

CMTR: REV2