



BUILD SHEET: N-033 DATE \_\_\_\_\_  
MOLD CHECKS \_\_\_\_\_ COOKED \_\_\_\_\_

ORDER DATE 06 FEB 18 SHIP BY DATE: 08 FEB 18

FOR SB NORWAY PO NO \_\_\_\_\_

SIZE 3.68 X 3.175 TYPE SCR

THREAD 2 3/8 PAC OTHER \_\_\_\_\_

MATRIX (H) \_\_\_\_\_ WEIGHT \_\_\_\_\_

MATRIX (S) \_\_\_\_\_ WEIGHT \_\_\_\_\_

BINDER \_\_\_\_\_ WEIGHT \_\_\_\_\_

BLANK NM14106200 TJ 142292

CUTTER \_\_\_\_\_

BILLET \_\_\_\_\_ TUBE \_\_\_\_\_

WELD BY JM MPI BY JM

THREAD GAGE 48460 STAND OFF .625

LENGTH TO WELD \_\_\_\_\_

FINAL DIAMOND GRIND SIZE 3.120 X 3.68

SHIPPED BY JM DATE 2-8-18

SHORT BIT & TOOL CO  
225 GOLD STREET  
GARLAND TX 75042  
972-205-1011  
main@shortbits.com

To: CMC DALLAS TRADING  
 PO BOX 139094  
 DALLAS, TX 75313-9094  
 (214) 689-4300  
 Fax: (214) 689-5886

Ship To: CMC TRADING WAREHOUSE  
 GREENSPORT TERMINAL  
 13609 INDUSTRIAL ROAD - GATE 5  
 UP - PTRS SWITCH ROAD  
 HOUSTON, TX 77015  
 (214) 496-5584

Customer P.O.	69855	Sales Order	134724.1
Product Group	Special Bar Quality	Part Number	30004000240MTSO
Grade	8620HLA; 8620/8622H; MECH PROP REPORT	Lot #	MM1410620002
Size	4" (4.0000) Round	Heat #	MM14106200
Product	4" (4.0000) Round 20' 8620-C2R7	B.L. Number	G1-270911
Description	8620-C2R7	Load Number	G1-147295
Customer Spec		Customer Part #	8620

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Roll Date: 11/26/2014 Melt Date: 11/6/2014

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Al	B
0.21%	0.80%	0.011%	0.023%	0.23%	0.23%	0.41%	0.51%	0.19%	0.004%	0.025%	0.0003%
Sn	Ti	Cb	Co	Ca	Pb	As	Bi	Sb	H		
0.008%	0.0015%	0.004%	0.0301%	0.0008%	0.0000%	0.005%	0.0000%	0.0020%	1.0 ppm		

Austenitic fine grain by chemical analysis per the latest revision of ASTM A29

DI value: 2.00

**Simulated Hardenability Band**

J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32	
45	44	42	35	29	25	24	23	22	21	19		18		18	17	16		15		14			14

Brinell Converted Mid-Radius: 170.0bhn

Brinell Converted Surface: 170.0bhn

Brinell: 170.000bhn

Tensile 1: 93,000psi

Yield 1: 61,400psi

Elongation: 20.4% in 2"(% in 50.8mm)

Reduction of Area: 40.49%

Grain Size per ASTM E112 = 7

Reduction Ratio 11.4 :1

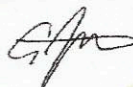
**ASTM E381**

Surface: 1 Mid Radius: 1 Center: 1

**ASTM E45 Method A (Worst)**

Sulfides: T: 1.5 H: 1.5 Alumina: T: 0.0 H: 0.0 Silicates: T: 0.0 H: 0.0 Globular: T: 1.0 H: 0.5

- All manufacturing processes, including melting have been performed in the U.S.A.
- No mercury, mercury compounds or mercury containing devices came into contact with this product.
- Welding or weld repair was not performed on this material.
- This material conforms to the specifications described on this document and may not be reproduced except in full, without written approval of Nucor Corporation.
- This product is NAFTA certified under Paragraph "B" of the NAFTA rule of origin.
- Material is Free of Radioactive Contamination.
- This document is in compliance with EN 10204 "type 3.1"
- Test procedures followed with asterisk(\*) are outside of NSMEM - ISO17025 Accreditation scope
- Results reported for ASTM E45 (Inclusion content) and ASTM E112 (Grain size) are provided as interpretation of ASTM procedures.
- Reported results relate to the material samples subject to test, and are used to qualify material lot# indicated in within this report.
- Export Country USA e-mail contact Memphis.Sales@nsmem.nucor.com



Cory Anthony  
 Division Metallurgist

To: CMC DALLAS TRADING  
 PO BOX 139094  
 DALLAS, TX 75313-9094  
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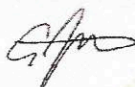
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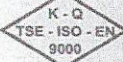
Specification Comments: EAF, LMF, VACUUM DEGASSED, CONTINUOUSLY CAST MATERIAL IS IN CONFORMANCE TO EN 10204  
 3.1 MATERIAL CONFORMS TO ASTM A29; ASTM A322 A304 FINE GRAIN OF 5 OR FINER TO BE MEASURED IN ACCORDANCE WITH  
 ASTM E112

1. All manufacturing processes, including melting have been performed in the U.S.A.
2. No mercury, mercury compounds or mercury containing devices came into contact with this product.
3. Welding or weld repair was not performed on this material.
4. This material conforms to the specifications described on this document and may not be reproduced except in full, without written approval of Nucor Corporation.
5. This product is NAFTA certified under Paragraph "B" of the NAFTA rule of origin.
6. Material is Free of Radioactive Contamination.
7. This document is in compliance with EN 10204 "type 3.1"
8. Test procedures followed with asterisk(\*) are outside of NSMEM - ISO17025 Accreditation scope
9. Results reported for ASTM E45 (Inclusion content) and ASTM E112 (Grain size) are provided as interpretation of STM procedures.
10. Reported results relate to the material samples subject to test, and are used to qualify material lot# indicated in within this report.
11. Export Country USA e-mail contact Memphis.Sales@nsmem.nucor.com



Cory Anthony  
 Division Metallurgist

ISO/TS 16949

BUREAU VERITAS  
Certification**ASIL ÇELİK**

SANAYİ ve TİCARET A.Ş.

http://www.asilcelik.com.tr

ISO 9001

BUREAU VERITAS  
Certification

# KALİTE BELGESİ

QUALITY CERTIFICATE / MILL TEST CERTIFICATE

Döküman No / Document Number

1408495

Tarih / Date

02.07.2014

Sayfa /Page

1

Müşteri /Customer

COMMERCIAL METALS COMPANY

Müşteri Sip. No./ Your Order No

69224

Sip.No./ Our Order No.

1111404954

Belge Norm/Document Norm

EN 10204/3.1

Sip. Miktarı / Order (Kg)

10000

Kalite / Quality

SAE 4130

Kesit / Dimension

Y/Rd 3.5 "

Döküm No./ Heat No.

142292

Ağırlık / Weight (Kg)

26312 Lbs

Adet / Quantity

40

Malzeme / Product

HOT ROLLED NORMALISED, QUENCHED & TEMPERED ROUND STEEL BARS  
ACC.TO CMC COMETALS STEEL TD-PUR-418 (11.30.2012) & LATEST EDITIONS OF ASTM A29, A255, A388,  
A370, A322, E112, AMS-H-6875A, API 6A PSL3, API 6A CLASS K, NACE MR-01-75 & API 16A & 16C & API 14D

Onaylayan / Approved By  
Subutay SEZGIN

Çelik Yapım Metodu / Steelmaking Process : Ark Ocağı / EAF, Pota Fırını / LF, Vakumda Gaz Alma / VD

Pota Kimyasal Analizi / Ladle Chemical Composition (%)

C	Si	Mn	P	S	Cr	Mo	Ni	Al	Cu	Sn	V
.32	.30	.58	.007	.004	1.07	.24	.19	.024	.23	.014	.030

Mekanik Özellikler / Mechanical Properties (Midradius)

Sertlik Hardness	Akma Yield PSI(0.2%)	Çekme Tensile PSI	Uzama Elongation %	Kesit Daralması Red Of Area %	Çentik Impact D1	ISO-V (ft-lbs)			Ort/Av	Sıcaklık/Temp	LE mm	SH %
						D2	D3					
MD 202 HB	80642	101238	26	70	L 75	66	71	71	-75°F	1.06-0.95-1.01	80-70-75	
MD 202 HB					T 21	24	22	22	-75°F			
SRF 229 HB												
SRF 223 HB												
Tane Büyüklüğü Grain Size (ASTM E-112)	Ezme Oranı Reduction Ratio											
7-8	Ingot : 48.1/1											

MECHANICAL PROPERTIES TAKEN FROM PROLONGATION

LENGTH OF PROLONGATION : 20 cm / TENSILE SPECIMEN : RND. 12.5 mm  
GAGE LENGTH (%) ELONGATION : 2 inch / FBH SIZE MAX.3.2 mm & RESULTS WERE OK  
CHARPY SPECIMEN : 10X10X55 mm / TEMP. OF TENSILE SPECIMEN : AMBIANT TEMP.

QUENCH MEDIA WATER / YIELD (EUL 0.5%) : 80787 PSI

QUENCH TEMPERATURES AT START &amp; FINISH : &lt;100 °F &amp; &lt;120 °F

NORMALIZING TEMP. / TIME : 1670 °F / 3.63 HOURS

AUSTENITIZING TEM. / TIME : 1607 °F / 3.63 HOURS

TEMPERING TEMP. / TIME : 1292 °F / 3.50 HOURS

100 % MIX-UP CONTROLLED &amp; SURFACE CRACK TESTED.

ULTRASONIC INSPECTED PER ASTM A388 AND ACCEPTANCE CRITERIA API 6A/ISO-10423-PSL3.

METHOD OF MONITORING TEMPERATURE : FURNACE TYPE THERMOCOUPLE

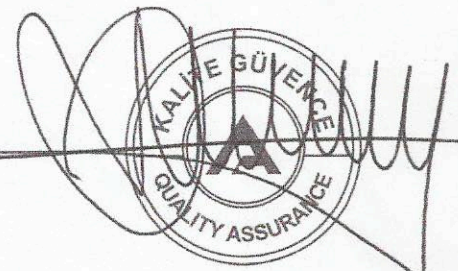
FURNACE CALIBRATION : AMS 2750 / RESIDUAL MAGNETISM MAX 20 GAUSS

FREE FROM RADIOACTIVITY &amp; FREE FROM MERCURY. NO WELD REPAIR PERFORMED.

COUNTRY OF ORIGIN : TURKEY

YUKARIDA BELİRTİLEN MALZEMELERİN TEST EDİLDİĞİ VE SİPARİŞ ŞARTLARINA UYGUN OLDUĞU ONAYLANIR.

WE HEREBY CERTIFY, MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF ORDER CONTRACT.



Santral / Central

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Faks : +90 224 280 61 00

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Dış Satış / Export

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+90 262 781 60 00



**TEXAS HEAT TREATING, INC.**  
 5113 NORTH FREEWAY  
 FORT WORTH, TEXAS 76106  
 (972) 263-9755 Phone  
 (512) 238-0408 Fax

**CERTIFICATION**

Order No.: 272222

Date: 02/09/2015

Page: 1 of 1

**To:** SHORT BIT & TOOL CO.  
 225 GOLD STREET

GARLAND TX 75042

Purchase Order No.: THT-142292-1

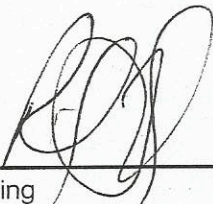
Material: 4130  
 Customer Spec  
 HRC 32-35, Per P.O.

Quantity	Part Number / Part Name / Part Description	Container	Pounds
19	2375 PAC 3" Diameter Tool Joint Blank	Ammo Box 1	133

- [1] Harden at 1,550°F for 2 hours. Oil quench.
- [2] Temper at 1,000°F for 3 Hours. Air cool.
- [3] Temper at 1,030°F for 4 Hours. Air cool.
- [4] Temper at 1,050°F for 4 Hours. Air cool.

Insp. Type	Scale	Minimum	Maximum	Insp. Type	Scale	Minimum	Maximum	Value
<b>Customer Requirements:</b>				<b>Results:</b>				
Surface	HRC	32.0	35.0	Surface Hardness	HRC	33.4	34.7	
Method: E18				Date Tested: 2/8/2015				
Tensile Strength	KSI	.0	156.0	Tensile Strength	KSI			152.4
Method: E8/8M				Date Tested: 2/8/2015				
Yield Strength	KSI		.0	Yield Strength	KSI			134.8
Report Values				.2% Offset				
% Elongation	%			% Elongation	%			16.6
Report Values				1" Initial Gauge				
% Reduction in	%			% Reduction in Area	%			60.24
Report Values				0.249" Initial Diameter				

**IMPORTANT STATEMENT:**  
 All test specimens and testing conforms to applicable ASTM Standards, unless otherwise specified per written customer requirement. Reported values apply to the sample(s) tested and/or inspected and are not necessarily indicative of the quality of apparently identical or similar products and does not extend to the lot or batch from which the tested components were drawn. The information in this metallurgical report is intended for the use of Texas Heat Treating's client and may not be published or reproduced except in full without Texas Heat Treating's expressed consent. Texas Heat Treating accepts no responsibility or liability for results due to non-representative test items, improper sampling, insufficient testing or misinformation. Material submitted to metallurgical lab will be discarded after 30 days, except by prior written agreement.

  
 Rick Fleming  
 Quality Representative  
 Texas Heat Treating, Inc.