



SERIAL NUMBER: N-152

MOLD SIZE _____ BY _____

DATE FURNACED _____

ORDER DATE 27 July SHIP DATE: ASAP PO _____

FOR SLB SIZE 6.1" TYPE 9J-8

THREAD 2 3/8 PAC OTHER a 8" FN blade reverse spiral smooth gage
NECK DOWN TO 2 1/8 FOR 1 *MEDIUM CHIPS* *UP DRILL*

MATRIX (H) _____ WEIGHT _____

MATRIX (S) _____ WEIGHT _____

BINDER _____ WEIGHT _____

BLANK _____ TJ _____

BILLET D1716280 TUBE _____

WELD BY _____ MPI BY _____ MPI PIC _____

THREAD GAGE 48466 STAND OFF .625

FINAL DIAMOND GRIND SIZE 6-100

LENGTH TO WELD _____

FINISHED PIC VL SHIPPED BY Jm DATE 7-5-18

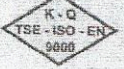
SHORT BIT & TOOL CO
225 GOLD STREET
GARLAND TX 75042
972-205-1011
main@shortbits.com



Certificate of Conformance

Serial Number	Size	Type	Steel or Matrix	Shank Diameter	Bore
N-152	6.10"	SJ-8	Steel		
Component		Material	Vender	Lot or Heat Number	
Blank		4140	RHW	D1716280	
Hard Powder					
Soft Capping Powder					
Tool Joint					
MIG Weld					
WP Tube					
Inspection					
Diamond Grinding To Size					
Weld MPI					
Thread Gaging		#48466 .625" stand-off	2 3/8 PAC		

Signed By: *P. Bessy* date: *2/6/2018*



KALİTE BELGESİ

QUALITY CERTIFICATE / MILL TEST CERTIFICATE



Customer	SEBA TUBULAR LTD.	Date	20.02.2018
Heat no	D1716280	Quality	AISI 4140
Dimension	RD 6,25 inch	Weight	38.636 LB
Your Order No	40271_17-541 /4	Number of bars	23
Our Order No	1200004386 / 000010	Doc. Norm / Number	EN 10204/3.1 - 1802125
Casting type	Ingot Cast.	Reduction Ratio	11.9 /1

Product
HOT ROLLED QUENCHED & TEMPERED AND STRESS RELIEVED STEEL BARS.
ACC. TO RHW SPEC. 4140 HT REV:08 (JULY 2017) AND YPX 17/075, LATEST EDITIONS OF ASTM A29, A304, A322, A370, A388, A751, E45, E112, E709, AMS 2750, API 6A PSL 3.
WE CERTIFY THAT THE MATERIAL IS AN ALLOY STEEL.

Steelmaking Process:
Electric Arc Furnace/EAF, Ladle Furnace/LF, Vacuum Degassing/VD

Ladle Chemical Composition (%)

	C	Si	Mn	P	S	Cr	Mo	Ni	Al	Cu	Sn	V	Nb	O	H
Min	0,38	0,15	0,75			0,80	0,15								
Max	0,43	0,30	1,00	0,025	0,025	1,10	0,25	0,50				0,030	0,035	0,0030	0,00022
Sample	0,41	0,27	0,94	0,008	0,009	1,07	0,24	0,20	0,022	0,23	0,011	0,023	0,030	0,0014	0,00005

Product Chemical Composition (%)

	C	Si	Mn	P	S	Cr	Mo	Ni	Al	Cu	Sn	V	Nb	O
Sample-1	0,41	0,27	0,93	0,008	0,008	1,05	0,23	0,20	0,022	0,22	0,011	0,023	0,030	0,0012
Sample-2	0,40	0,27	0,93	0,008	0,007	1,05	0,23	0,20	0,021	0,22	0,011	0,022	0,030	0,0013

Jominy - inch

	1,0 inch	4,0 inch	8,0 inch	16,0 inch	28,0 inch
Min	57	56	54	48	44
Max	63	62	61	58	57
Result-1	58,6	57,4	57,3	56,8	54

Hardness

Customer Req.		Asil Çelik Result		
Min	Max	Hardness	Unit	Test Loc.
285	341	331	HB	SURFACE

Mechanical Properties (Required)

Test	Min	Max	Unit	Test Loc.	Temp.	Direction	Notch Type	Result-1
Yield strength (%0,2)	110000		Psi	MIDRADIUS				133014
Tensile Strength	135000		Psi	MIDRADIUS				148359
Elongation	15		%	MIDRADIUS				18,60
Reduction	45		%	MIDRADIUS				58,30
Shear (%)			mm	MIDRADIUS	-20 °F	Longitudinal		70
Lateral Expansion (mm)		0,38	mm	MIDRADIUS	-20 °F	Longitudinal		0,93
Impact Strength-1	15		ft-lbs	MIDRADIUS	-20 °F	Longitudinal	ISO-V	75,23
Impact Strength-2	15		ft-lbs	MIDRADIUS	-20 °F	Longitudinal	ISO-V	76,71
Impact Strength-3	15		ft-lbs	MIDRADIUS	-20 °F	Longitudinal	ISO-V	75,23
Impact Strength-Average	20		ft-lbs	MIDRADIUS	-20 °F	Longitudinal	ISO-V	75,97

Metallography Tests (Required)

Test	Min	Max	Unit	Standard	Result-1
A Thin				ASTM E45A	2
A Heavy				ASTM E45A	1
B Thin				ASTM E45A	0,33
B Heavy				ASTM E45A	0
C Thin				ASTM E45A	0
C Heavy				ASTM E45A	0
D Thin				ASTM E45A	1
D Heavy				ASTM E45A	0,5
Austenite Grain Size	5			ASTM E112	8

Heat Treatment Parameters

QUENCH TEMPERATURES AT START & FINISH: 100 & 120 °F
COOLING MEDIA: AIR / QUENCH MEDIA: POLYMER

AUSTENITIZING TEMP. / TIME:	1580 °F	4,69	HOURS
TEMPERING TEMP. / TIME:	1166 °F	6,25	HOURS
STRESS RELIEVE TEMP. / TIME:	952 °F	4,69	HOURS

Microstructure Tests (Required)

Test	Min	Max	Unit	Result-1
Macroetching-S				1
Macroetching-R				3
Macroetching-C				1

Special Chemical Analysis Requests

Formula	Min	Max	Unit	Value
DI (ASTM A295-10)	5,5	0	IN	7,31

COUNTRY OF ORIGIN (MELT/MANUFACTURE) : TURKEY
MECHANICAL PROPERTIES TAKEN FROM PROLONGATION.
LENGTH OF PROLONGATION : 20 cm / TENSILE SPECIMEN : RND. 12,5 mm
GAGE LENGTH (%) : 2 inch / FBH SIZE MAX. 6,4 mm & RESULTS WERE OK. / CHARPY SPECIMEN : 10x10x55 mm
METHOD OF MONITORING TEMPERATURE : FURNACE TYPE THERMOCOUPLE / FURNACE CALIBRATION : AMS 2750
ULTRASONIC TESTING 100 %-ASTM A-388/SA 388-07, AFTER Q&T-SR ACCEPTANCE CRITERIA
API 6A/ISO 10423 PSL 3 & 100 % MIX-UP CONTROLLED & SURFACE CRACK TESTED & RESULTS WERE OK.
"FREE FROM RADIOACTIVITY & FREE FROM MERCURY. NO WELD REPAIR PERFORMED"

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

Approved by Mehmet Erdal TÜRKAN

33.23.169.A4 (1)

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