



SERIAL NUMBER: N-082 (2)

MOLD SIZE _____ BY _____

DATE FURNACED _____

ORDER DATE 04 APR 18 SHIP DATE: 18 APR 18 PO NAMMA008972

FOR SLB SIZE 2.750 TYPE SJ-FLAT

THREAD 1 1/2" MT OTHER updrill

MATRIX (H) _____ WEIGHT _____

MATRIX (S) _____ WEIGHT _____

BINDER _____ WEIGHT _____

BLANK _____ TJ _____

BILLET 447 29013 TUBE _____

WELD BY _____ MPI BY _____ MPI PIC _____

THREAD GAGE 46986 STAND OFF .375

FINAL DIAMOND GRIND SIZE 2.750

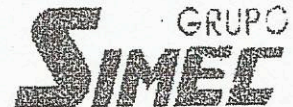
LENGTH TO WELD _____

FINISHED PIC UA SHIPPED BY AH DATE 6/26

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



SIMEC INTERNATIONAL, S.A. DE C.V.



Aseguramiento de la Calidad

CERTIFICADO DE CALIDAD N°
CERTIFICATE OF QUALITY N°

13-4472

ACEROS ESPECIALES

CUSTOMER ORDER: 209369

The products supplied are in compliance with the requirements of the order.

CLIENTE	GRADO DE ACERO
CUSTOMER Magellan Corporation	STEEL GRADE 4140H / 4142
N° DE COLADA	MEDIDA
HEAT N° 44729013	SECTION SIZE 3"
IDENTIFICACION Black and White	PERFIL
COLOR CODE with Black dot	SHAPE Round

ANALISIS QUIMICO %

CHEMICAL ANALYSIS % (in accordance to ASTM A751-11) (DI : Caterpillar 1E0038)

C	Mn	Si	P	S	Cr	Ni	Mo	Al	Cu	Sn	P+S	V	D.I	H2		
.42	.91	.25	.016	.019	.93	.22	.200	.025	.20	.015	.035	.001	5.75	<3ppm		

METALOGRAFIA
METALLOGRAPHY

(in accordance to ASTM E112-10)

(in accordance to ASTM E45-11)

TAMANO DE GRANO GRAIN SIZE	DECARBURIZACION DECARBURIZATION	ESTRUCTURA STRUCTURE	INCLUSIONES NO METALICAS NONMETALLIC-INCLUSIONS			
6-8	0.010 "	Pearlite-Ferrite	A	B	C	D
			2.0T 0.0H	1.0T 0.0H	0.5T 0.0H	1.0T 0.0H

PROPIEDADES MECANICAS

MECHANICALS PROPERTIES (in accordance to ASTM A370-12)

Reduction ratio: 5.61

RESISTENCIA A LA TENSION	LIMITE DE CEDENCIA	REDUCCION DE AREA	% ALARGAMIENTO	DUREZA
TENSILE STRENGTH (KSI)	YIELD STRENGTH (KSI)	REDUCTION IN AREA	ELONGATION IN 2" gage	HARDNESS
144.0	Y.P. 0.2%: 122.4	53.3	16.7	

IMPACT PROPERTIES (in accordance to ASTM E23)

TEMPERATURE: VALUE (Ft/Lbs):

°F	1	2	3	AVG.	°F	1	2	3	AVG.
32	46	45.3	46.5	45.9	-20	31	30.6	30.6	30.7
LATERAL EXPANSION (in)	0.021	0.025	0.031			0.032	0.025	0.022	
% SHEAR	44	42	40			20	20	24	

HARDNESS (in accordance to ASTM A370-12)

MID RADIUS: 307 HBW

SURFACE: 324 HBW

REMARKS:

This is steel was heat treatment (QT) in continuous line heat treat Initial 91 °F Final 102 °F
 Austenitized a 1598 °F By: 95.8 min Quenched in: Water spray at 91 °F
 Tempered at: 1169 °F By: 106.8 min Cooled in air at temperature room. Stress free
 Conform to ASTM A434-06 Class BC & BD material are to be to both AISI 4140 & AISI 4142

- OBSERVACIONES: 1) Steel free from mercury 2) No Repair Welding 3) Fine Grain Practice
 OBSERVATIONS 4) Material according with ASTM A29-12, A255-10, A304-11, A322-07 5) Vacuum Desgased
 6) Calcium aluminium treatment 7) Steel is Free From Radioactive Contamination
 8) Ultrasonic inspection results Satisfactory accordance ASTM E114-10, and A388 Supplementary requirements S1
 9) ASTM E381-01: Macro etch ratings: S=1, R=1, C=1
 10) Electric Furnace 11) Continuous casting
 12) Comply with EN 10204: 2004 inspection certificate 3.1

Juan Ruiz Hdez.

FECHA
DATE

11-Ene-2014 22:11

ASEGURAMIENTO DE CALIDAD
QUALITY ASSURANCE DEPARTMENT

2/10/14 533462 44729013 R283656 @

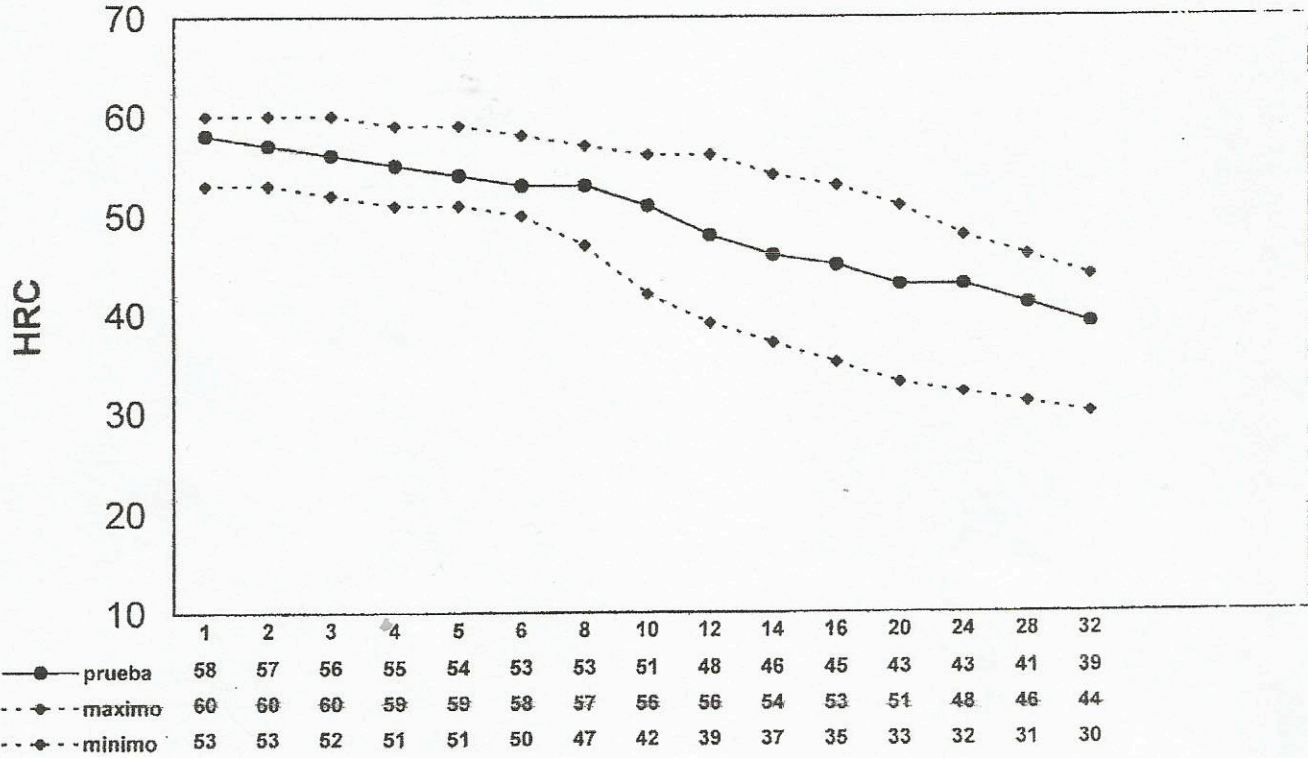


PLANTA: APIZACO TLAXCALA
ASEGURAMIENTO DE LA CALIDAD

CURVA DE TEMPLABILIDAD

PRUEBA JOMINY

Colada: 44729013 4140H/4142



COUNTRY OF ORIGIN - MEXICO