



SERIAL NUMBER: N-087

MOLD SIZE      BY     

DATE FURNACED     

ORDER DATE 04 APR 18 SHIP DATE: 18 APR 18 PO NNMA00897Z

FOR SLB SIZE 2.5 TYPE SJ FLAT

THREAD 1" OTHER     

MATRIX (H)      WEIGHT     

MATRIX (S)      WEIGHT     

BINDER      WEIGHT     

BLANK      TJ     

BILLET 5204117 TUBE     

WELD BY      MPI BY      MPI PIC     

THREAD GAGE 48401 STAND OFF .370

FINAL DIAMOND GRIND SIZE 2.500

LENGTH TO WELD     

FINISHED PIC VL SHIPPED BY AH DATE 4-17-18

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-087	2.50	SJ Flat	Steel		
Component	Material	Vender	Lot or Heat Number		
Blank	4140 Steel	RHW	52041117		
Hard Powder					
Soft Capping Powder					
Tool Joint					
MIG Weld					
WP Tube					
Inspection					
Diamond Grinding To Size					
Weld MPI					
Thread Gaging	#48401 .370" stand-off		1"		
Signed By:		date:			



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



Aseguramiento de la Calidad

CERTIFICADO DE CALIDAD N°  
CERTIFICATE OF QUALITY N°

17-5204A

ACEROS ESPECIALES

CUSTOMER ORDER: 211710

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

CLIENTE CUSTOMER	Magellan Corporation	GRADO DE ACERO STEEL GRADE	4140H / 4142
N° DE COLADA		MEDIDA	
HEAT N° IDENTIFICACION	52041117	SECTION SIZE PERFIL	2.3/4"
COLOR CODE	Black and White 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	B
.41	.93	.27	.011	.019	.93	.10	.192	.028	.20	.013	.030	.003	5.60	<3ppm	3ppm

METALOGRAFIA  
METALLOGRAPHY

(in accordance to ASTM E112-10)

TAMANO DE GRANO GRAIN SIZE	DECARBURIZACION DECARBURIZATION	ESTRUCTURA STRUCTURE	(in accordance to ASTM E45-11) INCLUSIONES NO METALICAS NONMETALLIC-INCLUSIONS			
6-8	0.007"	Perlite-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 A370-14, E-10)

Reduction ratio= 6.68

RESISTENCIA A LA TENSION TENSILE STRENGTH (KSI)	LIMITE DE CEDENCIA YIELD STRENGTH (KSI)	% REDUCCION DE AREA REDUCTION IN AREA	% ALARGAMIENTO ELONGATION IN 2" gage	DUREZA HARDNESS
142.5	Y.P. 0.2%: 120.5	50.5	16.9	

IMPACT PROPERTIES (in accordance to ASTM E23)

TEMPERATURE: °F	VALUE (FTLbs):				°F	AVG.			
32	1	2	3	AVG.	-20	1	2	3	AVG.
	38.2	36.8	33.9	37.0		33	34.0	34.0	33.7
LATERAL EXPANSION (in)	0.054	0.055	0.053			0.056	0.056	0.06	
% SHEAR	40	43	42			43	42	41	

HARDNESS (in accordance to ASTM A370-14, E10)

MID RADIUS: 319 HBW SURFACE: 332 HBW

REMARKS:

This is steel was heat treatment (QT) in continuous line heat treat  
 Austenized at 1601 °F By: 117 min Quenched in: Water spray at 75.0 °F Initial Final 102 °F  
 Tempered at 1103 °F By: 119 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  
 Conform to ASTM A193-10 GR-B7

- 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 Practice  
 6) Calcium aluminium treatment 7) Steel is Free From Radioactive Contamination  
 8) Ultrasonic inspection results Satisfactory accordance ASTM E114-10, and A383 Supplementary requirements S1  
 9) ASTM E281-01: Macro etch ratings: S=1, R=1, C=1 "Country of Origin Mexico"  
 10) Electric Furnace 11) Continuous casting  
 12) Comply with EN 10204: 2004 inspection certificate 3.1

Alberto Enrique Hdez

FECHA  
DATE:

04-Ene-2013 09:43

ASEGURAMIENTO DE CALIDAD  
QUALITY ASSURANCE DEPARTMENT

2/6/18 533460 52041117 R399122 @

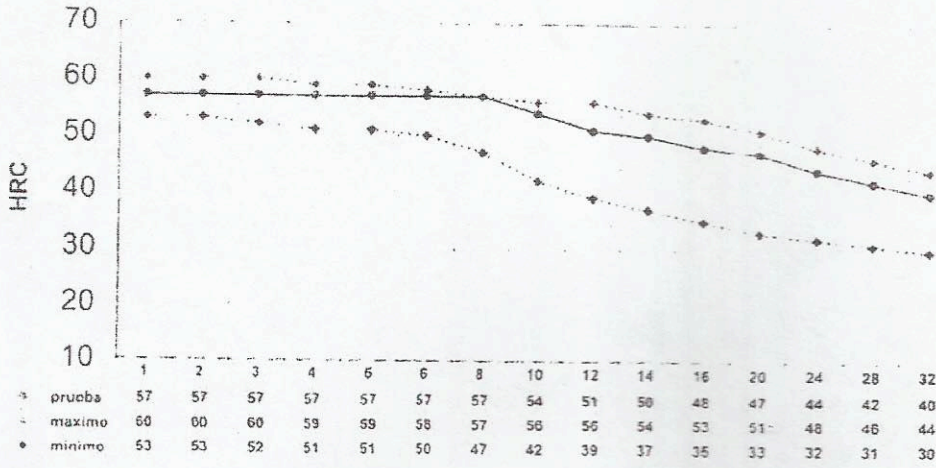
Provided by: EARLE M. JORGENSEN COMPANY



**CURVA DE TEMPLABILIDAD**

**PRUEBA JOMINY**

Colada: 52041117 4140H/4142



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