McMASTER-CARR®

Certificate

330-995-5500
330-995-9600 (fax)
cle.sales@mcmaster.com

Purchase Order	Order Date	Placed By	McMaster-Carr Number	Number of Certificates
P1473484	2/13/2023	Jane Beattey	6208024-01	1

Line		Product	Ordered	Status	Certificate
2	8892K87	Tight-Tolerance Hardened 4140 Alloy Steel Bar, 5/16" Thick, 2-1/2" Wide, 1-1/2 Feet Long	1 each	1 each delivers February 14	173–4671

Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

PRECISION MARSHALL STEEL COMPANY
One Northpoint Court, Bolingbrook IL 60440
Toll Free: 1-800-258-2558 - www.pmsteel.com

CERTIFICATION OF GROUND FLAT STOCK

PRODUCT INFORMATION

Grade	Thickness	Width	Heat #	Max Hardness	Country of Origin	PO Number
NT	0.3125	2.5000	97693	321	United States	TA-10185950

CHEMICAL COMPOSITION

C: 0.4300 Mn: 0.8100 P: 0.0120 S: 0.0030 Si: 0.2300 Cr: 0.9000 Mo: 0.1800 Ni: 0.1100 Cu: 0.2600 V: 0.0450

STANDARD INFORMATION

STANDARD CHEMICAL COMPOSITION

AISI / SAE	UNS	Carbon	Manganese	Silicon	Phosphorous (Max)	Sulfur (Max)	Chromium	Vanadium	Tungsten	Molybdenum
A2	T30102	.95/1.05	.40/.60	.20/.35	.025	.005	4.90/5.30	.15/.20	--	.90/1.10
O1	T31501	.90/1.00	1.00/1.15	.20/.35	.020	.020	.40/.60	.08/.15	.45/.60	--
S7	T41907	.48/.53	.50/.70	.20/.40	.035	.003	3.10/3.40	.20/.30	--	1.30/1.60
NT	G41420	.38/.46	.70/1.00	.15/.30	.035	.040	.80/1.15	.030 Max	--	.15/.25
D2	T30402	1.50/1.60	.20/.40	.20/.60	.030	.020	11.25/12.00	.80/1.00	--	.70/.80
LC	G10180	.15/.25	.60/.90	--	.040	.050	--	--	--	--
440C	S44004	1.05	.40	.40	--	--	17.00	--	--	.40
410	S41000	.13	.05	.40	--	--	12.00	-	--	--
420	S42000	.46	.40	.40	--	--	13.00	.30	--	--

SPECIFICATIONS					HARDNESS	MACHINABILITY
GRADE	AISI	SAE	ASTM	FEDERAL	BRINELL	RATING
A2	A-2	J-437	A681-08	QQ-T-570 Rev.C	200-235	65
O1	O-1	J-437	A681-08	QQ-T-570 Rev.C	177-212	95
S7	S-7	J-437	A681-08	QQ-T-570 Rev.C	188-223	95
NT	4142	--	A-322	--	261-321	85
D2	D-2	J-437	A681-08	QQ-T-570 Rev.C	220-255	50
LC	C-1018	--	A1018	635	168 MAX	--
440C	440C	--	A276-17	QQ-S-763	--	--
410	410	--	A240	QQ-S-763	--	--
420	420	--	A276-17	QQ-S-763	--	--

SURFACE TOLERANCE AND SQUARENESS		
	Regular	Oversize
Thickness	+/-.001	+.010/+.015
Width	+.005/-.000	+.010/+.015
Length 18	+.125/+.250	+.125/+.250
Length 24	+.1875/+.375	+.1875/+.375
Length 36	+.250/+.500	+.250/+.500
Length 72	+.250/+.750	+.250/+.750
Squares	+/-.001	+.010/+.015

All material RoHS Compliant

Precision Marshall Steel Company hereby attests that ground flat stock items as supplied have been tested and certified to meet all of the standards and limitations for ground flat stock as set forth above.

Certified: *PM Support Serivces*
Support Services

Date: 12/17/2021