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
P1519919	8/30/2024	Jon Wood	1782632-01	1

Line		Product	Ordered	Status	Certificate
1	9008K55	Multipurpose 6061 Aluminum, 2-1/4" x 2-1/4", 1 Foot Long	1 each	1 each delivers September 3	245–1354

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

SO: 760133, LINE #1
HEAT #: 25231963
PO: TA-67731080

MCMASTER-CARR SUPPLY CO
122.25012.00

2.250" SQ X 12.000 6061T6511H EXT MANIFOLD QUALITY

Certified Inspection Report

Hydro Extrusion USA, LLC
1550 N. Hydro Way
--
SPANISH FORK, UT
84660-1349

--

Invoice To Customer

HOWARD PRECISION METALS INC
PO BOX 240127
8058 N 87TH STREET
--
MILWAUKEE, WI - 53224

Ship To Customer

HOWARD PRECISION METALS INC
8058 N 87TH STREET
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MILWAUKEE, WI - 53224

Cert Number	Page
HYDRO3905760	Page 1 of 2

Sales Order Number	Line No.	Customer P/O	Cert Creation Date	Cert Print Date
1102151526	2	P35134-2	21-JUN-24	21-JUN-24

Quantity Shipped	Date Shipped	Item Description	Specification
1146 LB	21-JUN-24	ACC-U-LINE Extruded ACC-U-BAR + 2.250 TK x 2.250 W TK TOL +.024/-.000 W TOL +.024/-.000 SECT 566774 12 IN LN +.060/-0 FIN M-MILL FAB F31200 W/F 6.017 F 2 CS 3.19 6061/T6511H	ASTM B221 REV 21 Table 1 Chemical Composition Limits Table 2 Mechanical Property Limits
B/L	**Item No.**		
1423153	G031046180		
Delivery Id	**Item No. Rev**		
5563037	--		
CustomerPart No.			
E12M2.2506			

Applicable Specifications, Revisions and Exceptions

For U.S. Government Sales (when applicable to extrusions):
Items supplied are compliant with the Buy American Act DFARS 252.225-7001
Melted in the USA or a qualifying country, as identified in the Buy American Act (DFARS 252.225-7001)

COMPOSITION NOTE: The values for 'Others Each' and 'Others Total' have met the limits as shown on this certified inspection report. Remainder is Aluminum.

Hydro Extrusion USA, LLC hereby certifies that the extrusions covered in this report are within the acceptable ranges of the sections or the specification tables, excluding footnotes, identified herein. Chemical composition may be based on results provided by external billet suppliers. Further information on processing, testing including ASTM B557, and inspection is available at www.hydro.com/technicalspecificationsENA. Sales are governed by the Extrusion North America Standard Terms and Conditions of Sale available at www.hydro.com/termsconditionsENA, unless otherwise mutually agreed in writing.

Signature And Title

Steven Tanner — 21-JUN-24
Quality Manager

Quantities per Lot / Packages

Package Number	Lot Number	Quantity	UOM	Weight	
				Gross	Net
G14-PKG2725981	25231963	191	PCS	1188	1146

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SPANISH FORK, UT
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Cert Number	Page
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Sales Order Number	Line No.	Customer P/O	Cert Creation Date	Cert Print Date
1102151526	2	P35134-2	21-JUN-24	21-JUN-24

Composition Limits

Alloy	Alloy		Si		Fe		Cu		Mn		Mg		Cr	
	PCT (%)		PCT (%)		PCT (%)		PCT (%)		PCT (%)		PCT (%)		PCT (%)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
6061	--	--	0.40	0.80	---	0.70	0.15	0.40	---	0.15	0.80	1.20	0.04	0.35

Alloy	Zn		Ti		Others Each		Others Total	
	PCT (%)		PCT (%)		PCT (%)		PCT (%)	
	Min	Max	Min	Max	Min	Max	Min	Max
6061	---	0.25	---	0.15	---	0.05	---	0.15

Composition Results

Heat / Cast	Alloy	Country of Melt	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total
S24061307	--	US	0.73	0.37	0.29	0.07	0.94	0.05	0.06	0.03	--	--

Mechanical Property - Test Limits

			Test Type	UTS - L		TYS - L		EL 4D-Long	
			UOM	KSI		KSI		PCT	
			# of Test	--		--		--	
Test Temper	Lot Number	# of Tests		MIN Value	MAX Value	MIN Value	MAX Value	MIN Value	MAX Value
T6511H	25231963	1		46.0	46.0	41.1	41.1	17.0	17.0

Notes

Mercury is not a normal contaminant in aluminum alloys and we do not knowingly use it in the manufacture of our goods.

Extrusions produced to T6511 temper also meet T6 temper requirements

Extruded in the USA

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