McMASTER-CARR®

# Certificate

404-346-7000
404-349-9091 (fax)
atl.sales@mcmaster.com

| Purchase Order | Order Date | Placed By | McMaster-Carr Number | Number of Certificates |
|---|---|---|---|---|
| P1443524 | 2/3/2022 | Jane Beattey | 3835098-01 | 1 |

| Line | | Product | Ordered | Status | Certificate |
|---|---|---|---|---|---|
| 2 | 8974K28 | Multipurpose 6061 Aluminum, 1/2" Diameter, 3 Feet Long | 1 each | 1 each delivers February 7 | 168–3228 |

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

KAISER ALUMINUM
FABRICATED PRODUCTS

Best in Class

# CERTIFIED TEST REPORT

http://Online.KaiserAluminum.com

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

| CUSTOMER PO NUMBER: | CUSTOMER PART NUMBER: | PRODUCT DESCRIPTION: |
|---|---|---|
| 570565-1 | 21159 | 0.500 +/-.004 ROD |

| KAISER ORDER NUMBER: | LINE ITEM: | SHIP DATE: | KAISER LOT NUMBER: | ALLOY: | TEMPER: |
|---|---|---|---|---|---|
| 6116210 | 001 | 04/19/2021 | 64732-491 | 6061 | T6511 |

| WEIGHT SHIPPED: | QUANTITY: | B/L NUMBER: | DIAM/DAF/THKNS: | WIDTH: | LENGTH: |
|---|---|---|---|---|---|
| 994.000 LB | 358.000 PCS | 635310 | | | 12.000 FT |

| SHIP TO: | SOLD TO: |
|---|---|
| CASTLE METALS<br>4175 ROYAL DRIVE<br>SUITE 600<br>KENNESAW, GA 30144 USA | A. M. CASTLE & CO.<br>1420 KENSINGTON ROAD<br>OAK BROOK, IL 60523 USA |

## Actual Physical Properties

| REFERENCE | DASH# | SAMPLE# | UTS (KSI) | YTS (KSI) | ELONG% | HARDNESS | CONDUCT. | BEND |
|---|---|---|---|---|---|---|---|---|
| 64732-491 | 0001 | 0001 | 46.3 | 42.2 | 22.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0002 | 45.9 | 42.0 | 22.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0003 | 45.9 | 42.3 | 22.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0004 | 45.9 | 42.2 | 21.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0005 | 46.7 | 42.8 | 19.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0006 | 46.1 | 42.3 | 21.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0007 | 46.5 | 42.5 | 21.0 | RE 93 | N/A | N/A |
| 64732-491 | 0001 | 0008 | 46.4 | 42.6 | 21.0 | RE 94 | N/A | N/A |

## Chemical Composition (wt%), Aluminum Remainder

| LIMITS | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti | Pb | Bi | Zr | Ea | Tot |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum | 0.80 | 0.70 | 0.40 | 0.15 | 1.20 | 0.35 | 0.25 | 0.15 | NA | NA | NA | 0.05 | 0.15 |
| Minimum | 0.40 | 0.00 | 0.15 | 0.00 | 0.80 | 0.04 | 0.00 | 0.00 | NA | NA | NA | 0.00 | 0.00 |
| A44327 | .70 | .35 | .27 | .09 | .89 | .08 | .03 | .02 | .00 | .00 | .00 | .01 | .03 |
| A44325 | .63 | .35 | .26 | .07 | .89 | .08 | .04 | .02 | .00 | .00 | .00 | .01 | .03 |

## Applicable Requirements:

ASTM-B221-20 NON-STENCILED. UNS#A96061. AMS-QQ-A-200/8A EXCEPTION TO PARA 3.1- CHEM ANALYSIS PERFORMED PER LATEST REV OF ASTM E716&E1251, 3.2.2- PRODUCER RESPONSE TO HEAT TREATMENT WILL NOT BE PERFORMED, 3.3 & 4.2 - HEAT TREATED PER LATEST REV OF ASTM B807/807M & ASTM B918/B918M. (T6511 ALSO CONFORMS TO T6-NOT APPLICABLE TO OTHER TEMPERS)

Plant Serial: 00461596
Kaiser Order Number: 6116210
Line Item: 001

KAISER ALUMINUM
FABRICATED PRODUCTS

Best in Class

# CERTIFIED TEST REPORT

http://Online.KaiserAluminum.com

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

## Miscellaneous Notes

MANUFACTURED IN USA (COMMERCE,CA) MELTED IN USA
MERCURY IS NOT UTILITZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.
STUCTURAL PIPE, TUBE AND HOLLOW PROFILES ARE NOT INTENDED FOR PRESSURE OR FLUID CARRYING APPLICATIONS PER ASTM B429. ANY EXCEPTIONS/CONDITIONS ON QUOTE AND ACKNOWLEDGMENT ARE INTEGRAL TO THIS MATERIAL CERT.
MATERIAL COMPLIES WITH FAR 52.225-1, BUY AMERICAN ACT-SUPPLIES, DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PGM, AND FAR 52.225-5 TRADE AGREEMENTS.

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

Aimee L. Macnowski

Plant Serial: 00461596
Kaiser Order Number: 6116210
Line Item: 001