

## Kaiser 7068 T76, T76511 Rod & Bar

Category : Metal , Nonferrous Metal , Aluminum Alloy , 7000 Series Aluminum Alloy

### Material Notes:

Alloy 7068 offers some of the highest strength mechanical properties available in an extruded product. Intended for aerospace, ordnance and light weight recreational applications where extremely high strength is required. Property levels are typically in the 100 ksi range for ultimate strengths. Ratings A through E are relative ratings in decreasing order of merit, based on exposures to sodium chloride solution by intermittent spraying or immersion. Alloys with A and B ratings can be used in industrial and seacoast atmospheres without protection. Alloys with C, D and E ratings generally should be protected at least on faying surfaces. Stress-corrosion cracking ratings are based on service experience and laboratory tests of specimens exposed to the 3.5% sodium chloride alternate immersion test. A= No known instance of failure in service or in laboratory tests. B= No known instance of failure in service; limited failures in laboratory tests of short transverse specimens. C= Service failures with sustained tension stress acting in short transverse direction relative to grain structure; limited failures in laboratory tests of long transverse specimens. D= Limited service failures with sustained longitudinal or long transverse. Ratings A through D for Workability (cold), A through E for Machinability and A through C for Anodize Response, are relative ratings in decreasing order of merit. Ratings A through D for Weldability and Brazeability are relative ratings defined as follows: A= Generally weldable by all commercial procedures and methods. B= Weldable with special techniques or for specific applications that justify preliminary trials or testing to develop welding procedure and weld performance. C= Limited weldability because of crack sensitivity or loss in resistance to corrosion and mechanical properties. D= No commonly used welding methods have been developed. AMS 4331

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Kaiser-7068-T76-T76511-Rod-Bar.php](http://www.lookpolymers.com/polymer_Kaiser-7068-T76-T76511-Rod-Bar.php)

Physical Properties	Metric	English	Comments
Density	2.85 g/cc	0.103 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	170	170	
	@Load 500 kg, Thickness 10.0 mm	@Load 1100 lb, Thickness 0.394 in	
Tensile Strength, Ultimate	614 MPa	89100 psi	
	@Diameter 12.7 mm	@Diameter 0.500 in	
Tensile Strength, Yield	572 MPa	83000 psi	
	@Diameter 12.7 mm	@Diameter 0.500 in	
Elongation at Break	9.0 %	9.0 %	4D
	@Diameter 12.7 mm	@Diameter 0.500 in	

Thermal Properties	Metric	English	Comments
	23.4 Âµm/m-Â°C	13.0 Âµin/in-Â°F	

CTE, linear Thermal Properties	Metric @Temperature 20.0 - 100 Â°C	English @Temperature 68.0 - 212 Â°F	Comments
Specific Heat Capacity	1.05 J/g-Â°C @Temperature 100 Â°C	0.250 BTU/lb-Â°F @Temperature 212 Â°F	
Melting Point	476 - 635 Â°C	889 - 1180 Â°F	
Solidus	476 Â°C	889 Â°F	
Liquidus	635 Â°C	1180 Â°F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	85.48 - 88.85 %	85.48 - 88.85 %	As Balance
Chromium, Cr	<= 0.050 %	<= 0.050 %	
Copper, Cu	1.6 - 2.4 %	1.6 - 2.4 %	
Iron, Fe	<= 0.15 %	<= 0.15 %	
Magnesium, Mg	2.2 - 3.0 %	2.2 - 3.0 %	
Manganese, Mn	<= 0.10 %	<= 0.10 %	
Other, each	<= 0.050 %	<= 0.050 %	
Other, total	<= 0.15 %	<= 0.15 %	
Silicon, Si	<= 0.12 %	<= 0.12 %	
Titanium, Ti	<= 0.10 %	<= 0.10 %	
Zinc, Zn	7.3 - 8.3 %	7.3 - 8.3 %	
Zirconium, Zr	0.050 - 0.15 %	0.050 - 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000441 ohm-cm @Temperature 20.0 Â°C	0.00000441 ohm-cm @Temperature 68.0 Â°F	Equal Volume

Descriptive Properties	Value	Comments
Anodize Response3	B	
Arc Weldability4	D	
Brazeability4	D	
Cold Workability3		

Descriptive Properties	Value	Comments
Gas Weldability <sup>4</sup>	D	
General Corrosion Resistance <sup>1</sup>	C	
Machinability <sup>3</sup>	C	
Spot Weldability <sup>4</sup>	B	
Stress Corrosion Resistance <sup>2</sup>	B	
Volumetric CTE m <sup>3</sup> /m <sup>3</sup> -K	0.000068	68°F/20°C

## Contact Songhan Plastic Technology Co.,Ltd.

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