

# Alumold 1-500 Forged

**Material Notes:** Alumold 1-500 Forged is a high quality, high strength aluminum alloy intended for the plastic forming industry and for other tooling applications. With its high strength and surface hardness it is suitable for polishing and texturing and is weldable. It is supplied in the forged, heat treated, quenched, cold compressed and aged condition. Alumold 1-500 Forged possesses better than normal mechanical properties in all sizes, excellent thermal conductivity and very good machinability together with good stability.

## Applications:

- Blow Molding
- Injection Molding
- RIM-Molding
- Vacuum Forming
- Foam Molding
- Holders and Support Plates
- Jig and Fixtures
- Die Sets
- Machine Frames

## Technical Properties

- High Thermal Conductivity - Reduction in cycle time, maintenance of consistent processing temperature and better plastic part dimensional control
- Good Corrosion Resistance - Against most plastic materials
- Machinability - Reduction of machine time lowers tooling costs and improves delivery time
- Surface treatment - Can be anodized, hard chromed and nickel plated to increase wear and corrosion resistance

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	170	170	
Tensile Strength, Ultimate	<u>483</u> MPa	<u>70000</u> psi	18-20in thickness
	<u>524</u> MPa	<u>76000</u> psi	7-11in thickness
	<u>524</u> MPa	<u>76000</u> psi	11-15in thickness
	<u>524</u> MPa	<u>76000</u> psi	15-17in thickness
	<u>534</u> MPa	<u>77400</u> psi	6-7in thickness
Tensile Strength, Yield	<u>414</u> MPa	<u>60000</u> psi	0.2%; 18-20in thick
	<u>463</u> MPa	<u>67100</u> psi	0.2%; 7-11in thick
	<u>463</u> MPa	<u>67100</u> psi	0.2%; 11-15in thick
	<u>463</u> MPa	<u>67100</u> psi	0.2%; 15-17in thick
	<u>473</u> MPa	<u>68600</u> psi	0.2%; 6-7in thick
Elongation at Break	7.00 %	7.00 %	18-20in thickness
	9.00 %	9.00 %	7-11in thickness
	9.00 %	9.00 %	11-15in thickness
	9.00 %	9.00 %	15-17in thickness
	10.0 %	10.0 %	6-7in thickness
Modulus of Elasticity	<u>71.7</u> GPa	<u>10400</u> ksi	
Thermal Properties	Metric	English	Comments
Thermal Conductivity	<u>152.2</u> W/m-K	<u>1056</u> BTU-in/hr-ft <sup>2</sup> -°F	

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.



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