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# 5083 H112 Aluminum Sheet

## Properties

[Request Fatigue Data \(S-N Curve\)](#)

## General

Property	Temperature	Value	Comment
Density	23.0 °C	<a href="#">2.65 - 2.7 g/cm<sup>3</sup></a>	Typical for Wrought 5000 Series Aluminium

## Mechanical

Property	Temperature	Value	Comment
Elastic modulus	23.0 °C	<a href="#">69 - 70 GPa</a>	Typical for Wrought 5000 Series Aluminium
Elongation A100	23.0 °C	<a href="#">10 - 14 %</a>	
Elongation A50	23.0 °C	<a href="#">12 - 16 %</a>	
Plane-Strain Fracture Toughnes	23.0 °C	<a href="#">22 - 35 MPa·√m</a>	Typical for Wrought 5000 Series Aluminium
Poisson's ratio	23.0 °C	<a href="#">0.33 [-]</a>	Typical for Wrought 5000 Series Aluminium
Shear modulus	23.0 °C	<a href="#">26 - 26.5 GPa</a>	Typical for Wrought 5000 Series Aluminium

Tensile strength	23.0 °C	<a href="#">270 - 275 MPa</a>
Yield strength Rp0.2	23.0 °C	<a href="#">110 - 140 MPa</a>

## Thermal

Property	Temperature	Value	Comment
Coefficient of thermal expansion	23.0 °C	<a href="#">2.2E-5 - 2.5E-5 1/K</a>	Typical for Wrought 5000 Series Aluminium
Max service temperature		<a href="#">150 °C</a>	Typical for Wrought 5000 Series Aluminium
Melting point		<a href="#">560 - 655 °C</a>	Typical for Wrought 5000 Series Aluminium
Specific heat capacity	23.0 °C	<a href="#">879 - 963 J/(kg·K)</a>	Typical for Wrought 5000 Series Aluminium
Thermal conductivity	23.0 °C	<a href="#">112 - 205 W/(m·K)</a>	Typical for Wrought 5000 Series Aluminium

## Electrical

Property	Temperature	Value	Comment
Electrical conductivity	23.0 °C	<a href="#">1.80E+7 - 3.10E+7 S/m</a>	Typical for Wrought 5000 Series Aluminium
Electrical resistivity	23.0 °C	<a href="#">3.3E-8 - 5E-8 Ω·m</a>	Typical for Wrought 5000 Series Aluminium

## Chemical properties

Property	Value
Chromium	<a href="#">0.05 - 0.25 %</a>

<b>Copper</b>	<a href="#">0.1 %</a>
<b>Iron</b>	<a href="#">0.4 %</a>
<b>Magnesium</b>	<a href="#">4 - 4.9 %</a>
<b>Manganese</b>	<a href="#">0.4 - 1 %</a>
<b>Other</b>	each 0.05, total 0.15, Rest Al
<b>Silicon</b>	<a href="#">0.4 %</a>
<b>Titanium</b>	<a href="#">0.15 %</a>
<b>Zinc</b>	<a href="#">0.25 %</a>

## Technological properties

Property	
<b>Brazing</b>	general: no brazing is known or developed
<b>Corrosion properties</b>	Stress corrosion cracking: kein Schadensfall im Betrieb und bei Labortests (O, H321, H116), kein Schadensfall im Betrieb, eingeschränkte Schäden bei den Labortests (H111), general: very good, without protection in industrial or seawater atmosphere
<b>General machinability</b>	General: poor
<b>Workability</b>	general (condition): acceptable (O), poor(H321, H116, H111)