

# 8011 O Aluminum Foil

## Dimension

Property	Value
Thickness	<a href="#">0.08 - 0.2 mm</a>

## Mechanical

Property	Temperature	Value	Comment
Elastic modulus	23.0 °C	<a href="#">68.6 - 70 GPa</a>	
Elongation A100	20.0 °C	<a href="#">1 - 20 %</a>	
Elongation A50	20.0 °C	<a href="#">1 - 30 %</a>	according to EN 485-2
	23.0 °C	<a href="#">1 - 30 %</a>	according to EN 485-2
Elongation A50, transverse	20.0 °C	<a href="#">19 - 30 %</a>	
Hardness, Brinell	20.0 °C	<a href="#">25 [-]</a>	
	23.0 °C	<a href="#">25 [-]</a>	
Plane-Strain Fracture Toughnes	23.0 °C	<a href="#">22 - 35 MPa·√m</a>	Typical for Wrought 8000 Series Aluminium
Poisson's ratio	23.0 °C	<a href="#">0.33 [-]</a>	Typical for Wrought 8000 Series Aluminium
Shear modulus	23.0 °C	<a href="#">25.73 GPa</a>	
Tensile strength	20.0 °C	<a href="#">50 - 130 MPa</a>	according to EN 485-2
	23.0 °C	<a href="#">50 - 130 MPa</a>	according to EN 485-2
Tensile strength, transverse	20.0 °C	<a href="#">80 - 130 MPa</a>	

Yield strength	23.0 °C	<a href="#">30 - 70 MPa</a>	according to EN 485-2
Yield strength Rp0.2	20.0 °C	<a href="#">30 - 70 MPa</a>	
	23.0 °C	<a href="#">30 - 70 MPa</a>	
Yield strength Rp0.2, transverse	20.0 °C	<a href="#">30 MPa</a>	

## Thermal

Property	Temperature	Value	Comment
Coefficient of thermal expansion	20.0 °C	<a href="#">2.35E-5 1/K</a>	20-100°C
	100.0 °C	<a href="#">2.35E-5 - 2.4E-5 1/K</a>	20-100°C
Melting point		<a href="#">640 - 655 °C</a>	
Specific heat capacity	23.0 °C	<a href="#">920 J/(kg·K)</a>	Typical for Wrought 8000 Series Aluminium
Thermal conductivity	20.0 °C	<a href="#">210 - 220 W/(m·K)</a>	
	23.0 °C	<a href="#">201 - 220 W/(m·K)</a>	

## Electrical

Property	Temperature	Value
Electrical conductivity	20.0 °C	<a href="#">3.40E+7 - 3.50E+7 S/m</a>
	23.0 °C	<a href="#">3.40E+7 - 3.50E+7 S/m</a>
Electrical resistivity	23.0 °C	<a href="#">2.86E-8 - 3.5E-8 Ω·m</a>

# Chemical properties

Property	Value
Chromium	<a href="#">0.1 %</a>
Copper	<a href="#">0.1 %</a>
Iron	<a href="#">0.5 - 1 %</a>
Magnesium	<a href="#">0.1 %</a>
Manganese	<a href="#">0.1 %</a>
Other	each 0.05, total 0.15, Rest Al
Silicon	<a href="#">0.4 - 0.8 %</a>
Titanium	<a href="#">0.05 %</a>
Zinc	<a href="#">0.1 %</a>

# Technological properties

Property	
Anodizing	decorative: acceptable, Protective: very good
Application areas	Facades: Single sheet, Sheets for composites/ sandwich Panels, Sheets for mechanized panels; Roofing: Foil for bituminous coating; Doors: Sheets for composites/ sandwich Panels, Sheets for mechanized panels; Interiors and ceilings: Sheets for mechanized panels; Furniture, Plinths, Blinds: Intermediate transformation/interior use; Heat exchangers: Fins, General applications; Tubes: Flexible tube, Pipes; Insulation; Closures: Long cups, Short cups, Easy open; Cosmetic: Cosmetic pieces; Pharmacy: Pharma and para-pharma; Semi-rigid and corrugated: Pet food, Smooth wall; Foil stock: Foil app
Brazing	hard brazing (with flux/ without flux): very good / very good, friction soldering: very good, soft brazing with flux: very good
Corrosion properties	Seawater: sufficient, weathering: acceptable
Welding	Excellent

**Workability**

Bending / Spinning (cold): good / good, Impact extrusion (cold): good, Deep drawing / upsetting (Condition) good (H14) / good (H14)

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