

5754 H34 Aluminum Strip

General

| Property | Temperature | Value |
|----------|-------------|--|
| Density | 20.0 °C | 2.66 - 2.68 g/cm³ |
| | 23.0 °C | 2.66 g/cm³ |

Mechanical

| Property | Temperature | Value | Comment |
|--------------------------|-------------|-------------------------------|---------|
| Bending Fatigue Strength | 23.0 °C | 125 MPa | |
| Bending angle 180° | 23.0 °C | 2.5 °/t | |
| Bending angle 90° | 23.0 °C | 1 - 3 °/t | |
| Elastic modulus | -270.0 °C | 70 GPa | |
| | 20.0 °C | 70 - 70.5 GPa | |
| | 23.0 °C | 70.5 GPa | |
| | 50.0 °C | 69 GPa | |
| | 100.0 °C | 68 GPa | |
| | 150.0 °C | 66 GPa | |
| | 200.0 °C | 63 GPa | |
| | 250.0 °C | 57 GPa | |
| | 300.0 °C | 50 GPa | |

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|---|---------|--------------------------------|---|
| Elongation | 20.0 °C | 4 - 8 % | |
| | 23.0 °C | 8 % | |
| Elongation A100 | 20.0 °C | 8 % | |
| | 23.0 °C | 4 - 9 % | |
| Elongation A50 | 20.0 °C | 3 - 10 % | |
| | 23.0 °C | 3 - 10 % | |
| Elongation A50, transverse | 20.0 °C | 6 - 10 % | |
| Elongation, transverse | 20.0 °C | 8 % | |
| Hardness, Brinell | 20.0 °C | 70 - 75 [-] | |
| | 23.0 °C | 70 [-] | |
| Plane-Strain Fracture Toughnes | 23.0 °C | 22 - 35 MPa·√m | Typical for Wrought 5000 Series Aluminium |
| Poisson's ratio | 20.0 °C | 0.33 [-] | |
| Shear modulus | 20.0 °C | 26.5 - 27 GPa | |
| | 23.0 °C | 26.5 GPa | |
| Tensile strength | 20.0 °C | 240 - 295 MPa | |
| | 23.0 °C | 220 - 295 MPa | |
| Tensile strength, transverse | 20.0 °C | 240 - 280 MPa | |
| Yield strength Rp0.2 | 20.0 °C | 160 - 210 MPa | |
| | 23.0 °C | 160 - 210 MPa | |
| Yield strength Rp0.2, transverse | 20.0 °C | 160 MPa | |

Thermal

| Property | Temperature | Value | Comment |
|----------------------------------|-------------|------------------------------------|---|
| Coefficient of thermal expansion | 20.0 °C | 2.39E-5 1/K | |
| | 100.0 °C | 2.39E-5 1/K | |
| Max service temperature | | 150 °C | Typical for Wrought 5000 Series Aluminium |
| Melting point | | 610 - 640 °C | |
| Specific heat capacity | 20.0 °C | 897 - 963 J/(kg·K) | |
| Thermal conductivity | 20.0 °C | 132 - 160 W/(m·K) | |
| | 23.0 °C | 140 - 160 W/(m·K) | |

Electrical

| Property | Temperature | Value |
|-------------------------|-------------|---------------------------------------|
| Electrical conductivity | 20.0 °C | 2.00E+7 - 2.30E+7 S/m |
| | 23.0 °C | 2.00E+7 - 2.30E+7 S/m |
| Electrical resistivity | 20.0 °C | 4.3E-8 - 5.3E-8 Ω·m |
| | 23.0 °C | 4.35E-8 - 5E-8 Ω·m |

Chemical properties

| Property | Value |
|----------|-----------------------|
| Chromium | 0.3 % |

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|-----------|---|
| Copper | 0.1 % |
| Iron | 0.4 % |
| Magnesium | 2.6 - 3.6 % |
| Manganese | 0.5 % |
| Other | Mn + Cr = 0.1 - 0.6, each 0.05, total 0.15, Rest Al |
| Silicon | 0.4 % |
| Titanium | 0.15 % |
| Zinc | 0.2 % |

Technological properties

| Property | |
|-----------------------------|---|
| Anodizing | decorative: gut (EQ: sehr gut), Protective: very good |
| Brazing | hard brazing (with flux/ without flux): poor / sufficient, friction soldering: acceptable, soft brazing with flux: poor |
| Corrosion properties | Seawater: very good to good, weathering: very good |
| Workability | Bending / Spinning (cold): good / acceptable, Impact extrusion (cold): sufficient, Deep drawing / upsetting (Condition) good (O) / good (H12) |