

Technical information | Aluminium

The properties of aluminium alloys

Properties	Units	GD-Al Si 9 CU 3 (diecasting)	GD-Al Si 12 (diecasting)	GK-Al Si12 (chill casting)	Al Mg Si 0,5 (wrought alloy)
Density	g/cm ³	2.65	2.65	2.65	2.7
App. yielding point	N/mm ²	140	130	80	160
Tensile strength	N/mm ²	240	240	170	215
Ductile yield	%	< 1	1	6	12
Brinell hardness	HB	80	60	55	no inform. avail.
Electr. resistivity	m/Ohm mm ²	no inform. avail.	17 - 27	17 - 27	28 - 34
Therm. conductivity	W/mK	110 - 120	130 - 160	140 - 170	190 - 210
Heat resistance	°C	200	200	200	200
Cold resistance	°C	-100	-100	-100	-100

The chemical resistance of aluminium

	Reaction	Remarks
Acetone	+	
Formic acid	o	
Ammonia	+	
Benzene	+	
Benzole	o	contains no H ₂ O = + contains H ₂ O = o
Drilling oil, cutting oil	+	
Butane	+	
Calcium chloride	+	
Chlorine benzole	+	
Acetic acid	+	
Fat, wax	+	
Formaldehyde	+	free of formic acid
Glycerine	+ ---	contains NaCl = ---
Heating oil	+	
Potassium chloride	o	
Potassium hydroxide	---	
Linseed oil	+	< 250 °C
Methanol	+	
Methylene chloride	+	
Lactic acid	+	
Sodium carbonate	o	

	Reaction	Remarks
Sodium chloride	o	
Sodium hydroxide	+	free of H ₂ when molten
Petroleum	+	
Propane	+	
Nitric acid	+	
Lubricating oil	+	
Soap suds	+	
Carbon disulphide	+	
Sulphuric acid	o	
Hydrocarbon tetrachloride	+	
Toluol	+	
Trichloroethylene	+	light metal tri
Water vapour	+	
Hydrogen	+	
Xylol	+	
Zinc sulphate	o	
Citric acid	+	

Symbols: + resistant o resistant under certain conditions --- not resistant

Unless otherwise stated, the tests were carried out at room temperature.
If different media coincide, the resistances may change and consequently we cannot accept any liability for these data.