

Molybdenum Lanthanum Oxide

Request A Quote



42

Mo
95.94

O
16.00

La
138.91

Molybdenum

Oxygen

Lanthanum

Molybdenum doped with Lanthanum Oxide (ML) is often the alloy of choice when embrittlement after recrystallization must be avoided along with assurance of dimensional shape stability at high-temperatures. Small amounts of Lanthanum Oxide particles (0.3-0.7%) are combined with Molybdenum to create a special stacked fiber micro-structure that is stable at temperatures up to 2000°C. This combination increases the recrystallization temperature to 1300°C (90% def). After recrystallization the elongated grain structure with jagged grain boundaries provides a measurable increase in ductility and creep resistant strength than that of the pure Molybdenum.

APPLICATIONS

Medical devices, high-temperature vacuum furnace fixtures, furnace parts, stranded wires, sintering and annealing boats, lighting retaining and feed wires, evaporation coils, aerospace components.

Typical Physical Properties

Density	lb/in ³	0.376
	g/cm ³	≥10.1
Melting Point	°F	4748
	°C	2620
Electrical Resistivity	Microhm-cm	5.17
Thermal Conductivity	Cal/cm ² /cm°C/sec	0.35
Specific Heat	Cal/gm/°C	0.061
Recrystallization Temp	°C (90% def)	1300
Coefficient of Linear Thermal Expansion	Micro-in/°F x 10 ⁻⁶	4.90
	Micro-in/°C x 10 ⁻⁶	2.70

Typical Mechanical Properties

Tensile Strength 2mm Sheet; Recrystallized; Longitudinal Direction	ksi (MPa)-20°C	70 (480)
	ksi (MPa)-1000°C	22 (150)
	ksi (MPa)-1400°C	12 (80)

Elongation at Fracture A 22mm Sheet; Recrystallized; longitudinal Direction	%-20°C	15
	%-1000°C	20
	%-1400°C	25

Typical Hardness Recrystallized Sheet (MLR) 1mm Stress Relieved Sheet (MLS)	Vickers HV	≤ 250
	Vickers HV	≤ 270

Source: Plansee Brochures, www.plansee.com

Forms | Sizes Available

Sheets

Recrystallized (MLR)	0.040"-0.125"
Stress Relieved (MLS)	0.010"-0.030"

Listed above are our standard stock items. Our inventory fluctuates based on market demand. If you do not see the size or form you require, please call us.

Typical Applications



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CHEMISTRY

99.30 - 99.70 Molybdenum (Mo), 0.3 - 0.7 Lanthanum Oxide (La₂O₃)