



SoluMag® High Ductility Magnesium Alloy

Luxfer MEL Technologies SoluMag® HD™ alloy

Luxfer MEL Technologies is the world leader in the development and supply of highly functional magnesium alloys. SoluMag® HD is a highly ductile magnesium alloy that has a high corrosion rate in aqueous chloride environments. This lightweight alloy is available as extruded tube, rods, bars and profiles. SoluMag® HD offers a new solution to downhole problems, having superior ductility to conventional dissolvable magnesium alloys as well as a well-controlled corrosion rate.

Product forms

- Tube
- Round bars and rods
- Square/rectangular sections

Mechanical properties

Imperial units							Dissolution rate MCD (mg/cm ² /day)
Sizes OD bar and tube (in)	Longitudinal (ksi)		Elong. (%)	Transverse (ksi)		Elong. (%)	
	Yield	UTS		Yield	UTS		
<0.5"	*	*	*	*	*	*	500 to 1500
0.5" ≤ to <2.5"	*	*	*	*	*	*	
2.5" ≤ to <5"	21	33	20	15	29	22	
5" ≤ to <6"	*	*	*	*	*	*	
>6"	*	*	*	*	*	*	

* Contact Luxfer representative for additional information
+ Transverse data not available

Typical applications

- Machined components for downhole completion tools in oil and gas
- Downhole tools requiring deformation of material
- Time activated underwater devices

Specifications

- ASTM B107 for extruded products, dimensions only
- Corrosion rate according to agreed testing protocol
- Manufactured to aerospace quality and metal cleanliness standards

Component sizes

- Tubes and bars from less than 0.05 inches to as large as 6 inches (OD)
- Tube and bar available in varying lengths

Metric units							Dissolution rate MCD (mg/cm ² /day)
Sizes OD bar and tube (mm)	Longitudinal (MPa)		Elong. (%)	Transverse (MPa)		Elong. (%)	
	Yield	UTS		Yield	UTS		
<0.5"	*	*	*	*	*	*	500 to 1500
0.5" ≤ to <2.5"	*	*	*	*	*	*	
2.5" ≤ to <5"	145	225	20	100	200	22	
5" ≤ to <6"	*	*	*	*	*	*	
>6"	*	*	*	*	*	*	

* Contact Luxfer representative for additional information
+ Transverse data not available

Product details [LINK](#)

Discover more at

www.luxfermeltechnologies.com

SoluMag®, UK Patent No 2529062B. July 2015.

Copyright © Luxfer MEL Technologies 2021. The information provided within this document is aimed to assist manufacturers and other interested parties in the use of Luxfer MEL Technologies products. Luxfer MEL Technologies accepts no liability in whole or in part from use and interpretation of the data herein. All information is given in good faith but without warranty. Freedom from patent rights must not be assumed. Health and Safety information is available for all Luxfer MEL Technologies products. **DS-1056-0521**

Luxfer MEL Technologies
Elektron Technology Centre
Lumns Lane, Manchester, M27 8LN, UK
T +44 (0) 161 911 1000

Luxfer MEL Technologies
500 Barbertown Point Breeze Road
Flemington, NJ 08822, USA
T +1 908 782 5800