



# 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							
Sizes OD bar and tube (in)	Longitudinal (ksi)		Elong. (%)	Transverse (ksi)		Elong. (%)	Dissolution rate MCD (mg/cm <sup>2</sup> /day)
	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							
Sizes OD bar and tube (mm)	Longitudinal (MPa)		Elong. (%)	Transverse (MPa)		Elong. (%)	Dissolution rate MCD (mg/cm <sup>2</sup> /day)
	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](http://www.luxfermeltechnologies.com)

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

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Certificate No. FM12677

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