



# 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 as well as machined components. 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 rod
- Machined components
- Square/rectangular sections
- Complex profiles
- Formable sheet

## Typical applications

- Machined components for downhole completion tools in oil and gas
- Downhole tools requiring deformation of material
- Flooding plugs for IP protection
- 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

- Tube – ID from 1.75 inches to 3 inches, OD from 1 inch to 5 inches
- Extruded round rod from ½ inch to 4 inches diameter
- Standard bar length 3 ft / 1 m
- Other sizes and machined parts on request

## Mechanical properties (typical)

Longitudinal	Heavy Wall Tube Up To 5" OD
Tensile yield strength (ksi/MPa)	24/166
Ultimate tensile strength (ksi/MPa)	35/244
Elongation (%)	23

Transverse	Heavy Wall Tube Up To 5" OD
Tensile yield strength (ksi/MPa)	18/123
Ultimate tensile strength (ksi/MPa)	32/221
Elongation (%)	23

## Corrosion properties (3% KCl aq)

- 200 ° F: 400 - 700 mg/cm<sup>2</sup>/day (MCD)

Product details [LINK](#)

Discover more at

[www.luxfermeltechnologies.com](http://www.luxfermeltechnologies.com)

 @LuxferMELTech

† The information contained within is meant as a guideline only

Copyright © Luxfer MEL Technologies 2019. 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-1003-0219**



Certificate No. FM12677

**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

**Luxfer MEL Technologies**  
4601 Westown Parkway Suite 130  
West Des Moines, IA 50266  
T +1 515 421 4100