



GULF METALWORKING FLUIDS

your local global brand

GULF CASCADE HD-M

High Quality chlorine free water-mix metalworking fluid specially designed for Magnesium machining

Background

Although the use of magnesium alloys in engineering has increased significantly over recent years, the variety of alloying materials used and the severity of machining operations employed have increased in complexity more recently.

More typically, high stock removal rates are employed in 'finish to size' operations. In such environments the cutting fluid has to withstand high rates of flow and be capable of providing outstanding 'hydrodynamic' lubrication.

Description

GULF CASCADE HD-M has been designed with these more recent trends in mind, particularly where machining performance and emulsion stability are critical on these highly reactive alloys, where the product must be capable of performing in the presence of high levels of conductivity and magnesium salts. GULF CASCADE HD-M is unique in its provision of lubrication in 'extreme pressure' situations without the use of traditional 'surface active' components. The design approach taken has produced a product, which is particularly suitable for the aerospace industry where 'inter-granular corrosion' is of concern, whilst providing a fluid, which gives maximum protection from emulsion

Key Benefits

- | | |
|--|--------------------------------------|
| Y Chlorine Free | Y Exceptional machining performance |
| Y Extended sump life | Y Enhanced tool-life |
| Y Suitable for high and low pressure CNC systems | Y Highly Stable translucent emulsion |

Recommended Dilutions

	%
General machining	5 - 6
Thread cutting and forming	6 - 8
Deep hole drilling and boring	6 - 8
Reaming	8 - 10
Grinding	2 - 5



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Typical Physical Properties

Concentrate Appearance	Amber fluid
Emulsion Appearance	Translucent
Defoam ml (in 50 ppm water)	Nil (10 seconds)
Specific Gravity	1.015
Lubricity	High
pH @ 5%	9.0
Refractometer Factor	1.5
IP 287 Corrosion Test %	2.5

Storage:

- Store in a cool, well ventilated area
- Store inside, ideally between 10°C and 30°C
- Store away from direct heat and frost
- Shelf life 12 months from the date of manufacture
- Avoid water collecting on the barrel top

Product Mixing:

Gulf advise the use of automated mixing systems. If mixing manually, always add the concentrate to the water with maximum agitation, if water is added to the concentrate, the emulsions may prove unstable. Avoid mixing with very cold concentrate or water. Check emulsion strength using a calibrated refractometer. Details of where to purchase equipment and how to use it are available from the Gulf Technical Department.

Product Management:

The working concentration should be carefully controlled and monitored on a daily basis as higher and lower working concentrations have health and safety implications. Machines should be cleaned out regularly. Fluid and particulate contaminants should be kept to a minimum. This is important especially in terms of bacterial control and is in line with the latest advice from government and professional sources. Detailed reference sources are quoted in the MSDS.