

## LORD Magneto-Rheological Fluids

LORD magneto-rheological (MR) fluids can respond instantly to varying levels of a magnetic field precisely and proportionally for controllable energy-dissipating applications, such as brakes, shocks and dampers.

When exposed to a magnetic field, the rheology of LORD MR fluids reversibly and instantaneously changes from a free-flowing liquid to a semi-solid with controllable yield strength.

Response time for all LORD MR fluids is <5 ms; however, exact time is dependent on device design. All of our fluids are gray in color and re-disperse easily with proper agitation. The iron particles contained in the fluid are between 1 to 20 microns.

These fluids are representative of our capabilities and can be optimized to specific application requirements.

	MRF-122EG	MRF-132DG	MRF-140CG
<b>BASE FLUID</b>	Hydrocarbon	Hydrocarbon	Hydrocarbon
<b>COMPATIBILITY</b>			
Buna N (Nitrile)	Good	Good	Good
Butyl	Poor	Poor	Poor
EPDM/EPR	Poor	Poor	Poor
Fluoroelastomer	Good	Good	Good
Natural Rubber*	Poor	Poor	Poor
Neoprene	Good	Good	Good
Silicone	Fair	Fair	Fair
Iron	Good	Good	Good
Stainless Steel	Good	Good	Good
Aluminum	Good	Good	Good
Polyurethane	Good	Good	Good
<b>OPEN/CLOSED SYSTEM</b>	Open or Closed	Open or Closed	Open or Closed
<b>OPERATING TEMPERATURE, °C (°F)</b>	-40 to +130 (-40 to +266)	-40 to +130 (-40 to +266)	-40 to +130 (-40 to +266)
<b>VISCOSITY</b>			
Pa-s @ 40°C (104°F) calculated as slope 800-1200 sec <sup>-1</sup>	0.061 ± 0.070	0.092 ± 0.015	0.280 ± 0.070

Data is typical and not to be used for specification purposes.

\*Some ingredients used to formulate LORD MR fluid may swell or otherwise negatively affect rubber components. The compatibility list is offered as a guide for selecting the appropriate fluid for a given environment. It is recommended users test the specific LORD MR fluid in their system, as specific rubber formulation ingredients may affect compatibility.

# LORD PRODUCT SELECTOR GUIDE

## Cautionary Information

Before using this or any LORD product, refer to the Material Safety Data Sheet (MSDS) and label for safe use and handling instructions.

*For industrial/commercial use only.* Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this document represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

Information provided herein is based upon tests believed to be reliable. In as much as LORD Corporation has no control over the manner in which others may use this information, it does not guarantee the results to be obtained. In addition, LORD Corporation does not guarantee the performance of the product or the results obtained from the use of the product or this information where the product has been repackaged by any third party, including but not limited to any product end-user. Nor does the company make any express or implied warranty of merchantability or fitness for a particular purpose concerning the effects or results of such use.

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LORD provides valuable expertise in adhesives and coatings, vibration and motion control, and magnetically responsive technologies. Our people work in collaboration with our customers to help them increase the value of their products. Innovative and responsive in an ever-changing marketplace, we are focused on providing solutions for our customers worldwide . . . Ask Us How.

### **LORD Corporation** **World Headquarters**

111 Lord Drive  
Cary, NC 27511-7923  
USA

**Customer Support Center** (in United States & Canada)  
+1 877 ASK LORD (275 5673)

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