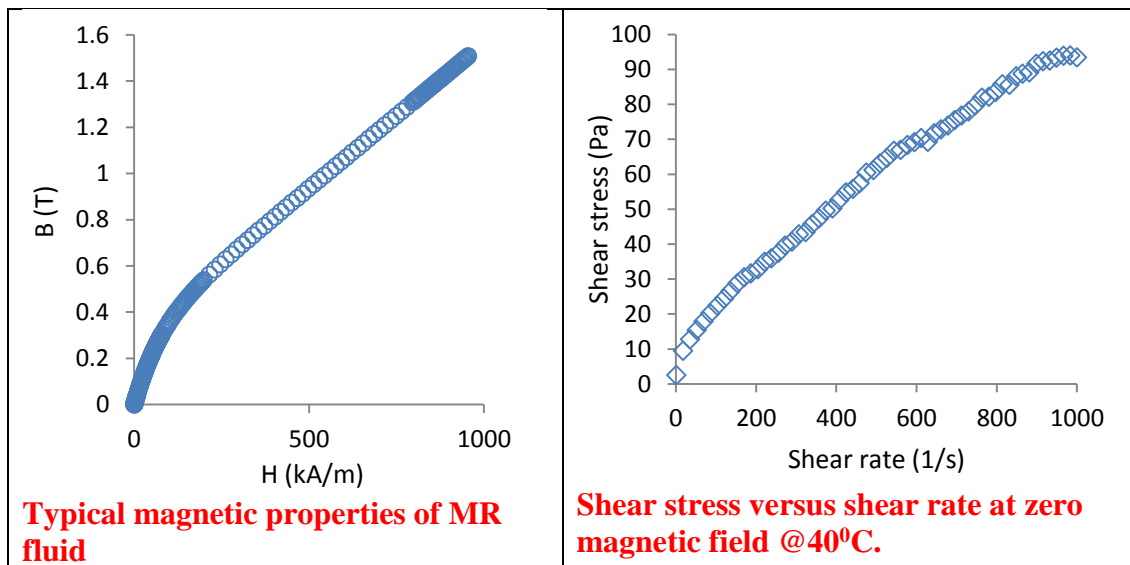


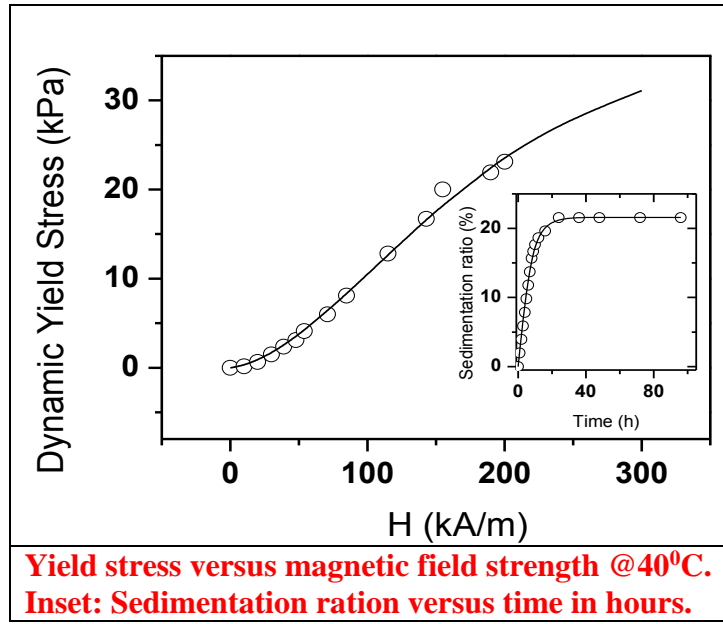
CIMR-120AG Magneto-Rheological Fluid

Magnetorheological (MR) fluids are suspensions of magnetizable micron-sized particles in a non-magnetic carrier liquid. The uniqueness of their physical properties attracts scientist and engineers since decades and enables ongoing developments of innovative technologies such as electronically controlled damping systems and clutches, brakes and artificial joints. For the practical applications of MR fluids it is crucial to adjust the fluids, general behavior to the specific needs of the corresponding technical operations. Therefore, it is indispensable to understand how different compositions – in particular the particle volume concentrations – influence the viscosity and the yield stress of the fluids.

CIMR-120AG MR- fluid is formulated in specially design carrier suitable for use in shock, dampers. The fluid has fast response time, low sedimentation rate, easily redispersed. The properties are depicted in below figure.



Mixing: Under static condition a degree of separation may occur, thus use a paint shaker or stirrer (200 RPM) so as to have homogeneous dispersion prior to use.



CIMR-120AG MR Fluid properties:

Property	Normal Range	CIMR-120-AG
Carrier liquid	-	Proprietary oil
Particle Volume Fraction, ϕ	0.20 to 0.45	0.20
Particle Weight Fraction	0.70 to 0.90	0.69
Density (g/cm ³)	2 to 4	2.26±0.03
Yield stress (kPa) @ 174.3 kA/m	10 to 55	22±01
Plastic Viscosity (mPa.s)@ 40°C, $\dot{\gamma} > 500$ s ⁻¹	50 to 200	0.086±0.010
Temperature Range (°C)	-	-40 to130
Magnetic Permeability, Relative @ low field	3.5 to 10	~4
Figure of Merit (Pa/s) τ_{sat}^2/η_P	10 ¹⁰ to 10 ¹¹	2x10 ¹⁰
Response Time (s)	< 0.001	<0.001
Flash Point (°C)	-	>150

The above properties are laboratory values obtained, this may depend upon test procedure adopted..