



## **Rheology Solutions**

*Rheology Solutions is the sole Australian distributor of this product range and we welcome the opportunity of discussing your application requirements.*

*We hope the information you are seeking is contained within this file.  
If you have any questions, or require further information please contact us.  
We look forward to being of further service.*

*Regards from the Team at Rheology Solutions.*

**RHEOLOGY SOLUTIONS PTY LTD.** ACN 082 479 632

**HEAD OFFICE:** 15-19 Hillside Street, Bacchus Marsh, Victoria 3340 Australia. PO Box 754, Bacchus Marsh, Victoria 3340 Australia.

**Telephone:** +61 3 5367 7477 **Facsimile:** +61 3 5367 6477 **Email:** [info@rheologysolutions.com](mailto:info@rheologysolutions.com) **Website:** [www.rheologysolutions.com](http://www.rheologysolutions.com)

## RheoAdaptive Control

### Viscosity measurement over an extremely wide shear-rate range

The shear viscosity is still the most commonly used rheological property for most application areas such as pharma and cosmetics, paints, inks, foods, etc.

To completely describe a product's behaviour during e.g. storage, pumping or application, its viscosity has to be measured over a wide range of shear rate.

In the industry especially the lower shear rates are often ignored simply due to the long time it can take to get stable viscosity data.

Following the industries demands, a new control loop has been developed to significantly shorten the time to get stable data in CR mode.

Using the "RheoAdaptive" control loop a measurement over a very wide measuring range can be performed using just one measuring geometry.



#### Key-words

- Viscosity measurement
- RheoAdaptive Controlled Rate (CR) control loop
- (Ultra) low shear rates
- HAAKE MARS
- HAAKE RheoStress 6000

#### Instrument

- HAAKE MARS
- UTC Peltier
- C35/1°Ti

#### Sample

- Laponite in water (thickener)

#### Reported by:

Cornelia Küchenmeister  
Jint Nijman

Measurements:  
Ulrich Schulz  
Philippe Sierro

Thermo Fisher Scientific  
Dieselstr. 4  
76227 Karlsruhe  
Tel: +49 (0) 721 4094 444  
info.mc.de@thermofisher.com

[www.thermo.com/mc](http://www.thermo.com/mc)

### Reliable data over 11 decades in shear rate and viscosity range

The graph below shows the viscosity curve of laponite used as a thickener in water measured with one cone and plate geometry in one run. In less than 20 minutes the viscosity has been measured over 11 decades in shear rate covering a viscosity range of also 11 decades.

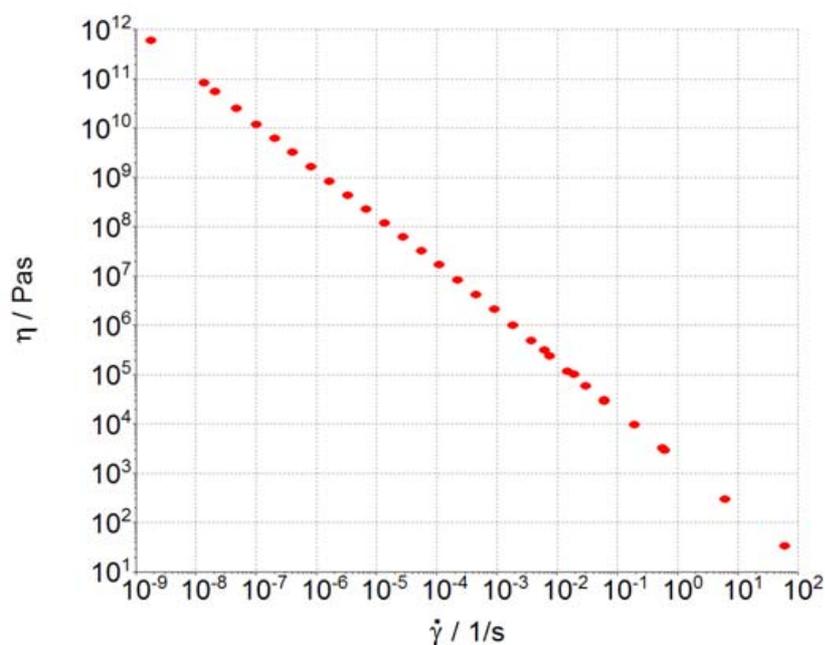


Fig. 1 Performance of the "RheoAdaptive Control" over a 11 decade rotational speed range