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.

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Optical Control Systems

FNCT -

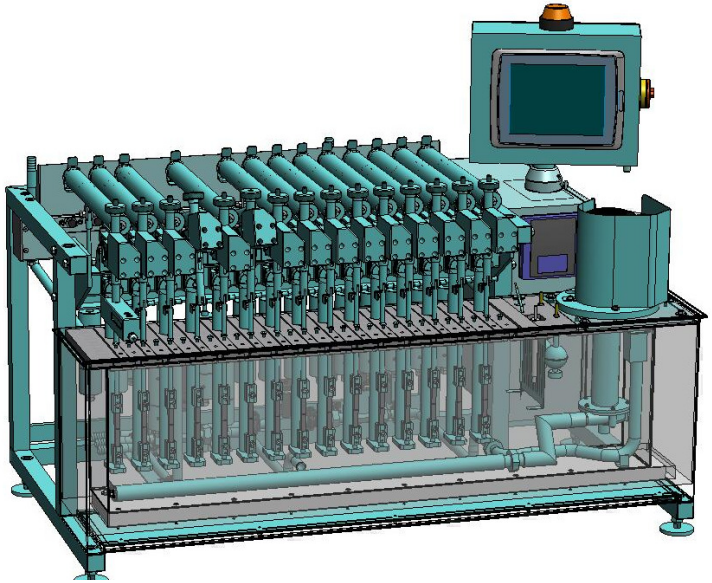
Full Notch Creep Test

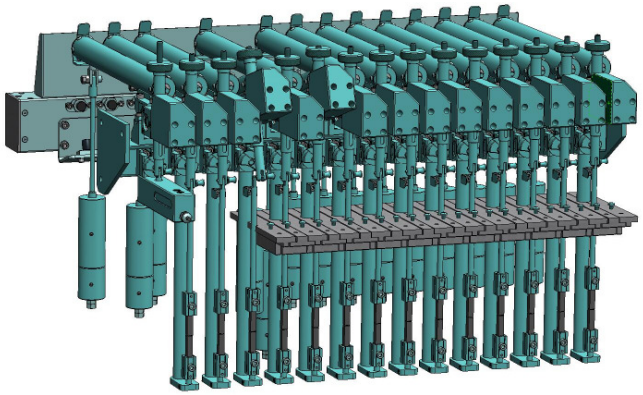
Full Notch Creep Test

The FNCT is a widely used method to classify polyethylene materials in regards to their slow crack growth behaviour under accelerated conditions. In this test, a typically square sample is submerged into a surface active agent. Depending on the chosen test conditions, the agent is held at a certain temperature (up to 95°C) throughout the test. A steady tensile load is applied to the sample, which has a defined circumferential notch to initiate crack growth. The time to failure is measured and used for the classification of the material. The different test conditions and parameters are summarized amongst other in ISO standard 16770.

Although the test was originally developed to evaluate PE materials for pipes, it is also used to investigate the long term behaviour and durability of samples made with other manufacturing methods (e.g. blown moulded containers, welded and extruded parts) and other polymers.

FNCT- technical data





- Approx. Dimensions LxHxD in mm/(inch): 1430x1130x 810/(56 1/3 x 44 ½ x 31 7/8)
- Number of stations: 15
- Independent force application and data recording for each station
- Load application by easily adjustable lever-weight system
- Load range: 4-6 GPa on samples 10x10x100mm; (6 to 9 GPa on samples 6x6x90mmoptional)
- Force resolution: indefinite, approved for 0,1 N; individual calibration by sample and position
- Force calibration accuracy: better than +/- 1% (official approved)
- Temperature range: RT to 95°C
- Temperature accuracy: 1°C
- PH-value monitoring with adjustable warning events and automatic emergency procedures
- 2 exhaust-connections with condensate recirculation
- Drainage connection required for overflow and flushing
- Heating: external full under-floor heater for even temperature distribution
- Circulation: stainless steel centrifugal pump
- Fluid volume approx. 55l
- Fluid level control: stainless steel float sensors and solenoid valves
- Input pressure range for demin water supply: 0,2-8 bar (3-116psi)
- Time range test period: unlimited
- Time resolution: 1s (Real time Clock)
- User Interface: 10,4” TFT-touch screen display Data acquisition: Fully integrated
- Ethernet Data Interface
- Power supply: 230V- 50 Hz (/60 Hz optional)
- Mass: approx. 510 kg (fully loaded)
- All metals directly exposed to fluid are stainless steel (1.4571/316Ti)