Rheometer accessory

Rheological measurements of UV curing reactions at ambient temperature

Discover the cost-efficient entry model

Author
Philipp Beutler and Cornelia Küchenmeister-Lehrheuer
Thermo Fisher Scientific,
Karlsruhe, Germany

Keywords
HAAKE MARS 40/60 and HAAKE MARS iQ Air Rheometer, measuring plate cover, UV light source

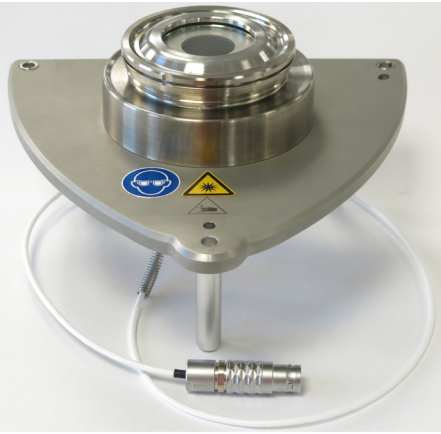

Figure 1. CM-OP-P module for UV measurements at ambient temperature.

For measurements at ambient temperature under defined exposure to UV light a simple measuring cell is available which can be used in combination with a Thermo Scientific™ HAAKE™ Rheometer. It is characterized by a simple design and is suitable as a very cost-effective model for beginners in the field of UV measurements. Measuring cells for UV assisted thermal curing[1] or UV measurements with simultaneous structure analysis using FT/IR spectroscopy[2] extend the accessory portfolio of Thermo Scientific™ HAAKE™ HAAKE™ MARS™ Rheometers.

This CM-OP-P module (for Combined Module - OPtical -Plate) consists of a “triangular” plate, on which a holder for a glass plate and a port for a UV light collimator below that, are mounted (Figure 1). The CM-OP-P module does not offer temperature control, but is equipped with a temperature sensor.

A commercially available UV light source[3] can be used, and controlled via the Thermo Scientific™ HAAKE™ RheoWin™ Rheometer software (Figure 2).

Plate/plate measuring geometries with diameters up to 20 mm and from various materials (e.g. titanium, or aluminum as disposable version) are available.

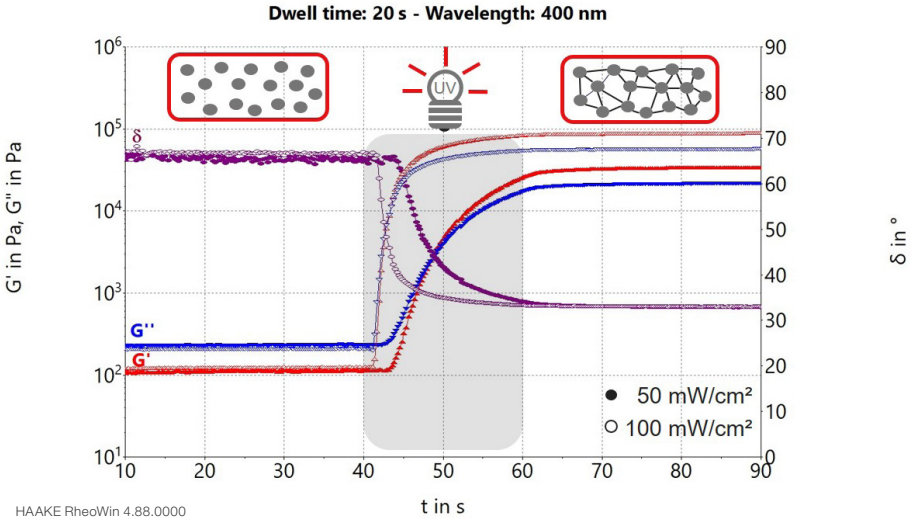

Figure 2: Curing curves as function of different UV light intensities.

Ordering information

Product	Cat. No.
CM-OP-P module for cost effective UV measurements at ambient conditions	222-2498
Rotor P20/Ti with “Connect Assist“ and ceramic shaft	222-2090
Adapter P3 for disposable plates D PXX /Al with “Connect Assist” and ceramic shaft	222-2290
Disposable geometry D P20/Al (40 pcs.) made of aluminum	222-2154
Set of glass plates for UV measuring cell (5 pcs.)	222-2388

References

1. F. Meyer, Universal Peltier temperature module for UV-curing with mercury vapour lamp, Thermo Fisher Scientific Product information P064
2. C. Küchenmeister-Lehrheuer, J. Nijman, Measuring cell for UV assisted thermal curing and simultaneous FTIR spectroscopy, Thermo Fisher Scientific Product information P037
3. Ph. Beutler, Mercury-vapor lamp or LED?, Thermo Fisher Scientific Product information P072

Learn more at **thermofisher.com/rheometers**