

# New measuring cell for UV assisted thermal curing at elevated temperatures

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## Key-words

- Thermo Scientific HAAKE MARS
- UV curing
- Thermal curing

In industry thermal curing is used in a wide range of applications like powder coating, adhesives, sealants, soldering materials, inks, etc. Recently there is an increased interest in replacing thermal curing by UV assisted thermal curing in an effort to improve product properties, increase productivity and reduce production costs, for example by reducing the amount of energy needed for initiating the curing reaction, at the same time.

For the development of, and measurements on, such kind of samples a new high temperature UV curing measuring cell was developed for the Thermo Scientific HAAKE MARS rheometer.

The new cell is integrated in the existing CTC (controlled test chamber) which has a temperature range from -150 °C up to 600 °C. The lower part of the UV-curing tool is equipped with a light guide that can be attached to a commercial available light source. The light source can be triggered by the measuring and evaluation software of the rheometer. Using the software it is possible to program an automatic measuring routine in which the sample is first pre-cured by the UV light and then thermally cured using the CTC. The combination of convection and radiant heating guarantees fast temperature changes and an even temperature distribution within the CTC oven.

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

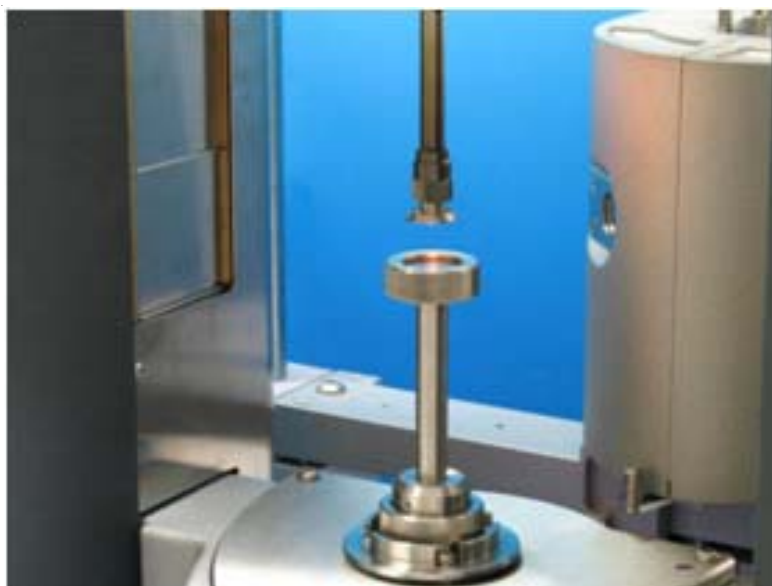


Fig. 1: UV curing cell integrated in CTC for Thermo Scientific HAAKE MARS



Fig. 2: Detailed view of the new UV curing cell

## Order information

603-0315 UV curing cell for CTC consisting of an adapter with a lower shaft incl. a quartz glass plate

UV light source (commercial available with trigger)

Measuring geometry, e.g. 222-1747 Upper holder for exchangeable measuring geometries

## Necessary accessories:

222-1729 Controlled Test Chamber for HAAKE MARS

222-1746 Upper plate PP8 (exchangeable measuring geometry, D = 8 mm) out of stainless steel

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P017\_14.06.10

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