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Minimum Film Forming Temperature (MFFT) Tester

Description: As the most important component--emulsions for coatings and polymer dispersions for coatings and plastics polymer, its film-forming property has important influence on final products drying property. Thus, knowing its MFT is very necessary.

In a certain temperature, emulsions or polymer dispersions, if the temperature is not high enough, then can't let the polymer particles polymerize. Now, all polymer particles can't get together any more and then form incontinuous and non-transparent white mass; If the temperature is high enough and let the particles get together, then can form continuous and transparent film.

White Point Temperature: The dividing temperature when non-transparent film change to transparent film.

Minimum Film-forming Temperature: The lowest temperature when forming continuous, uniform and no-crack film (Generally speaking, White Point Temperature has several degrees lower than MFFT)

BGD 452 Minimum Film-Forming Temperature (MFFT) Tester is the newest instruments which is developed by Biuged lately, Its main structure is a metal (copper) platen with an electronically imposed temperature gradient. Built in temperature sensors monitor the temperature across the platen, a graph of the gradient is displayed on the touch screen. A cooling source and a heating source are located separately on the two ends of platen to produce different temperature gradient through metal heat conduction theory.

Apply a continuous and uniform thickness wet film of emulsion or dispersions on the temperature gradient platen, then dry it by dry air, with temperature of platen influence, the water of sample would evaporate and form film. Due to different temperature on the platen, the film-forming position is also different. Find the dividing point between continuous transparent film with white non-transparent film, thus this point which also can be read from touch screen of tester is MFFT.

It is accordance with ISO 2115, ASTM D 2354 standard, and can test minimum film temperature of emulsion polymer easily and accurately.

Features:

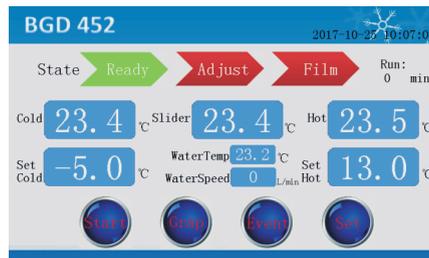
- ◆ Initiated in China, High-tech product, combine a lot of patents with independent intellectual property rights.
- ◆ Small size, high precision, intelligent operation, easy to use and maintenance.
- ◆ Color touch screen+ menu operation system, all parameters can be shown in real time
- ◆ High precision digital temperature sensor, ensure the temperature error is less than $\pm 1^{\circ}\text{C}$
- ◆ Come with chiller
- ◆ Optional Dry Air Generator which can produce dry dew point air, and can ensure sample can dry completely and test results don't be effected by environment humidity.
- ◆ Removable scale (with illumination) is convenient for operator to read any point temperature on the gradient platen. Operator can move the scale freely, then tester can identify automatically current position and show relevant temperature of this position.
- ◆ Monitor automatically cooling water temperature and flow, tester would stop working automatically once any exceptional conditions.
- ◆ Platen (Temperature gradient) is made of copper with special process, fast heat conduction and strong stability.
- ◆ System reminder operator automatically about the testing progress.
- ◆ Seven work conditions for selection, convenient to measure different film-forming temperature sample.
- ◆ 16 high temperature sensors is distributed on the gradient platen.
- ◆ Come with BGD 203/3 cube applicator which can get the 100 micron continuous and uniform wet film with 22mm width



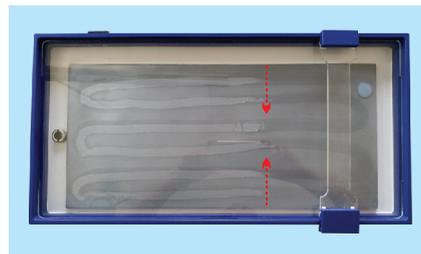
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Main Technical Parameters:

- ★ Working temperature range of gradient platen: $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
(When cooled by common tap water)
- ★ Number of inspection points of gradient platen: 16 points
- ★ Interval distance of gradient: 20mm
- ★ Test channels: 6 pcs (width is 22mm)
- ★ Gradient platen size: 447mm × 210mm
- ★ Power Supply: 220V/50Hz AC wide voltage
(three-phase supply with good earth)
- ★ Tester Size: 528mm (L) × 430mm (W) × 194mm (H)
- ★ Chiller Size: 560mm (L) × 240mm (W) × 200mm (H)
- ★ Dry Air Generator: 555mm (L) × 255mm (W) × 525mm (H)
- ★ Net Weight: 25Kg (Excludes Chiller and Dry Air Generator)
- ★ Power: 750W
- ★ **Ordering information:**
BGD 452--- Minimum Film-Forming Temperature Tester
BGD 1490--- Dry Air Generator (750W)



Operation Menu



Film Forming Point



Dry Air Generator



Chiller