



HDT VICAT MP



MP-series of HDT VICAT apparatus are designed to determine both the **Deflection Temperature under load** and the **Vicat Softening Temperature** of thermoplastic materials within a single unit.

Choosing one of our MP-series, your laboratory will be equipped with an instrument that's:

- ✓ Compact offering space-saving and convenient positioning
- ✓ Quick short cooling time of the oil bath at the end of tests improving your productivity
- ✓ Safe being designed in accordance with current EEC safety rules
- ✓ Upgradable either interfacing to a PC or on-board printer are optionally available

Reference standards:

ASTM D648 - ASTM D1525 - EN ISO 75-1/2 – EN ISO 306 and others equivalent

Procedure

The oil bath, equipped with an efficient stirring device to keep a uniform temperature distribution, is controlled by a microprocessor to automatically perform incremental linear temperature gradient at 50 and 120°C/hour.

The test stations, where specimens are positioned, are equipped with a proprietary compensating system for thermal dilatation thus performing highly accurate measurements of both deflection and penetration. Thanks to the RVDT linear transducer, resolutions of better than 0.01 mm are achieved in full compliance with International Standards.

VICAT: test definition

The temperature at which a standard needle, under a known load, penetrates of 1 ± 0.01 mm the surface of a specimen during an incremental linear temperature gradient.

HDT : test definition

The temperature at which a standard hammer-shaped head, with a load calculated to obtain a known stress, deflects at a conventional value a specimen during an incremental linear temperature gradient.

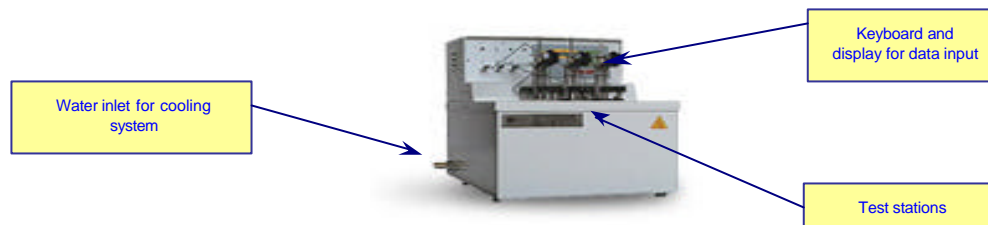
Specimens dimensions

For VICAT tests : of 10 mm diameter or at least 10 mm square; thickness in the range 3÷6.5 mm.

For HDT tests are depending from their positioning :

- flatwise position : (L) 80 ± 2.0 mm x (W) 10 ± 0.2 mm x (Thick.) 4 ± 0.2 mm

- upright position : (L) 120 ± 10.0 mm x (W) in the range 9.8÷15 mm x (Thick.) in the range 3÷4.2 mm



Features and main specifications of MP series

- Three (MP3) and six (MP6) test stations, wholly microprocessor controlled
- Compact stainless steel inner oil bath with stirring system providing a high thermal uniformity (± 0.5 °C)
- Volume of the bath : MP3 model 8 litres ; MP6 model 16 litres
- Cooling by means of forced water circulation inside a cooling jacket, offering a quicker cooling than traditional coils. Typical recovery time from 200°C to 30°C, with cooling water at 18°C, takes about 30 min
- Measurement of initial deformation – or penetration – of each specimen at starting temperature, and zeroing of said value at the start of the test
- Measuring range of the linear RVTD transducers up to 10.0 mm with infinite resolution
- Deformation and penetration measurements with resolution better than 0.01 mm
- Bath temperature stabilization before starting tests
- Display of the results for each test station
- Temperature ramp rates presetted at 50 and 120 °C/hour increments
- Working temperature range 20 to 300 °C
- Resolution of the temperature measuring system 0.1 °C
- Automatic return to starting temperature while keeping actual test results until new measurement start
- Nitrogen sparging device in the upper side of test bath
- Safety thermostat

- Soft-touch keyboard for test programming
- LCD display with 2 lines, 24 digits
- RS232C communication port
- Power Supply : 230V, single phase, 50Hz ; 1.6kVA (MP3) – 3.3kVA (MP6)
- Dimensions (WxDxH) : MP3 : mm 450x650x500 - MP6 : mm 760x650x500
- Weight (complete with standard equipment) : MP3 approx. 86 kg - MP6 approx. 135 kg

Standard equipment

- HDT heads (one each per test station)
- VICAT needles (one each per test station)
- Centering tool for HDT heads
- Series of 2 weights for VICAT tests, 10 and 50 N (one each per test station)
- Series of 12 weights for HDT tests, from 1g to 2048g with binary increase (one each per test station)
- Cooling water inlet/outlet system complete with filter
- Tap for oil discharge

Optional accessories

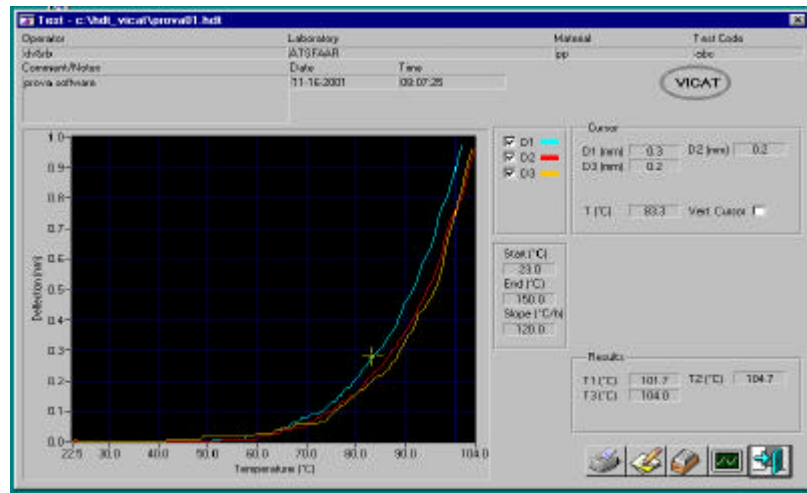
- Workstation complete with PC and printer, dedicated software and interfacing cable
- Adapters for deflection tests on flatwise specimens
- Additional set of weights to perform tests with 8000 Mpa stress

Special accessories

- Both versions of the instrument (three and six test stations) are available with a 40 digit on-board printer located on the control panel to print test results (whenever the printer is present, no connection to PC is available)
- Single station temperature monitoring

Software

System upgrade through connection to PC with dedicated software, operating under Windows 9X, 2000, NT™ environments. It allows programming of the instrument from PC, survey of test results at the end of the tests, display of the specimen deformation graph in real time as a function of the temperature and the bath temperature . Data filing and report printing are also possible.



Indications reported in this bulletin may be changed without notice; codes and references for informative purposes only

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