

## CEAST HDT Vicat Series | 3 and 6 Stations Testers

The effect of temperature on the mechanical properties of plastic materials has a fundamental role in the design of components, especially in the selection of materials. Unlike metals and ceramics, plastics are extremely sensitive to the slightest changes in temperature. The selection of plastics for applications under different temperatures is a complex task. The material must be able to support a stress under operating conditions without losing its strength and without critical distortion. The effect of temperature on geometrical stability and mechanical properties in general can be studied following different procedures and methods like at constant temperature or with a temperature ramp.

From very simple units for QC labs to more advanced and automated systems, the Instron® line of Thermal testers are designed to measure the heat deflection temperature (HDT) and the Vicat softening temperature (VST) according to the related international standards.

### Main Features and Benefits

- Manual and automatic models, equipped with 3 or 6 working stations, are designed to determine the temperature at which the specimen undergo a pre-set deflection-penetration under load, while heated into a silicon oil bath up to 300°
- High level of test results repeatability and time saving operations
- LVDT transducers allow very accurate specimens deformation measurement
- Independent thermoresistance mounted on each station allows accurate temperature measurements
- Correction terms, taking into account thermal expansions of the apparatus, are automatically applied to each test for a reliable deflection measurement
- Dedicated Software for test parameters management, data storage and analysis
- Cages prevent the specimen falling into the oil bath and water chiller for a rapid cooling of the system are available as options
- The silicone oils, available in different viscosity ranges, perform testing more accurately in a broad range of testing temperatures

### Applicable Standards

HDT Test  
ISO 306, ASTM D1525 and equivalents

Vicat Test  
ISO 75, ASTM D648 and equivalents



## CEAST HV3 and CEAST HV6 Specifications

These testers are equipped with 3 or 6 stations for HDT and Vicat tests on thermoplastic materials.

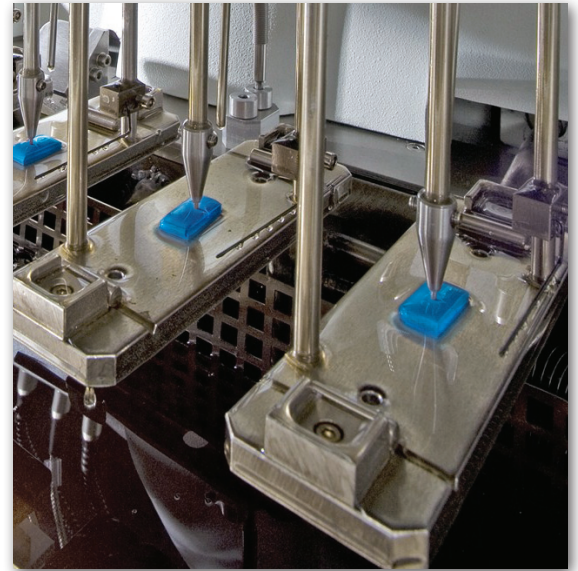
- The automatic microprocessor-based apparatus generates continuous data throughout ramped and constant temperature tests during the entire test cycle
- Suitable to test different samples at the same time, providing statistical analysis on the materials
- The high precision linear LVDT transducer allow specimen deformation measurement for each station
- Homogenous temperature distribution up to 300 °C
- Each working station is equipped with an independent thermoresistance to record the local temperature for accurate test results
- Automatic compensation for thermal expansion for each station
- The nitrogen diffuser, regulated by a valve, prevents oil degradation and increases stability at high temperatures
- Automatic cooling cycle at end of test
- Standalone operation mode or PC connection allows data handling, ensuring parameter management, process control, results processing, reporting and data export



## CEAST HV6A Specifications

The CEAST HV6A system has been designed to perform automatically HDT and Vicat testing on 6 independent test stations to increase the testing capabilities by reducing manual operations and ensuring a faster testing procedure through automatic cycles.

- Suitable to test up to 6 specimens simultaneously, or to perform simultaneously HDT and Vicat tests on the same sample by running the same temperature ramp
- Automatic station lift at the beginning and end of tests reduces manual operations
- Automatic application and removal of the weights on the test stations enable easier operations
- All operations, test cycle and alarms are electronically controlled by a microprocessor via a keyboard with an LED graphic display



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