

HDT/VICAT Testing Machine



Model: HVT303



Model: HVT306

1, General introduction

HVT series of HDT/VICAT testing machine is mainly used to determine temperature of deflection under load and Vicat softening temperature of thermoplastic plastics, pipes and fittings.

Heat deflection temperature (HDT) (ISO 75, ASTM D648) indicates the relative behavior of different types of material under load at elevated temperatures. It is determined for materials such as thermoplastics, hard rubber and duroplastic laminates.

Vicat softening temperature (VST) (ISO 306, ASTM D1525) provides a value for the temperature at which a thermoplastic material begins to soften rapidly. This temperature is determined using a needle-shaped indenter with a round cross-sectional area of 1 mm².

Key Features

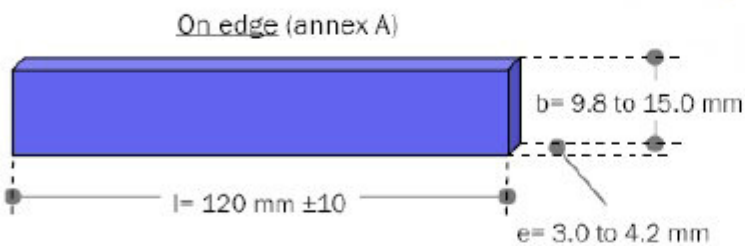
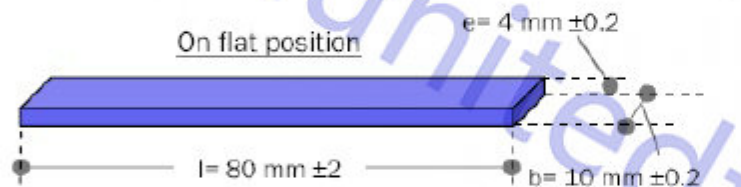
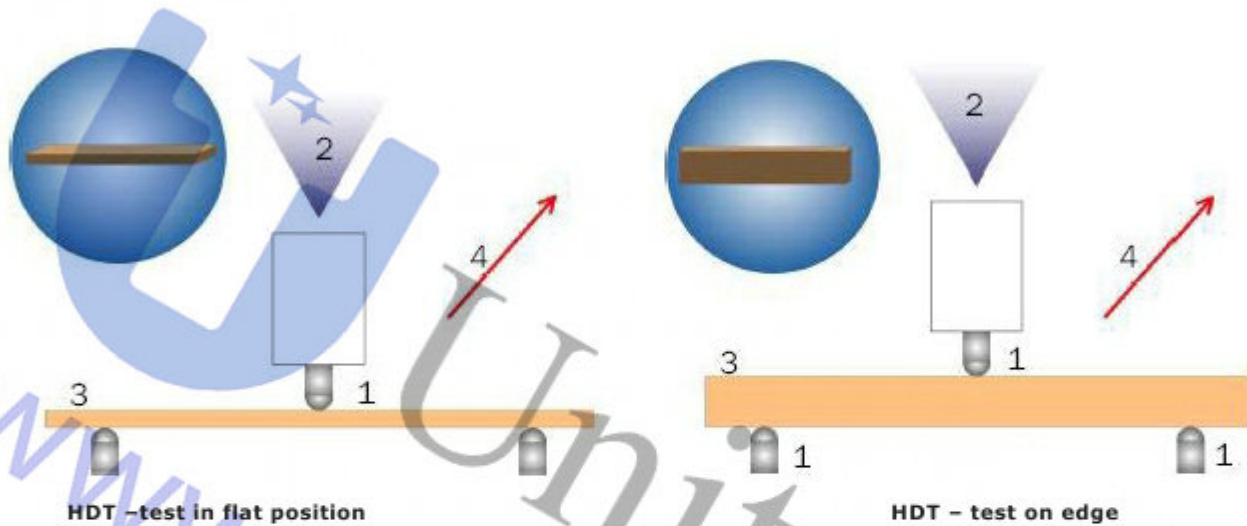
- 1, Can execute both HDT and Vicat tests on the one machine, only change loading nose for HDT test, and needle for VICAT test.
- 2, Conforms to ISO 75, ISO 306, ISO 2507 and ASTM D648, ASTM D1525, ASTM D5944, ASTM D5945. GB/T 8802, GB/T 1633, GB/T 1634
- 3, Three working stations, with all necessary press nose, needle and weights.

- 4, Use the displacement sensor to replace the old dial indicator, more accuracy;
- 5, Table type or Floor type for selection;
- 6, Three kinds display and operation mode for selection; digital economical, LCD display and computer controlled.
- 7, Manual lifting sample racket or motorized lifting sample racket type;
- 8, Micro-Printer function to print test report;
- 9, With CE certificate.

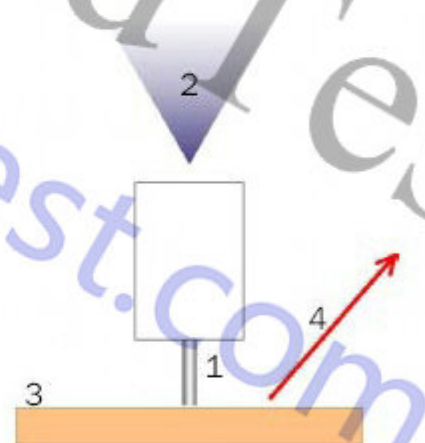
2, Principle

The measurement principle is simple: to determine the temperature at which a sample under a given load is softened to allow a decrease in 3-point bending (HDT) or depressed (Vicat) of a needle.

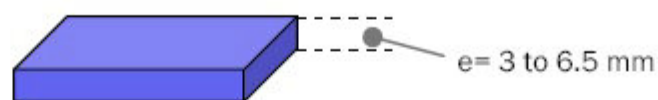
The samples are placed in a thermostatic bath equipped to impose a temperature ramp. An electronic system continuously measures the descent of the load placed on the specimen, and stores the temperature corresponding to the criterion used.



HDT - Sample dimensions ISO 75



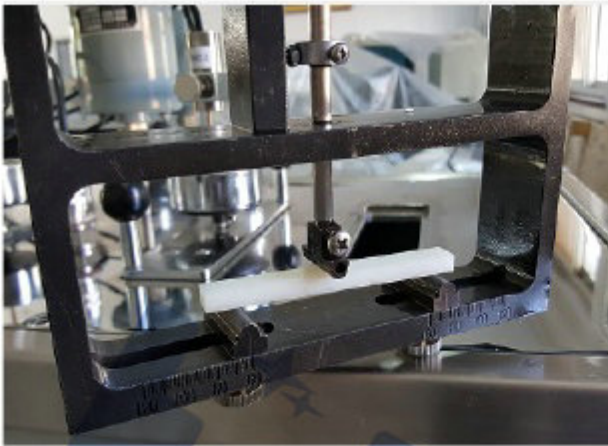
VICAT Test



Minimum 10 x 10 mm

Vicat - Sample dimensions ISO 306

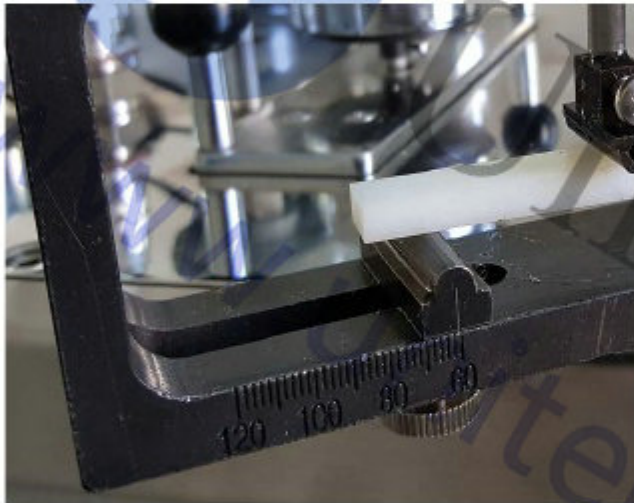
3, References



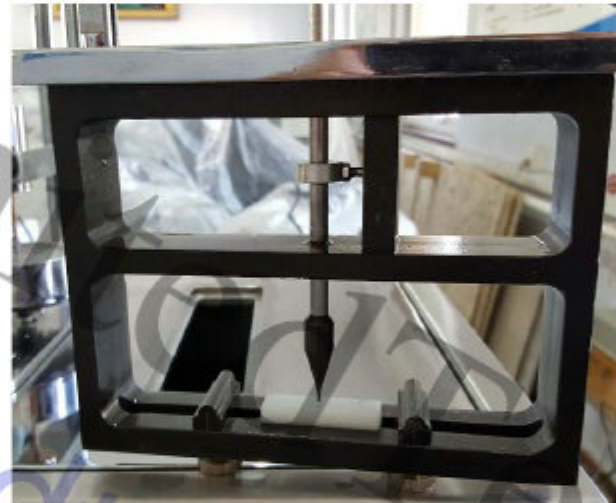
HDT test, pressing head



VICAT Test, needle indenter



Sample supporter with ruler
60mm ~120mm



VICAT Test, needle indenter



Accessories containing case:
(Weights, needle indenter,
pressing head, tweezers etc.,)

4, Main technical specification

Model	HVT301 (XRW-300A)	HVT302 (XRW-300B)	HVT303 (XRW-300C)	HVT304 (XRW-300D)	HVT305 (XRW-300E)	HVT306 (XRW-300F)
Structure	Table	Floor	Table	Floor	Table	Floor
Sample racket lifting	Manual	Motorized	Manual	Motorized	Manual	Motorized
Control & Display	Microcontroller Digital display		Microcontroller Large LCD display		Computer	
Printer	Micro-Printer		Micro-Printer		A4 paper printer	
Temperature range	Ambient temperature to 300℃					
Heating speed	120±10℃/h, (12℃±1℃ / 6min) 50±5℃/h, (5℃±0.5℃ / 6min)					
Temperature resolution	0.1℃		0.01℃			
Deformation resolution	0.01mm		0.01mm			
Temperature accuracy	±0.5℃					
Deformation measuring	0~2mm					
Load range	0.73N~49.03N					
Test stations	3 sets					
Vicat Loading capacity	GA=10N±0.2N, GB=50N±1N					
HDT test	Method A: USE FIBRE STRESS 1.80Mpa Method B: USE FIBRE STRESS 0.45Mpa Method C: USE FIBRE STRESS 8.00Mpa					
Specimen rack span	60mm ~ 120mm continuous adjusting					
Power	4Kw					
Electrical supply	220V, 50HZ/110V, 60HZ					
Heating medium	methyl silicon oil or transformer oil					
Electrical supply	220V, 50HZ/110V, 60HZ					

5, Comparison

Model	HVT301	HVT302	HVT303	HVT304	HVT305	HVT306
Structure	Table	Floor	Table	Floor	Table	Floor
Sample racket lifting	Manual	Motorized	Manual	Motorized	Manual	Motorized
Display	Microcontroller Digital display	Microcontroller Digital display	Microcontroller LCD display	Microcontroller LCD display	Computer	Computer
Printer	Micro-printer	Micro-printer	Micro-printer	Micro-printer	A4 paper Printer	A4 paper Printer
Temp. resolution	0.1℃	0.1℃	0.01℃	0.01℃	0.01℃	0.01℃
Defor. resolution	0.01mm	0.01mm	0.001mm	0.001mm	0.001mm	0.001mm

6, Main accessories

Item	Quantity
Frame	1 set
Electrical control cabinet	1 set
Sample supporter racket	3 pcs
Weight (2000g,500g,100g,50g)	3 pcs for each
Weight (1000g, 200g)	6 pcs for each
Weight (40g, in one box)	3 set
Vicat needle indenter	3 pcs
HDT pressing head	3 pcs
Displacement sensor	3 pcs
Platinum resistor	1 pc
Electric wire	1 set
Connection wire	1 set
Accessories containing case	1 pc
Computer (for HVT405, 406)	1 set
Professional software (English version) (for HVT405, 406)	1 set
Documents (Manual, packing list, certificate)	

7, Optional & Extra parts

- 7.1, Platinum resistor
- 7.2, HDT pressing head
- 7.3, Vicat needle indenter