



HDT/VICAT HEAT DEFLECTION TESTERS - TORONHDT™ SERIES

ToronHDT™ Series offers advanced HDT (Heat Deflection Temperature) and Vicat Softening Point Testers for reliable thermal characterization of plastic and thermoplastic materials. Designed for use in quality control labs, R&D facilities, and production environments, the ToronHDT™ systems ensure precise compliance with major international testing standards.

APPLICATIONS

Standards Compliance

The ToronHDT™ Series conforms to a wide range of global standards, ensuring trusted results for product qualification and regulatory compliance:

- ASTM D648 – Standard Test Method for Deflection Temperature of Plastics Under Flexural Load
- ASTM D1525 – Standard Test Method for Vicat Softening Temperature of Plastics
- ISO 75 – Determination of temperature of deflection under load
- ISO 306 – Determination of Vicat softening temperature (VST)

These standards are widely used by manufacturers and testing laboratories to determine the thermal resistance, softening behavior, and performance limits of polymers used in structural or high-temperature applications.

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Applications

The ToronHDT™ Series testers are designed to determine:

- Heat Deflection Temperature (HDT): The temperature at which a plastic specimen deforms under a specified flexural load. This test is essential for understanding the high-temperature behavior of materials used in automotive, electrical, construction, and consumer product applications.
- Vicat Softening Temperature (VST): The temperature at which a standard indenter penetrates 1mm into the surface of the specimen under load. This helps differentiate between thermoplastics based on their softening characteristics.

These tests are critical for product development, quality control, and verifying compliance with end-use performance requirements.

With high precision, flexible testing configurations, and full automation via PC software, the ToronHDT™ Series is engineered for demanding laboratories that need accurate, repeatable, and standards-compliant thermal deformation testing of plastic materials.

FEATURES

- Dual testing capability: Supports both HDT and Vicat testing in one system
- User-friendly software control with automatic data acquisition and result recording
- Motorized lifting platform for easy and precise specimen handling
- Wide temperature range up to 300°C
- Real-time plotting of deflection or penetration vs. time/temperature
- Excellent thermal exchange design for uniform heating
- Supports 3, 4, or 6 independent test stations for higher throughput
- Digital deflection measurement with communication interface for accurate readings

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Test Standards	ASTM D648, ASTM D1525, ISO 75, ISO 306
Test Capabilities	HDT & Vicat Softening Temperature
Temperature Range	Room Temperature to 300°C
Heating Rate	50°C/h, 120°C/h (Customizable)
Deflection Range	-1.00mm to 9.00mm

Parameter	Specifications
Deflection Measurement	Digital Gauge with Communication Interface
Number of Test Stations	3, 4, or 6
Span for HDT Testing	64mm or 100mm
VICAT Testing Loads	10N and 50N
HDT Flexural Stress Options	Method A: 1.8 MPa, Method B: 0.45 MPa, Method C: 8.0 MPa
Control Interface	PC-based software for full automation
Graphical Output	Deflection vs. Time / Temperature; Penetration vs. Time / Temperature



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

