noselab ats
ADVANCED TESTING SOLUTIONS

35 ANIVERSARIO CIENTEC

PLASTIC TESTING

BRITTLENESS / TR - COMBINED SYSTEM FOR TESTING

DATASHEET

Apparatus for determining the temperature at which 50% of the specimens examined breaks the prescribed conditions, or presents superficial cracks on the coating material, according to the various reference standards.
Used especially for polymeric materials coated on a support or polymers for application at low temperatures.
To assess whether the effects of crystallization that the elastic return of the specimens, can also be used for tests at stabilized temperature. Particularly suitable for rubber, elastomers and similar. The device can be configured to test brittleness, TR, in a cooled condition, and it is possible via USB interface, monitor the data generated by the test TR.

BRITTLENESS

Determination of the temperature at which 50% of the specimens exhibits brittle failure or coating cracks, according to the reference standards, under specified impact conditions. The impact is performed by a hammer constrained at one end which impacts the specimens during its free falling. The hammer design guarantees the required impact speed, avoiding mistakes which could be due to either electromechanical or solenoid controls. Repeatability and constancy of the test performance are also guaranteed by the impact hammer automatic release the moment the specimen support is extracted from the conditioning bath.
The impact hammer non-return system and three different safety blocks guarantee one only impact each test, and a complete safety for the operator when positioning the specimen support.

- The impact pendular hammer is a constant profile knife assembled on a bar complete with counterweights and truing on special bearings.
- The pendular hammer release is a spring-operated system, which makes easier the manual positioning of the hammer after the impact.
- The overturning front glass allows the visual control of the test and protects the operator during the hammer fall.
- Frontal reclining crystal for display test and operator protection during the fall of hummer.
- Specimen support device is composed of a clamp supporting arm with a mechanical remote control to insert and extract it from the hummer just before the impact.
- Stainless worktop
- 5-seat clamp in accordance with ASTM standard



BRITTLENESS TESTER REFRIGERATED

- Dimensions 1300 x 810 x 1100 h mm
- Weight: 235 k
- Power supply: 230VAC, 50Hz 20A

TR TESTER

- Chassis for manual insertion into the test tank, stainless material, with 3 graduated scales for setting of elongation and the observation of the percentage of retraction.
- 6 testing stations complete each of a pair of special terminals, movable clamp for mounting of the specimen and the fixed clamp for specimens 38 mm mounted on the lower support of the frame
- 7 ÷ 21 kPa counterweight connected to a rod with a sliding index.
- The index moves thanks to a wire sliding on a small pulley.
- Movable clamp to position the specimen
- Stationary clamp on the rack lower support for 38 mm specimens
- Each rack test station can locate a standard specimen between two clamps – length 13, 25, 38 or 51 mm, to reach 350% maximum elongation of 38 mm long specimens.
- Stainless steel test bath having approx. 15 l volume
- To insert and condition specimens for both Brittleness and TR tests alternately.



TR TESTER



BRITTLENESS + TR TESTER REFRIGERATED

- Dimensions 1300 x 810 x 1530 h mm
- Weight: 245 kg
- Power supply: 230VAC, 50Hz 20A

Member of CISQ Federation
RINA ISO 9001:2000 Certified Quality System
n. 23880/04/S

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REFRIGERATED TEST

The equipment combined with a refrigeration system allow to reach temperatures of -70 ° C. Included connecting pipe cryostat circulation external mounted on the same platform with the test equipment, which regulates the temperature with a probe inserted into the tank.

Cryostat features:

- VFD Comfort display, resolution 001°C for internal and external temperature of tank, setpoint, security and alarm functions
- Dialog-display LCD for easy and interactive operations
- Temperature calibration on 3 points.
- External sensor connection for check
- Early waning system for low liquid level
- Thermal overload protection adjustable by display
- RS232/RS485 interface
- Connectors pum for circulation in closed or open external circuits
- Temperature stability °C ±0,02
- Cooling compressor double stage
- Refrigerant R404A + R508b
- Overall dimensions (LxPxA) cm 55x60x92
- Opening bath (PxL) cm 13x15
- Tankl depth cm 16
- Bath with filling volume 8 liters (ethanol)
- Weight kg 135
- Ambient temperature from 5° to 35 °C

BRITTLENESS + TR TESTER
REFRIGERED INSTRUMENTED

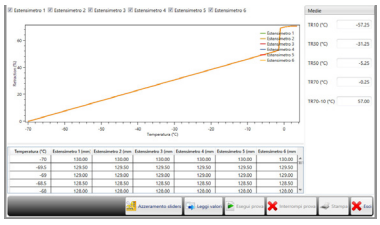


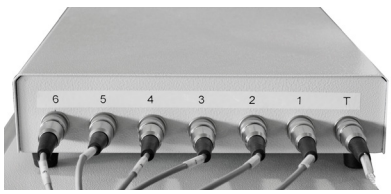
- Dimensions 1300 x 810 x 1530 h mm
- Weight: 250 kg
- Alimentazione: 230VAC, 50Hz 25A

TR TESTER INSTRUMENTED VERSION

The signals from the sensors are sent to the PC by USB interface. The data management software allows to automatically detect the percentage of retraction (10% - 30% - 50% - 70%) and relative temperature. Is possible also set the test parameters, including data and records related to the test material. The program allows the control of six samples with expression of the average values, display and printing of related curves.

Standards		Brittleness	TR
ASTM	D746	D2137	D1329
DIN	53546		
ISO	812	974	2921





Code	Description	Cryostat	Brittleness	TR Tester	TR Instrumentated	Nitrogen cooling system	Analisys Software
10012000	Brittleness Tester with nitrogen cooling system	-	●	-	-	●	-
10012006	Brittleness Tester + cryostat	●	●	-	-	-	-
10012010	Brittleness + TR-Test + cryostat	●	●	●	-	-	-
10012014	Brittleness TR Test + cryostat, instrumented (PC)	●	●	●	●	●	●
10012016	Brittleness + TR Test instrumented	-	●	●	●	●	●
10029000	TR TESTER with nitrogen cooling system	-	-	●	-	●	-
10029005	TR Tester + cryostat	●	-	●	-	-	-
10029006	TR TESTER + cryostat ,instrumented (PC)	●	-	●	●	-	●

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