CEAST 50 years 1953 - 2003

DIELECTRIC RIGIDITY

CEAST

DESIGN AND PRODUCTION OF INSTRUMENTS AND APPARATUS FOR QUALITY CONTROL ON MATERIALS

These instruments are made in compliance with CE health and safety requirements

CE

Dielectric Rigidity - code 6135.000

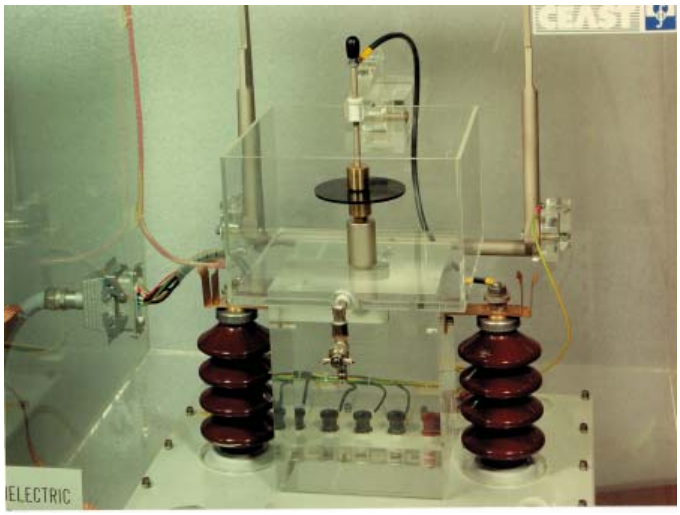

Fig. 1 - Dielectric Rigidity test configuration

Scope

Two tests on thermoplastics, thermosetting and other materials can be carried out with this equipment:

a) Dielectric Rigidity

This test is performed by applying a predetermined voltage for a definite time to a specimen fitted between 2 electrodes which are of a specific type and size. If the specimen does not break down electrically in the given time, the apparatus switches off. If however the specimen breaks down before the preset time, the apparatus switches off automatically.

b) Dielectric breakdown (Short time test)

A linearly increasing voltage is applied to a specimen until electrical breakdown occurs. Dielectric strength is given by the ratio between breakdown voltage in test conditions and distance between electrodes. In the case of carrying out the test using a stepped increase of voltage, the dielectric strength is the ratio between voltage applied in the step before the one where the breakdown occured and the distance between electrodes, which is in practice the specimen thickness.

Standard

The instrument is designed and built to meet the following standards:
ASTM D 149 - ASTM D 876 - DIN 53481 - UNI 4291
and other equivalent standards.

Test conditions

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2.5 kVA for continuous operation

Apparatus components

- Step-up transformer, oil insulated, measurement performing, max voltage 60 kV - code 0200.974
- Shockproof, transparent, measurement box, equipped with safety devices, tank for testing in insulating oil and mobile supports for electrodes (coupled to transformer) - code 6135.101
- Controlling and measuring units, modular realized inserted in control rack
- Manual control of voltage rise through a rotating knob. Test voltage reading on digital voltmeter, calibrated in kV. Automatic cut off system of test circuit when distruptive discharge takes place - code 6135.012
- Motor driven control of voltage rise, with out steps. Test voltage reading on digital voltmeter, calibrated in kV. Automatic cut off system of test circuit when disruptive discharge takes place - code 6135.014
- Motor driven control of voltage rise, with 4 speeds preset between 0.1 and 3 kV/S. Test voltage reading on digital voltmeter, calibrated in kV. Automatic cut off system of test circuit when disruptive discharge takes place - code 6135.914
- Control of voltage rises by steps. Independent adjustments of step amount, and stay time - code 6135.914

Test electrodes

Consisting of elements, geometrically established
Suirable for flat specimens
Made according to:

- ASTM D 149	- Type 1	code 6135.006
- ASTM D 149	- Type 2	code 6135.009
- ASTM D 149	- Type 3	code 6135.007
- ASTM D 149	- Type 4	code 6135.008
- ASTM D 149	- Type 6	code 6135.003
- ASTM D 1816	- Fig. 1	code 6135.005
- DIN 53481/1	- Plate/plate - Ø 31/65	code 6135.063
- DIN 53481/1	- Plate/plate - Ø 56/115	code 6135.064
- DIN 53481/1	- Plate/plate - Ø 81/170	code 6135.065
- DIN 53481/1	- Plate/plate - Ø 106/215	code 6135.066
- DIN 53481/2	- Type "A"	code 6135.000.A
- DIN 53481/2	- Type "B"	code 6135.000.B
- DIN 53481/2	- Type "C"	code 6135.000.C
- DIN 53481/2	- Type "D"	code 6135.000.D
- VDE 303/2	- Fig. 1	code 6135.003
- VDE 303/2	- Fig. 4	code 6135.005
- VDE 303/2	- Tab. 2 - Sph 12.5/Plate 25	code 6135.060
- VDE 303/2	- Tab. 2 - Sph 20/Plate 50	code 6135.061
- VDE 303/2	- Tab. 2 - Sph 50/Plate 100	code 6135.062
- UNI 4291	- Fig. 1	code 6135.003
- Square electrodes	- Side 1	code 6135.010

Other types of electrodes with different shapes and measurements also available on specific request

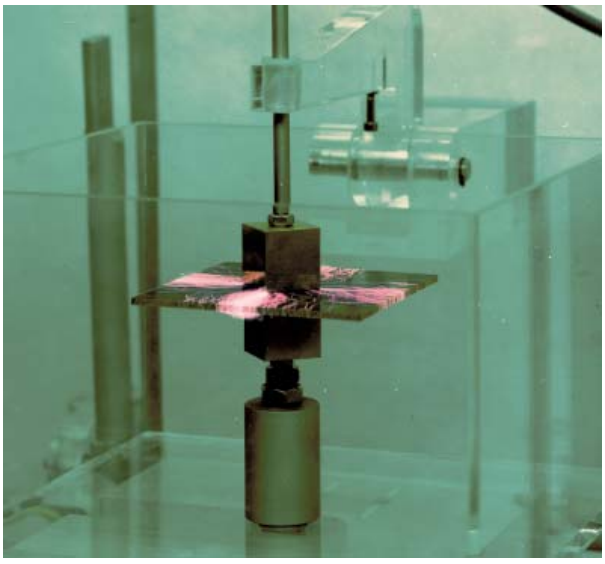

Fig. 2 - Example of a test

Fig. 3 - Example of electrodes

Models Available	
Models	**Codes**
Manual	6135.050
Motor driven voltage rise without steps	6135.054
Motor driven voltage rise with steps	6135.053

Technical Data	
Overall dimensions (L x D x H) mm Transformer	490 x 490 x 420 approx.
Overall dimensions (L x D x H) mm Measurement Box	700 x 620 x 600 approx.
Overall dimensions (L x D x H) mm Control Cabinet	530 x 450 x 1110 approx.
Mass kg Tranformer	120
Mass kg Measurement Box	25
Mass kg Control Cabinet	5
Supply	230 V - 50/60 Hz - Singlephase 110 V on request
Power kVA	2,5
Paint	fuchsia RAL 4006 - Gray RAL 7035

"Due to the continuous development policy of CEAST's Research and Development Department, changes may be introduced without notice"

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