

T-14 ABRASIVE TESTER

FOR EVALUATION
OF SCRATCHING RESISTANCE
OF ENGINEERING MATERIALS
AND SURFACE COATINGS



INSTITUTE FOR SUSTAINABLE TECHNOLOGIES
NATIONAL RESEARCH INSTITUTE RADOM

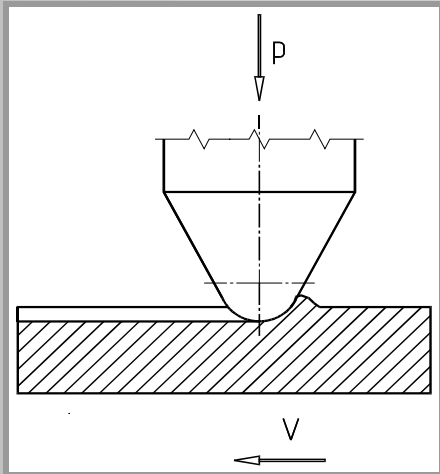
ul. K. Pułaskiego 6/10, 26-600 Radom, POLAND

fax: (+48-48) 3644765 www.itee.radom.pl www.tribologia.org trib-dep@itee.radom.pl

CHARACTERISTIC OF T-14 ABRASIVE TESTER

T-14 Abrasive Tester makes it possible to determine the resistance of engineering materials and surface coatings, especially paints and varnishes to abrasion (scratching) produced by the ball-shaped indenter, depending on applied load, sliding velocity, and other factors. The wear is assessed after the tests by microscopic measurements or through profiling of the wear track using a profilometer to determine the wear depth.

Experiments can be carried out in accordance with **ISO 1518** and the Polish Standard **PN-EN ISO 1518**.



The tribosystem consists of the stationary indenter pressed at the required load P against the plate sliding at the defined velocity v . The plate is made of the tested material. In case of testing of a surface coating, it is deposited on the plate.

The indenter is ball-shaped. The ball, 1 mm in diameter, is glued to the seat at the tip of the indenter, and is made of steel, tungsten carbide or ruby.

It is possible to change the spatial position of the indenter by tilting it. By transverse shifting the plate between the runs, a number of parallel scratches can be produced on one plate.

T-14 Abrasive Tester is equipped with a controller.

During the tests the following quantities are measured:

- sliding velocity,
- number of revolutions of the plate driving screw (sliding distance).

The measured values are displayed on the controller.

The motor of the tribotester is automatically stopped when the preset sliding distance is reached.

TECHNICAL SPECIFICATIONS

- | | |
|--------------------------------------|--|
| – type of movement | sliding |
| – contact geometry | non-conformal (point) |
| – nominal indenter shape | ball-shaped indenter, ball diameter 1 mm |
| – sliding velocity | up to 0.05 m/s (50 mm/s) |
| – normal load | up to 20 N |
| – track length | up to 70 mm |
| – tribotester dimensions (W x H x D) | 330 x 370 x 200 mm |
| – tribotester weight | 15 kg |
| – power supply | 230 V / 50 Hz (optionally 110 V / 60 Hz) |
| – max. power consumption | 0.3 kW |

