MonTech
Werkstoffprüfmaschinen GmbH

Abrasion / Tear tester for rubber

MonTech ABR 3000 Abrasion / Tear Tester for determination of the resistance of elastomers in regard with the frictional loss of a rotating or fixed specimen.

- Standards: DIN 53516, ISO/DIS 4649
- Description: The test is made on materials which wear off or abrade, like e.g. tyres, belts, conveyor belts, shoe soles.
- Basic equipment: machine frame with drive system and specimen holder, abrasion drum, metal housing, electric motor for rotation of the drum and the specimen holder

  Working area protected with translucent cover
  Integrated dead weight of 2,5 N
  additional loading weights of 2,5 N and 5,0 N

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Technical Data

Standards DIN 53516, ISO 4649:2002 (E)

Contact pressure for specimens	N	2,5 5 7,5 10
expandable up to	N	12,5 15 17,5 20
dimensions of abrasion tester W/D/H	in mm	760 x 360 x 320
dimensions of abrasion sheet L/W	in mm	472,5 + 2 x 400
abrasion distance of specimen	m	40 (20)
thickness of specimen	mm	6 ... 15
number of revolutions of specimen		
holder for rotating specimen	min^{-1}	0,9
corresponds to roller rotations		84 (42)
film tape W/D	in mm	50 x 0,2
weight	kg	gross 80 net 50
granulation of abrasion sheet		60
angle of inclination of axle center of the specimen to vertical position of roller	degree	3
diameter of specimen	mm	16
maximum gripping length of specimen	mm	13
lateral feed of specimen per roller rotation	mm	4,2
power supply		100-240 V 50 / 60 Hz 100 VA
peripheral speed of roller with abrasion sheet	m/s	0,32
packing W/D/H	in mm	900 x 680 x 610
number of revolutions of roller	min^{-1}	40
diameter of roller	mm	150
length of roller	mm	460

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- Test Procedure for abrasion test

1. After determination of the abrasiveness of the abrasion sheet the test run at the specimen at a test temperature of 23 ± 5°C can be done.
2. The test run can be done as described.
3. For calculation of the abrasion, the mass loss (average value of 3 to 10 single values) is converted to the loss of volume by help of the density and corrected for the deviation of the abrasiveness of the abrasion sheet from the set value of abrasiveness.

· Formula: Abrasion= $\frac{\text{mass lost x 200}}{\text{specific weight x abrasiveness}}$

- Package including:
  - Abrasion tester as described above, 230Volts, 2Amps
  - Emery papers (1pc)
  - Roll of adhesive tape
  - Set of brushes
  - Blunting sample
  - Safety cover

Optional:

- Sample cutter knife, diameter 16mm (with MK2 shaft)
- Standard elastomer specimen DIN 53516 186x186mm
- Precision balance max. 83g, 0,1mg
- Cleaning unit for ABR 3000 incl. 10 Brushes
- Set of consumables: 5 emery papers (certified) and tape

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