MODEL AB-6111

DIN ABRASION TESTER

Outline

This equipment is used for evaluating wear resistance of vulcanized or thermoplastic rubber conforming to the German Industrial Standard (DIN 53516), and is also incorporated into ISO4649, JIS K 6264-2, GB/T9867. It is used in a wide range of fields for evaluating such products as conveyer belts, outsole material of sports shoes, etc. Wrap the abrasive paper around the surface of the drum, rotate it at a constant speed and press the cylindrical rubber test piece against the abrasive surface with a load of 5N or 10N. For measurement, a wear test is performed up to a wear distance of 40 m. JIS K 6264-2 has two test methods, A and B. The equipment can select either of the methods quite easily by exchanging attachments.

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Features

○Operational safety is secured by the simple front cover.
○Minimized footprint for space saving

Specifications

MODEL	AB-6111
Applicable Standard	JIS K 6264-2, ISO 4649, DIN 53516, GB/T9867
Specimen Size	16±0.2mm in diameter, 6-15mm in thickness
Testing Method	Method A (without rotating), Method B (with a specimen rotating)
Load	10±0.2N, 5±0.1N
Traverse Mechanism	4.2±0.04mm / drum rotation
Drum Diameter	150±0.2mm
Drum Width	460mm
Drum Speed	40±1rpm
Wear Distance	40m (84 drum rotations) or 20m (42 drum rotations)
Wear Speed	0.32m/sec
Specimen Angle	3°
Power Supply	AC100V 10A 50Hz/60Hz
Dimensions & Weight	615(W) x 310(D) x 440(H)mm, approx. 55kg
Accessories	Weight (2.5N, 5N), non-rotation plate, 2-mm thick gauge, 20-m testing block, two calibration jigs (metal specimens), M4 and M3 hexagon wrenches, specimen preparation blade, reference rubber sheet, five sheets of sandpaper, double-sided adhesive tape
Options	sample preparation mold (16-mm dia x 15mm)

Calculation

Relative Volume Loss

$$V_{rel} = V_t \times \left(\frac{m_{const}}{m_r}\right) = \left(\frac{m_t}{p_t}\right) \times \left(\frac{m_{const}}{m_r}\right)$$

V_{rel} : relative volume loss (mm^3)
V_t : volume loss of specimen (mm^3)
m_{const} : defined mass loss of reference (mg)
m_r : mass loss of reference specimen (mg)
m_t : mass loss of test specimen (mg)
p_t : density of specimen (g/cm^3)

Abrasion Resistance Index

$$I = \frac{V_r}{V_t} \times 100 = \frac{\left(\frac{m_r}{p_r}\right)}{\left(\frac{m_t}{p_t}\right)} \times 100$$

I : abrasion resistance index
V_r : volume loss of reference specimen (mm^3)
V_t : volume loss of test specimen (mm^3)
m_r : mass loss of reference specimen (mg)
p_r : density of reference specimen (g/cm^3)
m_t : mass loss of test specimen (mg)
p_t : density of test specimen (g/cm^3)

※Please be noted that the contents in this brochure may change without prior notice due to improvement of the equipment. 027-468719-2