Nordic Abrasion Machine

LT-A1071 | Controlled drum abrasion of road aggregates

Stainless steel drum • Three internal ribs • Digital electronic control



90 ± 3 rpm

DRUM ROTATION SPEED

11.2–16.0 mm

PRIMARY TEST SIZE FRACTION

EN 1097-9 • Nordic wear testing with aggregate, water and steel balls

LT-A1071

Photograph and Machine Components

Stainless steel drum, lid, support rollers and digital controls

LT-A1071 assesses the resistance of coarse aggregate to wear caused by studded tyres. Aggregate, water and steel balls rotate inside the closed drum. After testing, the specimen is processed and abrasion loss is determined.

STAINLESS STEEL DRUM

Aggregate, water and steel balls move together inside the rotating drum.

LID AND FASTENING

The removable lid gives access for loading and unloading. Check the fastening before operation.



PROTECTIVE UPPER COVER

The upper section surrounds the drum working area. The photograph shows the cover open for access.

DIGITAL CONTROLS

The electronic control unit manages the test process. Operating and stopping controls are on the front panel.



Drum, front lid and support roller detail



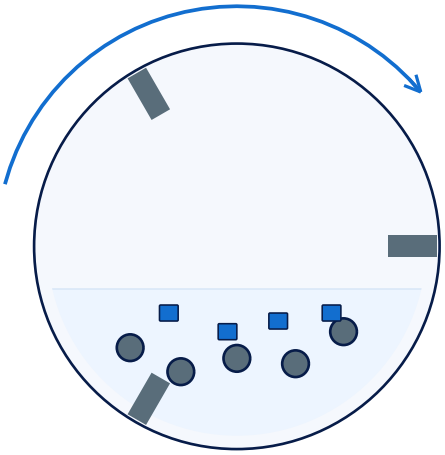
Digital controller and front panel detail

LT-A1071

Wet Abrasion Inside the Drum

Prepare aggregate • Add water and balls • Rotate • Assess losses

AGGREGATE + WATER + STEEL BALLS



90 ± 3 rpm

THREE INTERNAL RIBS

SAMPLE: 11.2–16.0 mm COARSE AGGREGATE

RESULT: NORDIC ABRASION VALUE

OPERATING PRINCIPLE • REPRESENTATIVE DRUM SECTION • NOT TO SCALE

Prepare Sample and Charge

Prepare aggregate by the method. Check water quantity and steel-ball charge before adding them to the drum.

Apply Controlled Rotation

Close the drum and select the required revolutions. Three internal ribs support aggregate and ball movement.

Evaluate Abrasion Loss

Remove the sample, then wash, sieve and dry as prescribed. Calculate the Nordic abrasion value from mass records.

During rotation, interaction between aggregate, steel balls and the drum surface produces abrasion. Water and three internal ribs contribute to movement of the test charge. Assess the remaining sample after the prescribed revolutions and compare aggregate sources under the same method conditions.

Size Fraction and Method

EN 1097-9 evaluates the resistance of road aggregate to wear from studded tyres using the Nordic method. The primary size fraction is 11.2–16.0 mm.

Match sample preparation, water, ball charge and total revolutions to the method. Complete washing, sieving and drying after the test using a consistent record system.

Ball Charge and Interpretation

Ø11.1 mm steel balls are ordered separately as a 3.5 kg charge. Check the balls and drum interior before testing.

Under the same test conditions, lower abrasion loss indicates greater wear resistance. Evaluate road aggregate results together with particle shape, fragmentation resistance and other project requirements.

LT-A1071

Technical Specifications and Test Workflow

LT-A1071 • Nordic abrasion system and steel-ball charge

Technical Specification	Value / Description
Product Code	LT-A1071
Test Method	EN 1097-9 / Nordic abrasion test
Primary Size Fraction	11.2–16.0 mm
Drum Rotation Speed	90 ± 3 rpm
Control Unit	Electronic control with digital display
Drum Material	Stainless steel
Drum Internal Diameter / Length	206.5 mm / 335 mm
Drum Wall Thickness	6 mm
Internal Mixing Ribs	3
Separately Ordered Ball Charge	Ø11.1 mm steel balls / 3.5 kg
Overall Dimensions	154 × 80 × 130 cm
Machine Weight	150 kg
Power Supply	220 V, 50–60 Hz, single phase

Order Balls Separately and Match the Charge to the Method

Ø11.1 mm steel balls are supplied separately as a 3.5 kg charge. Apply specimen and water quantities, total revolutions and post-test processing according to EN 1097-9.

From Aggregate to Nordic Abrasion Result

01
Prepare
Select the fraction and record initial mass.

02
Load
Add aggregate, water and balls; close the lid.

03
Rotate
Apply the revolutions required by the method.

04
Evaluate
Wash, sieve, dry and calculate abrasion value.

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