TESTMAK
MATERIAL TEST EQUIPMENTS

MICRO-DEVAL TESTING MACHINE

AGGREGATE

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Micro Deval Testing Machine

PRODUCT MODEL

AG1360/A	Micro Deval Testing Machine, ASTM - 220-240 V 50-60 Hz
AG1360/E	Micro Deval Testing Machine, EN - 220-240 V 50-60 Hz
AG1360/A-110	Micro Deval Testing Machine, ASTM - 110 V 60 Hz
AG1360/A-02	Stainless Steel Drum, ASTM, Dia. within 194 and 202 mm and Height within 170 and 177 mm
AG1360/A-03	Micro-Deval Abrasion Charges, ASTM, Ø9,5 mm, 2 pcs. of 6 kg packed
AG1360/E-02	Stainless Steel Drum, EN, Ø 200x154 mm, EN 1097-1
AG1360/E-03	Stainless Steel Drum, EN, Ø 200x400 mm, EN 1097-1
AG1360/E-04	Micro-Deval Abrasion Charges, EN Ø10 mm 25 kg Pack, EN 1097-1

PRODUCT STANDARDS

Standards	EN1097-1 | CNR N109 | UNE 83115 | NLT 325 | NF P18-572

INFORMATION

Manufacturer	TESTMAK INS.LAB.MAK.SAN.VE TİC. PAZ. ITH. IHR. LTD. STI
Country of Origin	TURKEY
Product name	Micro Deval Testing Machine

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Micro Deval Testing Machine

DESCRIPTION

Micro-Deval test is the abrasion of rock samples classified according to certain dimensions in a drum and in wet environment, at a certain rotation speed and for a certain number of revolutions, and then; It is an aggregate strength test based on the ratio of the material passing the sieve determined by the standards to the amount of the first material.
The Micro-Deval test can be applied to both fine and coarse aggregates.
The procedure is applied differently in the two experiments.

The machine has a sophisticated electronic controller with dedicated sensors to precisely track test time, total revolutions and rpm of drums;

Stainless steel drums are rotating at a speed of 100 ± 5 r.p.m. The Micro-Deval is supplied complete with control panel fitted with a digital automatic revolutions counter. Also stainless drums and stainless steel spheres are suplied together with machine .

The Micro-Deval ASTM Model

The Micro-Deval ASTM model is constituted of a sturdy steel frame which can receive 2 stainless drums together. The Drums are made of stainless steel with diameter and height according to standards (diameter within 194 and 202 mm and height within 170 and 177 mm) and are complete with cover and locking device.

The Micro-Deval ASTM model is supplied complete with;

• Stainless Steel Drums, ASTM (Dia. Within 194 and 202 mm and Height within 170 and 177 mm), 2 pcs
• Micro-Deval Abrasion Charges, ASTM (Ø9,5 mm, 2 packages of 6 kg)

The Micro-Deval EN Model

The Micro-Deval EN Model is model is constituted of a sturdy steel frame which can receive 4 stainless drums together. The Drums are made of stainless steel with diameter and height according to standards (diameter within 200 and height within 154 mm) and are complete with cover and locking device. 1,18 mm sieve should be ordered separately.

The Micro-Deval EN model is supplied complete with;

• Stainless Steel Drum, EN (Dia. 200 mm and Height 154 mm), 4 pcs
• Micro-Deval Abrasion Charges, EN (Ø10 mm 25 kg Pack, EN 1097-1)

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How is the Micro-Deval Experiment Done?

Various standards can be used in the application of the Mikro-Deval test. The experiment described below was performed according to the ASTM standard.

Steps:

• In the experiment, 4 sieves of 1.18 mm, 4.75 mm, 6.3 mm and 9.5 mm dimensions are used.

• A total of 1500 grams of sample is prepared, of which 750 grams between 4.75 mm and 6.3 mm and 750 grams between 6.3 mm and 9.5 mm are prepared.

• The prepared samples are dried in an oven before the experiment and their moisture is removed.

• 1500 grams of sample, 5000 grams of 1 cm diameter steel ball and 2 liters of water are added into the drum and closed.

• The drum is rotated 9500 revolutions at a speed of 100 revolutions per minute in the machine.

• The extracted sample is sieved through a 1.18 mm sieve and weighed after the material on the sieve is dried in the oven.

• The weight loss is divided by the initial weight and the wear loss (Micro-Deval wear value) is calculated as a percentage (%).

• The experiment is repeated at least twice for each sample.

Calculation

MDA = Micro-Deval wear value (%)

Δm = Total weight loss (gr),

m = Initial weight (g)

MDA (%) = (Δm / m) x 100

TECHNICAL SPECIFICATIONS

Model	ASTM	EN
Stainless Steel Jars are Rotating Speed	100 ± 5 r.p.m.	100 ± 5 r.p.m.
Dimensions	580x350x1000 mm	1100x500x1000 mm
Weight (approx)	115 kg	110 kg
Power	750 W	750 W

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