

DLG e.V.
DLG Test Centre for Agricultural Machinery and Farm Inputs
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DLG Fokus Test

Geyer & Hosaja walking way cover (Name of the Mat?), Test-Nr.: 11-313



Registering and manufacturing company

Geyer & Hosaja Sp. z.o.o.

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Description

Elastic floor cover for level concrete walking ways in cattle housing.

Black, profiled rubber mat, thickness approximately 25 mm. Upper side with hammerstroke structure, underside with balks and knops. Balks ca. 5 mm high, width ca. 14 mm, length ca. 43,5 mm; knops ca. 5 mm high, diameter ca. 18,5 mm .

Shore A hardness: 65.

Available sizes: Length xxx cm. Width: xxx cm. Installation as a single mat.

Test results and detailed evaluations

Deformability and elasticity

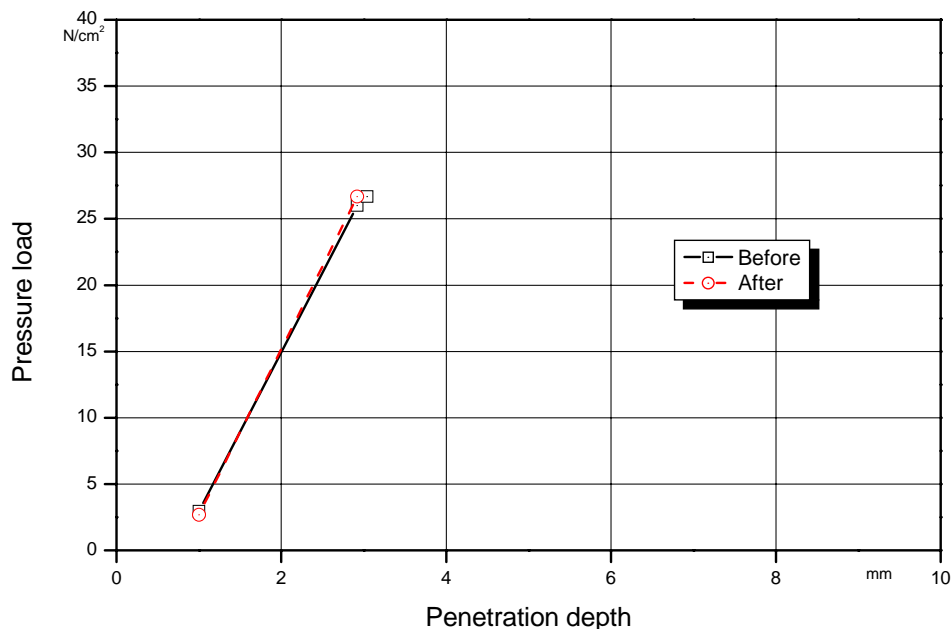
In indentation test in new condition with a round steel foot (artificial cow's foot) having a diameter of 105 mm (contact area 75 cm², with a 5 mm wide ring at the periphery of the sole, which projects 1 mm over the rest of the surface (carrying edge of the claw)) and a penetration force of 2.000 N (corresponding to ca. 200 kg), penetration depth was 3.04 mm. This results in a calculated surface pressure of 26.7 N/cm².

Elasticity was measured after the rubber mat had been exposed to a permanent tread load exerted by the steel foot (250.000 alternating loads of 5.000 N). After the endurance test, the penetration depth reduced to 2.92 mm.

Evaluation: Deformability and elasticity
in new condition (++)
after the permanent pressure test (+)

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Deformability: Penetration depth of the steel foot (contact area 75 cm²) as a function of surface pressure before and after permanent tread load



Picture 2: Deformability as a function of surface pressure

Permanent tread load

Permanent tread load

After the rubber mat had been exposed to a permanent tread load exerted by a round steel foot (artificial cow's foot) having a diameter of 105 mm (contact area 75 cm², with a 5 mm wide ring at the periphery of the sole, which projects 1 mm over the rest of the surface (carrying edge of the claw)) in test stand trials (250.000 alternating loads of 5.000 N (corresponding to ca. 500 kg), the rubber mat showed no appreciable wear on the surface and on the balks and knops on the bottom. Lasting deformation could not be observed.

Evaluation: no appreciable wear on the surface and on the balks and knops on the bottom (+)
no lasting deformation (++)



Picture 3: Deformation measurement



Picture 4: Permanent tread load test rig

Abrasion test

In a standardised abrasion test during which the surface was grinded with an emery cloth (granulation 280) and a grinding pressure of 500 N (= 8.1 N/cm² surface pressure), the abrasion depth after 10,000 cycles amounted to 2.0mm, this corresponds to approximately 7 % of the rubber thickness. Of the ground surface (61.5 cm²) 2.5 grams were rubbed off.

Evaluation: The minor abrasion depth and the slight grit implicate a good wear resistance of the rubber mat (+).



Picture 4: Test sample after the abrasion test

Slip resistance

The measurements were carried out with the ComfortControl test rig of the DLG test centre.

A loaded (10 kg) round plastic foot (105 mm diameter, with a contact area of 75 cm², 3 mm wide ring at the periphery of the ground) was pulled with a velocity of 20 mm/s across the mat.

The slide pulling tests showed a good slip resistance on the dry or wet rubber surface in new condition. The measured friction coefficients (μ) all surpassed the minimal value of $\mu = 0.45$ which speaks for a good foothold.

Evaluation: Good slip resistance on dry and wet rubber mat surface (+).



Picture 5: Slip resistance measurement

Test

The DLG FokusTest included technical measurements on test rigs of the DLG test station. Deformability and elasticity were examined and a permanent tread load test was carried out. Examinations of abrasion resistance in an abrasion test using an emery cloth, examinations of slip resistance with the aid of slide pulling tests were carried out.

Other criteria were not tested.

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