Gummiwerk Kraiburg Elastik GmbH

Kraiburg Comfort Mat Type KEW Plus

deformability/elasticity, continuous tread load

DLG-Test Report 5830F

DLG FOKUS TEST
09/08 deformability/elasticity continuous tread load

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DLG e.V.
Test Center
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Short description

Elastic floor cover in the resting area for high cubicles in cubicle houses.

Three-layered composition:

- upper mat:
  black rubber mat 10 mm thick with circumferential border,
  thickness 60 mm,
  surface with grooves and beams,
  width of the grooves 8 mm,
  depth of the grooves 2 mm,
  width of the beams 33 mm.
- inlay:
  foam inlay, 20 mm thick.
- lower mat:
  cup-formed rubber mat, 32 mm thick.

Test results and single evaluations

Deformability and elasticity

In ball thrust tests of hardness in new condition with a calotte (r = 120 mm) at penetration force of 2,000 N (corresponding to approx. 200 kg) penetration depth was 42.9 mm. The surface pressure of 6.2 N/cm² calculated based on these results indicates a relatively small load on the carpal joints when the animals get up and lie down.

Elasticity was measured after exposure to a continuous tread load exerted by a steel foot (contact area 75 cm²), which comprised 100,000 alternating loads of 10,000 N. After the endurance test, the penetration depth of the calotte decreased from 42.9 mm to 41.3 mm. Surface pressure increased from 6.2 N/cm² to 6.4 N/cm² (cf. figure 3). This means that deformability and elasticity decreased slightly.

Evaluation

– in new condition	+ +
– after the continuous tread load test	+ +

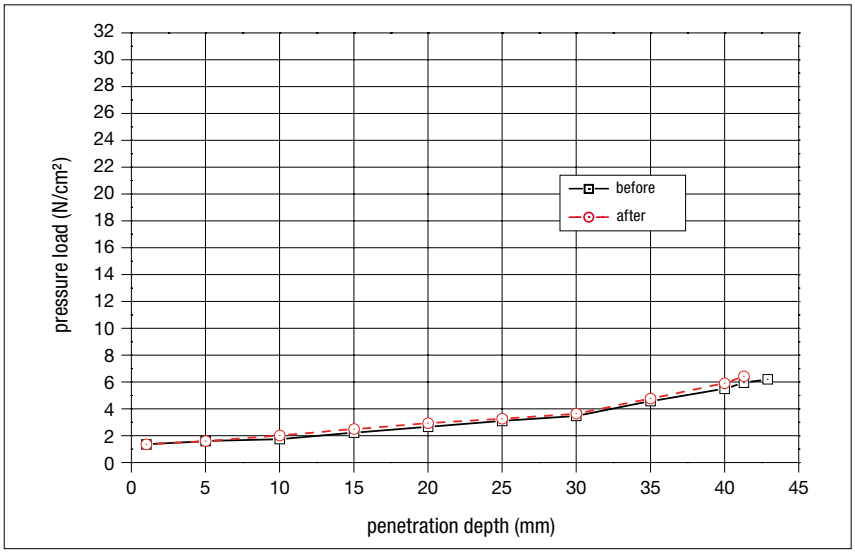

Figure 3:
deformability as a function of surface pressure

Figure 4:
foam after continuous tread load

Continuous tread load

After exposure to a continuous pressure load exerted by a steel foot on a test stand (contact area 75 cm²), which comprised 100,000 alternating loads of 10,000 N (corresponding to approx. 1,000 kg), little wear on the upper mat was established. On the foam little wear was found. The cup-formed lower mat showed no noticeable wear. The floor cover was compressed and a lasting deformation of approx. 10 mm was determined. With a height in new condition of approx. 62 mm, this means that the height of the floor cover has been diminished by approx. 16%.
A diminution of up to 30% is defined as a standard.

Evaluation

– little lasting deformation	+
– upper mat: little wear	○
– foam: little wear	○
– cup-formed lower mat: no noticeable wear	+

Evaluation scale:
+ + / + / ○ / – / – – (○ = standard)

Figure 5:
under side of upper mat after continuous tread load

Figure 6:
under side of lower mat after continuous tread load

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Test

The FokusTest is based on the technical measurements on the test stands of the DLG Test Centre.

Tests to deformability, elasticity and continuous tread load have been carried out.

Other criteria have not been examined.

Realization of the tests

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ENTAM – **E**uropean **N**etwork for the **T**esting of **A**gricultural **M**achines, was created from the merger of European testing sites. ENTAM's objective is the Europe-wide distribution of test results for farmers, agricultural equipment dealers, and producers.

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