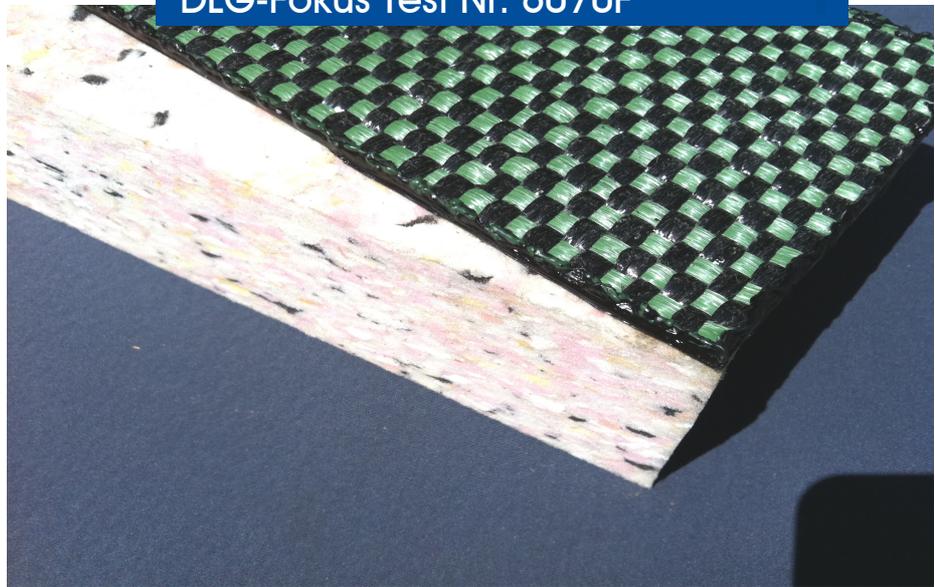


Ecopolimer srl

## Eco- Bedding – The Soft System

Deformability and elasticity

DLG-Fokus Test Nr. 6070F



### Registering Company

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DLG e.V.  
Testzentrum  
Technik und Betriebsmittel

### Description

Cow mattress for the resting area of high cubicles in cattle housing, with a dark-green cover mat in the form of rolls and an underneath layer of polyurethane foam, thickness ca. 46 mm

#### - Cover mat

- thickness ca. 3,3 mm.
- upper side out of Polypropylene fabric
- underside with a grey waterproof coating
- rolls height cm. 220

#### - Underneath layer

- polyurethane foam mat,
- thickness ca. 43 mm
- 180 cm also on require max. 200 cm.
- width: 100 cm

## Test Results – Deformability and elasticity

During impression tests in new condition with a cap ( $r = 120$  mm) at a penetration force of 2000 N (corresponding to approx. 200 kg) penetration depth was 30,7 mm. Due to the area pressure of 8,6 N/cm<sup>2</sup>, calculated on the basis of these values, one can expect very low loads on the carpal joints during lying down and getting up.

Elasticity was measured after exposure to a continuous tread load exerted by a steel foot (contact area: 75 cm<sup>2</sup>) in the form of 100.000 alternating loads of 10.000 N.

After the endurance test, the penetration depth of the cap increased from 30,7 mm to 32,0 mm. Area pressure decreased from 8,6 N/cm<sup>2</sup> to

8,3 N/cm<sup>2</sup>. This means that deformability and elasticity increase slightly.

Evaluation: Deformability and Elasticity

In new condition (++)

After permanent tread load test (++)

### Permanent tread load test

The mattress system has 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 cm<sup>2</sup>, 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) with alternating loads of

10.000 N (corresponding to ca. 1000 kg). After exposure to the permanent tread load test no appreciable wear and no lasting deformation was determined.

### Evaluation

no lasting deformation (++)

no appreciable wear (+)

### Test

The DLG Fokus Test 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. Other criteria were not tested.

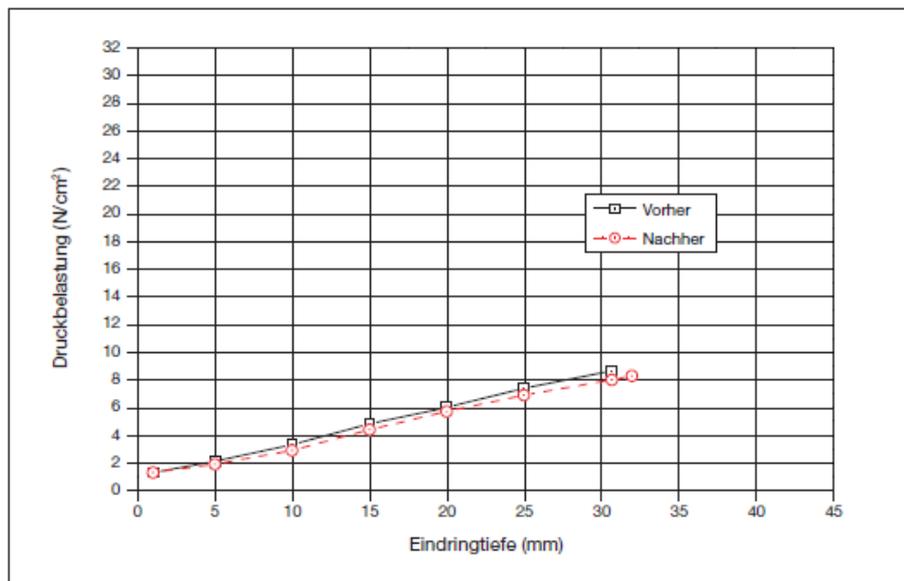


Bild 2:  
Verformbarkeit in Abhängigkeit vom Auflagedruck

