

# DLG Test Report 7476

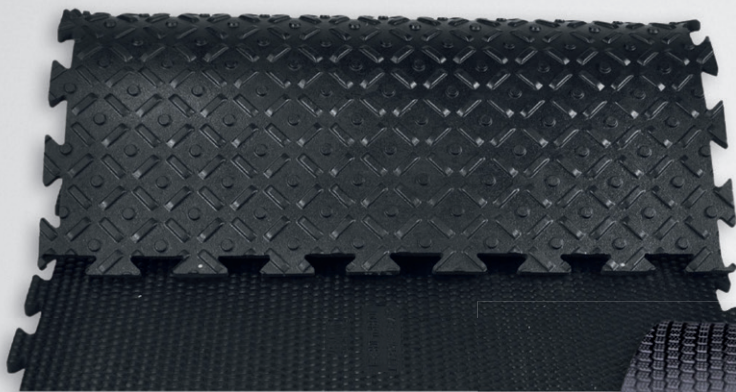
Geyer & Hosaja Sp. z o.o.

Gummimatten GH-S 2.1/2.4/2.7, GH 2.1 24 mm,  
GH 2.4/2.6 18 mm/24 mm, GH 2.7 24 mm

PAK Test



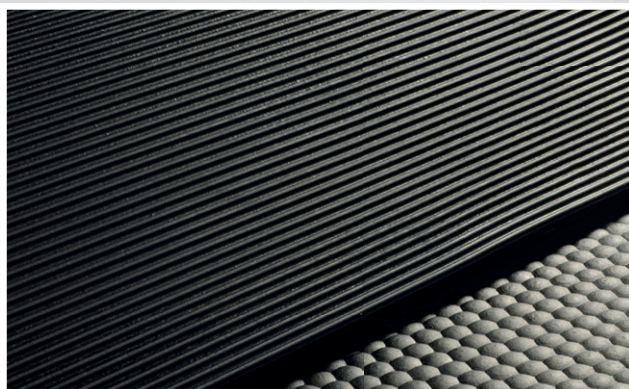
**CONTINUOUS  
MONITORING**  
RUBBER FLOOR MATS  
FOR ANIMAL HOUSES  
✓ PAH harmless  
DLG Certificate 7476



GH 2.1



GH 2.7



GH 2.4



GH 2.6

## Overview

The DLG quality marks and seals stand for independent tests and certifications of products, systems and processes (such as manufacturing processes) that are based on requirements that are drawn from the field. The test criteria are laid down by independent test commissions that are made up by volunteer experts. These criteria describe the methods of testing the essential and value determining features of products or processes. The specifications that define a specific quality of a product or process are drawn from the field and are in line with the latest scientific findings. The quality mark is awarded to a product or process after the test has revealed that it complies with the high DLG standards. Depending on the type of test and product group, the mark is either awarded under the RAL quality assurance scheme or as DLG quality mark under the DLG quality standards scheme. The DLG tests provide consumers with valuable purchase information and at the same time ensure that the quality of the tested product is maintained at a consistently high level. By submitting their products to a DLG test, manufacturers agree to accept an ongoing and independent quality monitoring programme for the products, systems and processes tested. This programme is subsequently carried out by qualified samplers and auditors who on an ongoing basis take unannounced samples at the manufacturer's or dealer's premises for subsequent analysis or carry out audit processes.



This DLG quality mark test involved measuring PAH migration to Tenax in all rubber blends. The test was based on the 'Project report on PAH migration from rubber floor mats' as provided by Fraunhofer-Institut für Verfahrenstechnik und Verpackung IVV, Freising, Germany, dated 8 August 2018 and DIN 3763:2022-08 (Resilient barn floor coverings in the walking and lying area of cattle and dairy cows – Requirements and testing) and DIN 3762:2022-07 (Barn floor coverings – Determination of the migration of polycyclic aromatic hydrocarbons (PAHs)).

## Assessment – Brief Summary

Table 1:  
Summary of test results

DLG QUALITY PROFILE	Requirements	Evaluation*
PAH migration to Tenax	$\leq 10 \mu\text{g}/\text{dm}^2$ (15+1 EU SCF-PAK) $\leq 5 \mu\text{g}/\text{dm}^2$ (8 EU REACH-PAK)	✓

The rubber mats GH-S 2.1/2.4/2.7, GH 2.1 24 mm, GH 2.4/2.6 18 mm/24 mm and GH 2.7 24 mm complies with the migration guideline values specified in DIN 3763:2022-08 for the PAHs determined in accordance with DIN 3762:2022-07.

\* Evaluation range: requirement fulfilled (✓) / requirement not fulfilled (✗)



## The Product

### Manufacturer and Applicant

Geyer & Hosaja Sp. z o.o., Partynia 12, 39-310 Radomysl Wielki, Polen

Product: Gummimatten GH-S 2.1/2.4/2.7, GH 2.1 24 mm, GH 2.4/2.6 18 mm/24 mm, GH 2.7 24 mm

Contact: Telefon 0048 14 680 6700, sebastian.saj@geyer-hosaja.com.pl, www.geyer-hosaja.com.pl

### Description and Technical Data

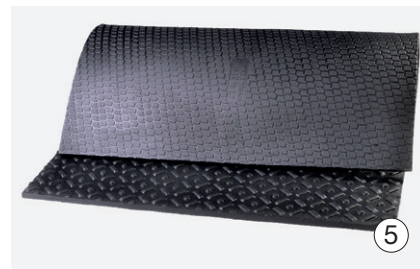
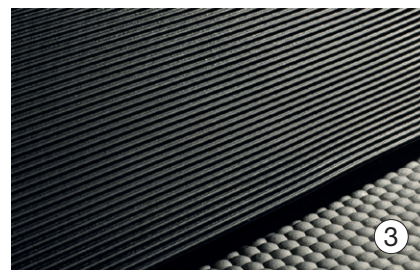
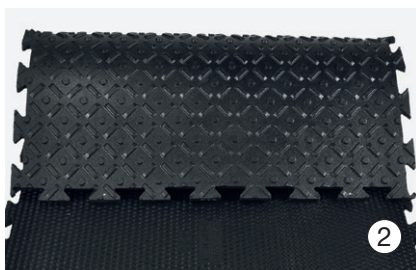
The rubber mats tested GH-S 2.1/2.4/2.7, GH 2.1 24 mm, GH 2.4/2.6 18 mm/24 mm and GH 2.7 24 mm are supplied with the same mixture/the same components and the same technology.

Product name	Type	Thickness	Usage
GH-S 2.1/2.4/2.7	slat rubber	24 mm	corridors milking parlour waiting area carusels pens
GH 2.1	walking way cover	24 mm	
GH 2.4	walking way cover	18 mm and 24 mm	
GH 2.6	walking way cover	18 mm and 24 mm	
GH 2.7	walking way cover	24 mm	



Figures 2 to 6:

- ① slat rubber GH-S 2.1/2.4/2.7
- ② walking way cover GH 2.1
- ③ walking way cover GH 2.4
- ④ walking way cover GH 2.6
- ⑤ walking way cover GH 2.7



## The Method

### PAH migration to Tenax

PAH migration testing was carried out by taking samples from rubber mats GH-S 2.1/2.4/2.7, GH 2.1 24 mm, GH 2.4/2.6 18 mm/24 mm and GH 2.7 24 mm.

The testing was carried out to the standard EN 1186-13-b:2002-12 (accredited), modified for DIN 3762:2022-07.

#### Parameters

- Simulating a modified Polyphenylene Oxide (MPPO, Tenax)
- Contact time: 10 days
- Temperature: 40 °C
- Contact surface: 0.5 dm<sup>2</sup>
- Quantity: 2 g Tenax

The tests involved cutting a 0.5 dm<sup>2</sup> patch from the sample and applying 2 g of Tenax powder on it (one-sided contact layer). The weight of each

patch was obtained by weighing it on analysis scales. At the end of the contact time, the migrating contact was terminated by removing the Tenax powder from the samples. Then the Tenax was extracted at 40 °C during 24 hours with n-Hexane by adding an isotope-marked PAH standard blend (internal standard) and the n-Hexane extracts were cleaned before the GS-MS measurement was taken using SPE. The test was carried out by applying duplicate measurements.

## Summary

PAH migration from the rubber mats GH-S 2.1/2.4/2.7, GH 2.1 24 mm, GH 2.4/2.6 18 mm/24 mm and GH 2.7 24 mm to Tenax powder was tested. The rubber mats comply with the migration guideline values specified in DIN 3763:2022-08 for the PAHs determined in accordance with DIN 3762:2022-07.

## More information

### Test implementation

DLG TestService GmbH,  
Gross-Umstadt location, Germany  
The tests are conducted on behalf of DLG e.V.

### DLG test scope

Quality mark test 'Project report on PAH migration from rubber floor mats' provided by Fraunhofer-Institut für Verfahrenstechnik und Verpackung IVV, Freising, Germany

DIN 3763:2022-08 (Resilient barn flooring in the walking and lying area of cattle and dairy cows – Requirements and testing) and DIN 3762:2022-07 (Barn flooring – Determination of migration of polycyclic aromatic hydrocarbons (PAHs))

### Department

Agriculture

### Head of Department

Dr. Michael Eise

### Test engineer(s)

Dr. Harald Reubold\*

### Special examination

Fraunhofer-Institut Verfahrenstechnik  
und Verpackung, Giggenhauser Straße 35,  
D-85354 Freising, Germany

\* Author

## DLG – the open network and professional voice

Founded in 1885 by the German engineer Max Eyth, DLG (Deutsche Landwirtschafts-Gesellschaft – German Agricultural Society) is an expert organisation in the fields of agriculture, agribusiness and the food sector. Its mission is to promote progress through the transfer of knowledge, quality standards and technology. As such, DLG is an open network and acts as the professional voice of the agricultural, agribusiness and food sectors.

As one of the leading organisations in the agricultural and food market, DLG organises international trade fairs and events in the specialist areas of crop production, animal husbandry, machinery and equipment for farming and forestry work as well as energy supply and food technology. DLG's quality tests for food, agricultural equipment and farm inputs are highly acclaimed around the world.

For more than 130 years, our mission has also been to promote dialogue between academia, farmers and the general public across disciplines and national

borders. As an open and independent organisation, our network of experts collaborate with farmers, academics, consultants, policymakers and specialists in administration in the development of future-proof solutions for the challenges facing the agriculture and the food industry.

### Leaders in the testing of agricultural equipment and input products

The DLG Test Center Technology and Farm Inputs and its test methods, test profiles and quality seals hold a leading position in testing and certifying equipment and inputs for the agricultural industry. Our test methods and test profiles are developed by an independent and impartial commission to simulate in-field applications of the products. All tests are carried out using state-of-the-art techniques at our ultra-modern facilities applying also international standards. The actual testing agency is the DLG TestService GmbH which holds multiple accreditations to perform these tests.

Internal test code DLG: 2403-0023

Copyright DLG: © 2024 DLG



**DLG TestService GmbH**  
**Standort Groß-Umstadt**

Max-Eyth-Weg 1 • 64823 Groß-Umstadt  
Telefon +49 69 24788-600 • Fax: +49 69 24788-690  
Tech@DLG.org • www.DLG.org

Download aller  
DLG-Test Reporte kostenlos  
unter: [www.DLG-Test.de](http://www.DLG-Test.de)