Test protocol	Institut für Kunststoffe (IS-AN5-MUC)	
Client: GardenPlast Sp. z o.o. Sp.k.	31.07.2019	

Scope: Determination of compressive properties based on DIN EN ISO 604:2003-12

Client: GardenPlast Sp. z o.o. Sp.k.
Sosnowa 3b
43-332 Pisarzowice

Date of order: 28.05.2019
Test object: Plastic lawn grids
Order no.: 3118229
Order reference: Mr. Robert Fabia

1. Test object

Type	Figure
Plastic lawn grid	

2. Results

Sample	Height	Colour	Compresion stamp surface	Plastic deformation [F_{plas}]*
1	~35 mm	green	415 cm²	~35 kN (3,5 t)

*) Begin Deformation of the ridges

Test protocol	Institut für Kunststoffe (IS-AN5-MUC)	
Client: GardenPlast Sp. z o.o. Sp.k.	31.07.2019	

Seriengrafik:

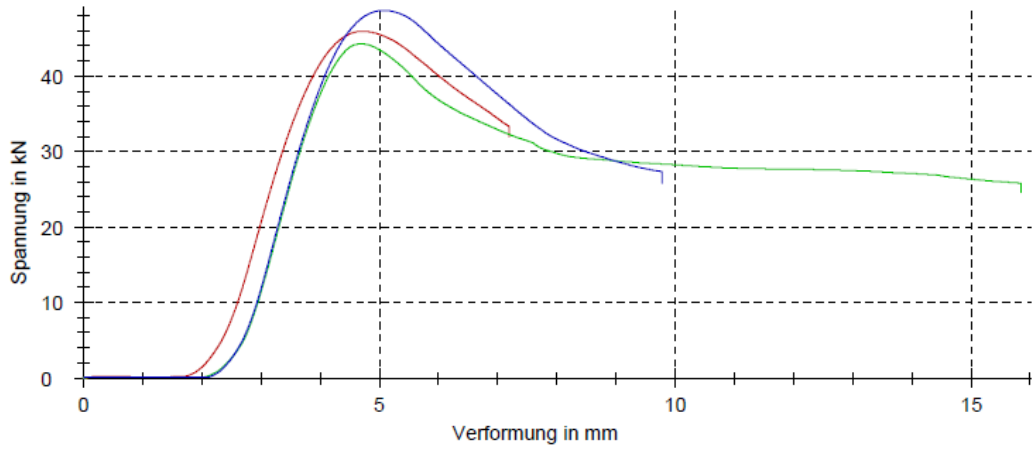

Fig.1: Start plastic Deformation at ~35 kN

Load classes according to DIN EN 1072

Bridge class	wheel load	Load contact surface (wheel)
60 (SLW 60)	100 kN	200 x 600 mm
45 (SLW 45)	75 kN	200 x 500 mm
30 (SLW 30)	50 kN	200 x 400 mm
24	40 kN	200 x 300 mm
16 (Fire engine)	**50 kN**	**200 x 400 mm**
12	40 kN	200 x 300 mm
9	30 kN	200 x 260 mm
6	20 kN	200 x 200 mm
3	10 kN	200 x 200 mm

Bridge class 16:

Wheel load front wheels: 50 kN

Load contact surface (wheel): 800 cm² (0,2 m X 0,4 m) = 0,08 m²

Calculation / Ratio:

Compression stamp surface: 415 cm² = 0,0415 m²

Minimum test force by recalculation:

Minimum test force required: ~26 kN

Test protocol	Institut für Kunststoffe (IS-AN5-MUC)	
Client: GardenPlast Sp. z o.o. Sp.k.	31.07.2019	

Sample	Compression stamp surface	Plastic deformation [F_{plas}]	Min. test force required for Bridge class 16	Requirement
1	415 cm²	~35 kN	~26 kN	ok

3. Evaluation and Summary

The above mentioned lawn grids green and black showed the beginning of a plastic deformation at approx. 35 kN.
The individual results can be taken from the tables above. In relation to bridge class 16 according to DIN EN 1072, the above-mentioned plastic lawn grids have sufficient strength against premature damage. The test carried out is a static short-term test.
The results cannot be applied to dynamic loads and long-term stress.

Institute for plastics

i. A. Schweizer

TÜV SÜD Industrie Service GmbH

The Expert

Di Lella