

Grass Securing Honeycomb

LGA Test Report

Materials Testing Office
Department of Solid Building and Construction



Test Report MK 3503513/2

Client: Ritter GmbH
Schwabenstraße 50-54
86836 Untermeitingen

Date of commission: 07.08.1005

Purpose of commission: To test "Ritter Grass Securing Honeycomb"

Test standard: DIN 53454, testing of plastics, compression test

Sample material: Four grass securing honeycomb units, olive green
Approx. dimensions 39 x 50 x 4.5 cm
Supplied on 09.08.1995

Test results: Test speed: 1 mm/min Test conditions: 23°C / 50% RH

Sample in mm	Dimensions in mm ²	Compression area in kN	Maximum strength in kN/m ²	Pressure resistance
Honeycomb 1	59 x 68 x 45	3009	8.71	2894
Honeycomb 2	"	"	9.18	3051
Honeycomb 3	"	"	8.56	2845
Strip 1-1	59 x 387 x 45	22833	51.95	2275
Strip 1-2	"	"	45.43	1989
Strip 2-1	68 x 504 x 45	34272	72.28	2109
Strip 2-2	"	"	73.93	2151

The minimum possible surface load on the grass securing honeycomb is 1000 kN/m² with evenly distributed load and at a temperature of 23°C.

The test results relate exclusively to the samples tested.

Nuremberg, 11.08.1995
MK3 Hs

LGA – Materials Testing Division
Department of Solid Building
and Construction

Dipl. Ing. GROSSE



Responsible for testing:

Dipl. Ing. HÖSCH

Der Prüfungsbericht umfasst 1 Textseite und * Anlagen, davon * Bildtafeln, * Zeichnungen, * Pläne (lose Beilagen)

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Grass Securing Honeycomb

Weihenstephan Extended Trial

An extended test spanning three years was conducted on our product at the Institute of Soil Science at the Technical University of Weihenstephan. An abridged version of the report is presented below. The full report can be supplied on request.

Planting on Ritter grass securing honeycomb units*

Results of a trial conducted by the Institute of Soil Science and Plant Nutrition, State Research Institute for Horticulture at the Technical University of Weihenstephan, 85350 Freising

Trial set-up:

Ritter grass securing honeycomb units laid on a foundation of crushed stone and ballast were filled with substrates of varying composition and planted with two different turf blends capable of handling dry conditions. The areas were only watered in the first few weeks following sowing, mowed twice a year and fertilised once a year. The trial lasted three years (October 1992 – October 1995).

Results:

In addition to selecting turf blends capable of handling dry conditions, another key factor which contributed to the success of the vegetation on Ritter grass securing honeycomb units was the careful selection of substrate blends. A blend of 50 % by volume of seasoned, low-salt greenery compost with 50 % by volume of broken bricks proved favourable. 6 – 12 mm. This substrate had a high maximum water storage capacity (approx. 54 % by volume), satisfactory air capacity (9.3 % by volume) and a high nutrient supply. Despite some adverse weather conditions and the relatively thin layer of vegetation prescribed, the lawn turf (RSM 8 B) managed to establish itself on this substrate on the grass securing honeycombs over the three-year observation period, although it was noted that the surface of the lawn dried out temporarily during times of low rainfall. This dry phase did not, however, adversely affect the growth of the lawn turf and the areas recovered their greenness after the first few heavy periods of rainfall.

Recommendations:

- Substrates with a high water capacity (> 50 % by volume) and satisfactory air capacity (\geq approx. 10 % by volume) should be used to cultivate the relatively thin layer of vegetation. We recommend substrates based on approx. 50 % by volume of a low-salt (max. 3 g salt/l), seasoned, plant-tolerant compost mixed with open-pored, mineral substances (e.g. broken bricks, lava/pumice).
- In order to increase the water storage capacity of the area earmarked for planting we advise - instead of a bed of chippings - a load-bearing foundation with a higher water retention capability (e.g. lava 4 – 8 mm).
- When planting dry areas it is important to choose suitable turf blends (e.g. lawn turf RSM 8).
- The area should be
 - fertilised once with a slow-release lawn fertiliser with an approximate coverage of 6 g N/m² (in the spring)
 - mowed two or three times
 - watered at times of sustained drought.

*Summary of long-term trial

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