

# Grass Securing Honeycomb

## Installation Instructions

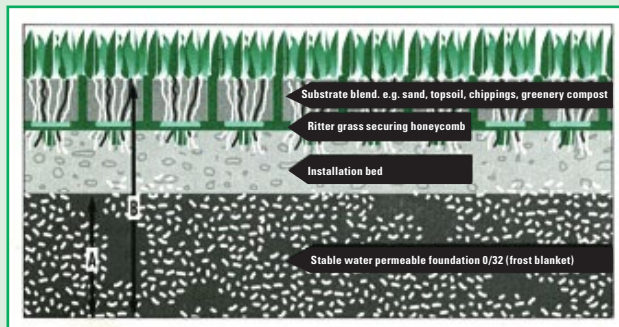
**General points:** Successful planting results with the grass securing honeycomb are largely dependent on the choice of material and a certain level of care during installation. The following steps and information are designed to help you achieve the desired results.

### Foundation

**Base layer:** Base layers should be constructed as a foundation for the grass securing honeycomb units. They distribute the working load imposed on the foundation. In their capacity as a frost blanket, the base layer is generally made up of a ballast layer at least 20 mms thick consisting of 0/37,5 mm size conforming to MOT 1 or 2. This layer should be compacted. If necessary, a slow-release fertiliser can be worked into the base layer, e.g. Floranid Permanent. Recommended amount approx. 60 g/m<sup>2</sup>.

**Installation bed:** Ontop of the sub base an installation bed (or intensive root formation bed) of 50 mm should be spread and raked level. This should ideally consist of 70 % washed sand 0,5 mm - 1.00 mm and to which can be admixed 30 % friable loam. Pre-mixed root zones

| Intended use            | Baugrundboden |            | Layer thickness |         |
|-------------------------|---------------|------------|-----------------|---------|
|                         | Gemischtkorn  | Feinkörnig | A/cm            | B/cm    |
| Car parking, driveways  | X             | –          | 20 – 25         | 28 – 33 |
|                         | –             | X          | 30 – 35         | 38 – 43 |
| Fire access ways        | X             | –          | 35 – 40         | 43 – 48 |
|                         | –             | X          | 45 – 50         | 53 – 58 |
| Heavy vehicle driveways | X             | –          | 40 – 45         | 48 – 53 |
|                         | –             | X          | 50 – 60         | 58 – 68 |



are readily available. This installation bed should be permeable, stable in structure and penetrable by grass roots. It is strongly recommended to apply a long term fertiliser to this area.

**Fillers:** Various different fillers can be used depending on the application and level of maintenance.

- If no planting is required and the frequency of use is sufficiently high, the area can be filled with chippings, grain size 8/11 mm. A layer of grain size 2/5 mm can then be added and rolled off.
- If the area is earmarked for extensive gardening then the ideal filler is a structurally stable gravel and turf mix, grain size approx. 0/16 mm, with organic fertiliser and approx. 10-15 % topsoil.
- If the whole area is earmarked for planting we recommend the following substrate blends:

**Composition of the substrate:** The composition of the substrate mixes can be adjusted to local conditions. Here are two examples. In the case of sandy soils the share of water storing components should be larger.

### Example:

50 % topsoil  
 30 % lava (0 to 5 mm)  
 20 % double broken and double screened chippings (3 to 5 mm) plus  
 6 to 8 kg / sq.m clay minerals (e.g. agricultural used bentonite)  
 0,5 kg / sq.m  
 Floranid-Permanent 15/9/15/2

In case of cohesive soils of group 4 to 6, the share of components permeable to water should be larger.

### Example:

30 % topsoil  
 30 % washed sand (0 to 2 mm)  
 30 % double broken and double screened chippings (3 to 5 mm),  
 lava (0 to 5 mm) or crushed bricks.  
 10 % green compost (0 to 20 mm).  
 plus  
 0,5 kg / sq.m  
 Floranid-Permanent 15/9/15/2

Approx. 1 m<sup>3</sup> of substrate are required for app. 20 - 25 m<sup>2</sup> for a flush and loose fill.

**Sowing:** Admixing grass seed to the substrate is not generally recommended as low lying seeds may not germinate. Seeds should only be 5 to 10 mm below the surface. Small areas are usually sown manually where as larger areas can be seeded mechanically and rolled in. In the absence of rain this substrate needs watering regularly.

**Using roll-in turf:** roll-in turf with a thickness of 1.5 to 2 cm is recommended, when a loadbearing, green surface is requested at short notice. In addition, lower temperatures between October and May are also decisive for this choice as the seeds do not germinate or do so irregularly during this time of the year due to ground temperatures of below 8° Celsius (46.4° F). In order to permit anchorage, the soil temperature should be above 6° Celsius (42.4° F) in autumn as well. The roll-in turf is rolled into the cells by means of a static roller. A loose fill is to be assured in order to prevent an excessive compaction. Use on high-traffic areas with turf is problematic as the shearing action of tyres may destroy the grass sward.

For more information on seeds visit [www.juliwa-hesa.de](http://www.juliwa-hesa.de)

**Grass Mixtures:** In order to select the grass mixture correctly, it is important to take into consideration the intended utilisation, respectively the amount of care required. Specialised dealers have available a multitude of standard mixtures.

### Recommended grass mixtures

**Tolerant Turf:** Most tolerant of natural stresses Slowgrowth for Golf roughs, buildings surrounds, slopes, reclamation areas and dry impoverished sites.

| %    | Type           | Description        |
|------|----------------|--------------------|
| 30 % | Elka           | Perennial ryegrass |
| 30 % | Master         | Perennial ryegrass |
| 20 % | Asset/Ampellia | Smooth St.M.G      |
| 15 % | Centre         | Chewings Fescue    |
| 5 %  | Highland       | Bentgrass          |

**Fine Turf:** For lawns, shaded areas, sports arenas

| %    | Type     | Description         |
|------|----------|---------------------|
| 30 % | Centre   | Chewings Fescue     |
| 20 % | Atlanta  | Chewings Fescue     |
| 20 % | Boreal   | Strong C.R. Fescue  |
| 20 % | Virtus   | Slender C.R. Fescue |
| 10 % | Highland | Bentgrass           |

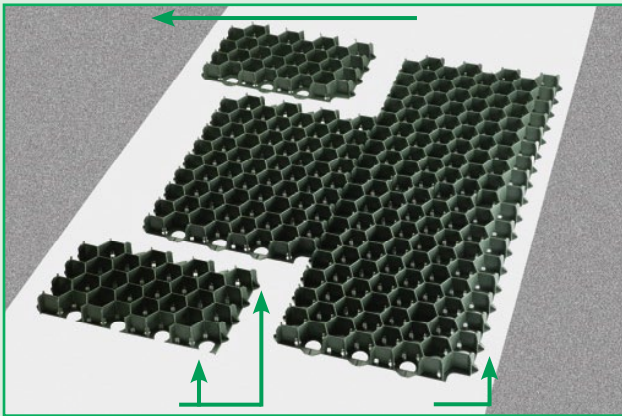
Apply 100 gm/m Soil Life organic fertiliser with top dressing.

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### Working instructions

**Laying out the grass securing honeycomb units:** The panels are normally laid in an interlocking arrangement. Waste is kept to a minimum because it is laid continuously in the area selected in any given case. Borders added for shearing protection or to create mowed edges level with the overlay require about one centimetre clearance from the overlay.



**Tip:** When deciding on the direction of installation, apply the general principle of placing the long side of the panel to the short end of the surface.

**Tip:** The base layer should be approx. 30 to 50 cm wider for areas without a border surround (fire service access roads).

**Cutting the grass securing honeycomb units:** The grass securing honeycomb units can be sawn using conventional standard implements such as a table saw, hand-held circular saw, jig saw, handsaw or Flex angle grinder.

**Tip:** A battery-operated jig saw with a long blade is an ideal aid for complicated adjustments during fitting

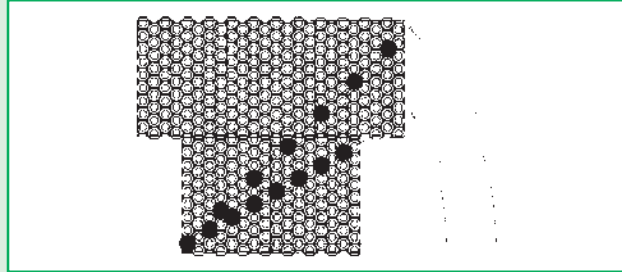
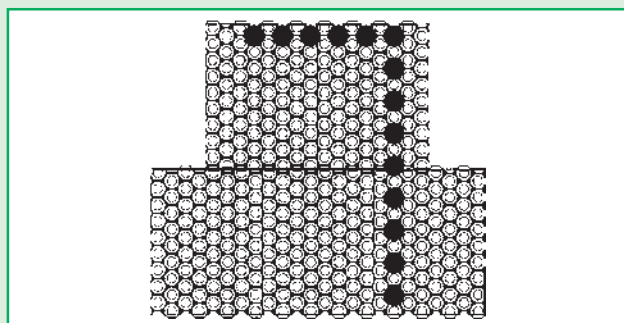
**Filling the grass securing honeycomb units:** This is normally achieved using a front end loader or for smaller areas fill by hand.

### Filling areas with different uses:

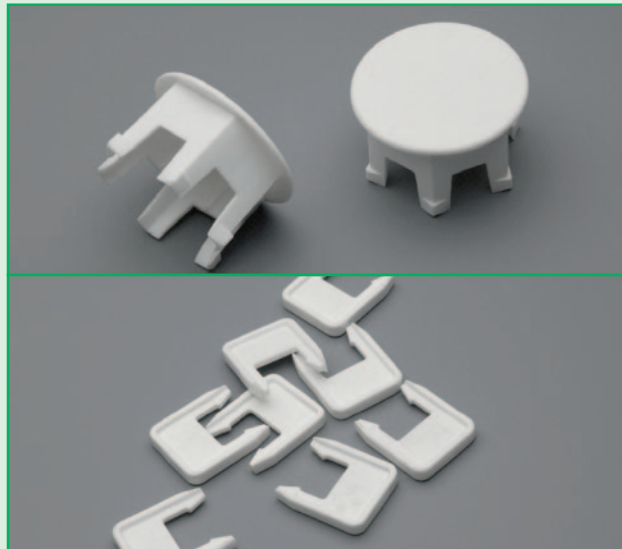
**Covering with rolled turf:** The 1.5 to 2 cm thick turf should be rolled into the loosely filled cells using a static roller. The filling must always be loose in order to prevent excessive compaction.

**Fitting marking luss:** The marking luss are designed to be inserted anywhere in the panel cells even if they are already filled. Various different angles of orientation can be identified by their layout.

**Tip:** When inserting the marking plugs in areas which have already been filled, push the spikes together slightly and knock the plugs in with a rubber mallet. They can be removed using a relatively large screwdriver.



**Maintenance:** Once the shoots appear the area should be treated with a compound mineral fertiliser, e.g. Nitrophoska Perfekt, with a coverage of 25 g/m<sup>2</sup>. When the grass has grown to a height of approx. 5-8 cm over the top edge of the honeycomb it should be cut back to approx. 3 cm in order to encourage the grass underneath to grow. Substrate settlement should be compensated by the addition of washed sand or loam. After one year the grass coverage should be invigorated by another dose of fertiliser/moss killer.



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