



DuPont Building Innovations

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Information on the load bearing capacity of DuPont™ Plantex® GroundGrid®

In stabilization projects the subsoil layer plays an essential role and it is this layer which must support the load of vehicle traffic, e.g. heavy trucks. This document will not discuss the performances of the subsoil layer which falls into the domain of geotextile engineering.

The product DuPont™ Plantex® GroundGrid® for gravel surface stabilization is different from most similar products on the market due to the fact that it is flexible in all directions. It can only fulfil its role of surface stabilisation if all the cells are filled with gravel.

The measurements we initiated with DuPont™ Plantex® GroundGrid® to determine the bearing capacity under load were executed by a materials R&D institute in Luxembourg using a heavy compression tool. The surface under load was chosen to simulate a truck's wheel or a lateral supporting foot of a fire fighting vehicle (a surface of 0,038m²).

During the tests the pressure under the tool was raised until 130 kN, corresponding à 340 to/m². There was not one single failure where the cells of DuPont™ Plantex® GroundGrid® were destroyed because it is the filling material which bears the load. The cells get compressed but do not burst open. However it is very important to choose a resistant, adequate filling gravel to bear the projected load.

To further situate the test conditions:

- > at 250 to/m², which corresponds to 95 kN in our test, the settling of the filling material (blast furnace residues of size 8/16 mm) under load was 12mm
- > using the same pressure on sand filling material from the river Rhein (sand average particle size 1mm) the settling was 5,5mm.

The conclusion is that, under the test conditions as described here and with the mentioned filling materials, DuPont™ Plantex® GroundGrid® can bear loads up to 340 t/m².

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Further product information is available upon request. This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own testing. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right.