

ROTATIONAL PENETROMETER SURFACE TESTING REPORT



Beneficial Designs Inc.

Rotational Penetrometer Surface Testing Report

RESNA Surface – Section 1: Test Method for Firmness and Stability
(Working Draft 2000-11-20)

Test Institution		Rotational Penetrometer	
Name	<u>Beneficial Designs, Inc.</u>	Manufacturer	<u>Beneficial Designs, Inc.</u>
Address	<u>2240 Meridian Blvd., Suite C</u> <u>Minden, NV 89423</u>	Serial number: BDRP-	<u>034</u>
Phone / Fax	<u>ph 775.783.8822 / fax 783.8823</u>	Date of last calibration	<u>2008-03-03</u>
Operator	<u>B. Blythe</u>	Tire pressure set at 36 psi. on	<u>2008-10-02</u>
Data recorder	<u>B. Cline</u>	by <u>B. Blythe</u>	Temp. °F <u>73</u>
		Indentor position (A-H)	<u>A</u>

Date & Time of Test		Testing Conditions	
Date	<u>2008-10-02</u>	Temperature °F	<u>73</u>
Time	<u>15:45</u>	Relative Humidity %	<u>35</u>
		<small>If the temperature is more than 10 °F different than the temperature at the tire pressure check, re-inflate tire before starting to test.</small>	

Test Surface		Test Results			
Manufacturer	<u>Invisible Structures, Inc.</u>	Record readings to nearest hundredth of an inch (0.00)			
Name	<u>Grasspave²</u>	Trial	Slope	Firmness	Stability
Type	<u>subsurface structure</u>	1		<u>0.35</u>	<u>0.43</u>
Source	<u>Invisible Structures, Inc.</u>	2		<u>0.47</u>	<u>0.55</u>
Date of mfr	<u>2008-05-27</u>	3		<u>0.39</u>	<u>0.47</u>
Depth	<u>9 in.</u>	4		<u>0.38</u>	<u>0.50</u>
Water content	<u>N/A</u>	5		<u>0.36</u>	<u>0.45</u>
Location	<u>822 Long Valley Rd. Gardnerville, NV</u>	Avg.		<u>0.39</u>	<u>0.48</u>
		SD		<u>0.05</u>	<u>0.05</u>

Procedures used to install, compact and/or level prior to testing: A 6-inch layer of base course (#2 road base) was installed and compacted. One pound of Hydrogrow polymer-fertilizer mixture was sprinkled onto the base course and spread evenly by hand. The 1-inch Grasspave² ring and grid structure was then placed over the base course and Hydrogrow mix, ring side up. The Grasspave² was cut to fit the form, filled with sand and leveled. The sod was sprayed on the back side with water until about 0.25 inch of soil was left. A 2-inch layer of sod was laid over the base course, root side down and cut to fit the form. This layer was wetted and compacted using a hand tamper until the roots were pressed into the sand and then wetted again. The total depth of the installation was 9 inches. This was watered every day and mowed as needed. The grass was cut to a length of 1.25 inches above the soil.

Method of stabilizing the surface reference plates: The test operator stood on the surface reference plates.

Summary of Results

Beneficial Designs, Inc. received a surfacing sample from Invisible Structures, Inc. with the brand name Grasspave². This sample of Grasspave² had a firmness of 0.39 in. and stability of 0.48 in.

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30 October 2008
Date

ref: Grasspave2 RP 2008-10-02.doc 2008-10-30

