

Client: Mr. Kevin Earley
Address: Nicolock Paving Stones & Retaining Walls
3025 Fairhill Drive
Collegeville, PA 19426

Project Name: Nicolock Laboratory Tests

Date Received: May 29, 2013

Unit Specification: ASTM C936

Date of Compression Testing: June 21, 2013

Unit Designation and Description: Concrete Paving Unit
Nicolock 80 mm Permeable Paver

Laboratory Number: 10- 110922

Summary of Test Results

Physical Property	Specification Values	Average Test Results	Physical Property	Specification Values	Average Test Results
Net Compressive Strength	≥ 8000	10300 <i>psi</i>	Min. Faceshell Thickness (FST)		- <i>in.</i>
Gross Compressive Strength		10290 <i>psi</i>	Min. Web Thickness (WT)		- <i>in.</i>
Density		135.4 <i>pcf</i>	Equivalent Web Thickness		- <i>in.</i>
Absorption	< 5.0	4.4 %	Equivalent Thickness		- <i>in.</i>
Percent Solid		99.8 %	Net Cross-Sectional Area		61.10 <i>in.²</i>
Moisture Content		N/A %	Gross Cross-Sectional Area		61.17 <i>in.²</i>

Individual Unit Test Results

Specimen No.	Received Wt, <i>W_R</i> <i>lb.</i>	Cross-Sectional Area		Max. Load <i>lb</i>	Compressive Strength	
		Gross <i>in.²</i>	Net <i>in.²</i>		Gross <i>psi</i>	Net <i>psi</i>
		<i>Compression Units</i>				
1		61.11	61.05	642420	10510	10520
2		61.19	61.13	647700	10580	10590
3		61.19	61.13	598920	9780	9790
Average		61.17	61.10	629680	10290	10300

* Net area determined from absorption specimens unless solid units are used.

Specimen No.	Average Width	Average Height	Average Length	Average Min. FST	Average Min. WT
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
<i>Absorption Units</i>					
4	7.8	3.2	7.8	-	-
5	7.8	3.2	7.8	-	-
6	7.8	3.2	7.8	-	-
Average	7.8	3.2	7.8	-	-

Specimen No.	Received Wt, <i>W_R**</i>	Immersed Wt, <i>W_I</i>	Saturated Wt, <i>W_S</i>	Oven-Dry Wt, <i>W_D</i>	Absorption	Density	Net Volume	Net Area	Percent Solid	Moisture Content**
	<i>lb</i>	<i>lb</i>	<i>lb</i>	<i>lb</i>	<i>pcf</i>	<i>pcf</i>	<i>ft³</i>	<i>in²</i>	%	% of total absorption
4	15.65	8.96	16.06	15.34	4.7	134.8	0.1137	61.13	99.9	N/A
5		9.03	16.09	15.49	3.9	136.9	0.1131	61.23	99.5	N/A
6		8.90	16.00	15.31	4.5	134.6	0.1137	61.04	99.9	N/A
Average	15.65	8.96	16.05	15.38	4.4	135.4	0.1135	61.13	99.8	N/A

**Received weight determined at the time of unit delivery to the job site or from units sampled at that time and delivered to the laboratory in sealed containers for moisture content determination.

Remarks: The units were tested according to ASTM C140. This sample meets the absorption and compressive strength requirements of ASTM C936. Based on calculations performed by Mr. Brandon J. Shippee PE and with adequately prepared sub-base and sub-grade, these paver units can support AASHTO H-20 and HS-20 wheel loading.



Chas M. Snyder, P.E.
Laboratory Manager