



PENNONI ASSOCIATES INC.  
CONSULTING ENGINEERS

Project No.: NCLK-0901

Report Date: June 26, 2015

Client: Mr. Steve Isaack  
Address: Nicolock Paving Stones & Retaining Walls  
640 Muncy Avenue  
Lindenhurst, NY 11757

Project Name: Nicolock Paving Stones and Retaining Walls

Date Received: June 8, 2015

Unit Specification: CSA A231

Unit Designation and  
Description: Concrete Paving Slabs  
24x24 Plaza Paver

Laboratory Number: 10- 130607

**Summary of Test Results**

Physical Property	Specification Values	Average Test Results	Physical Property	Specification Values	Average Test Results
Net Compressive Strength		<b>6100</b> psi	Surface Area (as received)		<b>561</b> in <sup>2</sup>
Gross Compressive Strength		<b>6030</b> psi	Surface Area (as received)	min. 0.09	<b>0.36</b> m <sup>2</sup>
Density		<b>140.9</b> pcf	Aspect Ratio (L/H)	min. 4	<b>12.2</b>
Absorption		<b>4.1</b> %	Height (Thickness)	min. 30	<b>50</b> mm
Flexural Strength		<b>1289</b> psi	Length	max. 1	<b>0.6</b> m
Flexural Strength	min. 4.5	<b>8.9</b> MPa	Flexural Load		<b>1903</b> lb.
			Ballast Weight		<b>22.7</b> psf

**Individual Unit Test Results**

Specimen No.	Received Wt, W <sub>R</sub> lb.	Cross-Sectional Area		Max. Load lb	Compressive Strength		Average Width in.	Average Height in.	Average Length in.
		Gross in. <sup>2</sup>	Net in. <sup>2</sup>		Gross psi	Net psi			
<i>Compression Tests</i>									
<i>Reduced Size Units</i>									
4	94.16	32.62	32.32	199365	6110	6160	2.0	2.0	16.2
5	87.44	33.47	33.16	203490	6080	6130	2.1	2.0	16.1
6	91.38	33.17	32.71	196585	5920	6010	2.1	2.0	16.1
<b>Average</b>	<b>88.13</b>	<b>33.09</b>	<b>32.73</b>	<b>199813</b>	<b>6030</b>	<b>6100</b>	<b>2.1</b>	<b>2.0</b>	<b>16.1</b>

Specimen No.	Average Width in.	Average Height in.	Average Length in.	Immersed Wt, W <sub>I</sub> lb	Saturated Wt, W <sub>S</sub> lb	Oven-Dry Wt, W <sub>D</sub> lb	Absorption %	Density pcf	Ballast Wt. psf
<i>Absorption Tests</i>									
<i>Reduced Size Units</i>									
1	2.1	2.0	16.1	3.21	5.51	5.36	2.8	145.4	23.2
2	2.0	2.0	16.3	3.19	5.50	5.33	3.2	144.0	23.1
3	2.1	2.0	16.1	2.98	5.32	5.00	6.4	133.3	21.7
<b>Average</b>	<b>2.1</b>	<b>2.0</b>	<b>16.2</b>	<b>3.13</b>	<b>5.44</b>	<b>5.23</b>	<b>4.1</b>	<b>140.9</b>	<b>22.7</b>

Specimen No.	Received Wt, W <sub>R</sub> ** lb	Average Width in.	Average Height in.	Average Length in.	Gross Area in <sup>2</sup>	Flexural Strength psi	Percent Solid %	Moisture Content** % of total absorption
<i>Flexural Tests</i>								
<i>Reduced Size Units</i>								
1	90.36	12.0	2.0	23.7	283.22	1326	98.3	N/A
2	86.45	11.9	2.0	23.7	282.98	1214	98.8	N/A
3	87.57	11.9	2.0	23.7	282.74	1328	99.6	N/A
<b>Average</b>	<b>88.13</b>	<b>11.9</b>	<b>2.0</b>	<b>23.7</b>	<b>282.98</b>	<b>1289</b>	<b>98.9</b>	<b>N/A</b>

\*\*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 and CSA A231. The above samples meet the requirements of CSA A231 for the requested tests. Listed specification values are from CSA A231.

Chas M. Snyder, P.E.  
Laboratory Manager