Pennoni
PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

Project No.: **WECB-1401**

Report Date: **August 11, 2017**

Client: **Mr. John P. Orsina**
Address: **Westbrook Concrete Block Co., Inc.**
PO Box 700
Westbrook CT 06498

Project Name: **Westbrook Concrete Block Co.**

Date Received: **August 3, 2017**

Date of Compression Testing: **August 10, 2017**

Unit Specification: **ASTM C90**

Unit Designation and Description: **Concrete Masonry Unit**
Set 6: 8x8x16" OMNI Profile
Normal Weight

Laboratory Number: **10- 152283**

Summary of Test Results

Physical Property	Specification Values	Average Test Results		Physical Property	Specification Values	Average Test Results	
Net Compressive Strength (min.)	2000	**4970**	*psi*	Min. Faceshell Thickness (FST)	1.25	**1.61**	*in.*
Gross Compressive Strength		**2870**	*psi*	Min. Web Thickness (WT)	0.750	**1.24**	*in.*
Density		**134.0**	*pcf*	Equivalent Web Thickness		**2.84**	*in.*
Absorption (max.)	13	**6.8**	*pcf*	Equivalent Thickness		**4.44**	*in.*
Percent Solid		**57.9**	*%*	Normalized Web Area	6.5	**34.1**	$in.^2/ft.^2$
Net Cross-Sectional Area		**69.56**	$in.^2$	Max. Var. From Spec. Dimensions			*in.*
Gross Cross-Sectional Area		**120.17**	$in.^2$	Moisture Content			*%*

Individual Unit Test Results

Compression Units

Specimen No.	Received Wt, W_R	Cross-Sectional Area		Max. Load	Compressive Strength	
		Gross	Net*		Gross	Net
	lb.	$in.^2$	$in.^2$	*lb*	*psi*	*psi*
4		120.23	69.56	345900	2870	4970
5		120.15	69.56	329085	2730	4730
6		120.15	69.56	363800	3020	5230
Average		**120.17**	**69.56**	**346260**	**2870**	**4970**

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

Absorption Units

Specimen No.	Average Width	Average Height	Average Length	Average Min. FST	Average Min. WT	Normalized Web Area
	in.	*in.*	*in.*	*in.*	*in.*	$In.^2/ft^2$
1	7.67	7.61	15.68	1.61	1.24	34.1
2	7.67	7.61	15.68	1.62	1.24	34.2
3	7.67	7.61	15.68	1.61	1.24	34.1
Average	**7.67**	**7.61**	**15.68**	**1.61**	**1.24**	**34.1**

Specimen No.	Received Wt, W_R**	Immersed Wt, W_I	Saturated Wt, W_S	Oven-Dry Wt, W_D	Absorption		Density	Net Volume	Net Area	Percent Solid	Moisture Content** % of total absorption
	lb	*lb*	*lb*	*lb*	*pcf*	*%*	*pcf*	ft^3	in^2	*%*	
1	42.14	24.13	43.32	41.28	6.6	4.9	134.2	0.3074	69.60	58.1	
2	42.12	24.28	43.43	41.34	6.8	5.1	134.7	0.3068	69.56	58.0	
3	41.39	23.68	42.69	40.57	7.0	5.2	133.2	0.3045	69.60	57.6	
Average	**41.88**	**24.03**	**43.15**	**41.06**	**6.8**	**5.1**	**134.0**	**0.3062**	**69.59**	**57.9**	

**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 set meets the absorption and compressive strength requirements of ASTM C90
NCMA 7-1C Fire Rating: 2.6 hours using the client provided mix design of 55.8% Expanded Shale, 6% Granite and 38.2% Sand.

Chas M. Snyder, PE
Laboratory Manager