



**KEYSTONE CEMENT COMPANY**  
P.O. BOX A, BATH, PA 18014-0058 TELEPHONE (610) 837-1881



July 20, 2012

Cava Stone and Marble

To Whom It May Concern:

This is to certify that all Keystone Type I Cement that you will use, meets the requirements of the most recent revision of ASTM Specification C-150 for Type I Portland Cement.

If you need additional information, please do not hesitate to call me at (610) 428-2442 or our Technical Services Manager, Fred Croen, at (484) 886-9353.

Sincerely,

Paul F. Pepe  
Regional Sales Manager

PFp:gj

**ADMINISTRATION**  
RT. 329, BATH, PA 18014-0058  
FAX 610-837-2267

**SALES & MARKETING**  
RT. 329, BATH, PA 18014-0058  
FAX 843-376-2507

**PLANT & RECEIVING**  
RT. 512, BATH, PA 18014-0058  
FAX 610-837-2291



# KEYSTONE CEMENT COMPANY

6280 Nor-Bath Boulevard

P. O. Box A

Bath, PA 18014

Telephone (610) 837-1881 -- Fax (610) 837-2289

## MILL TEST RESULTS

Laboratory: Bath, Pennsylvania

Date: June 2012

Cement Type: I Portland

CHEMICAL DATA			PHYSICAL DATA		
ITEM	LIMIT	RESULT	ITEM	LIMIT	RESULT
Silicon Dioxide (SiO <sub>2</sub> ) %	***	19.32	% Air Content	<=12%	9.2
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ) %	***	5.77	Blaine (cm <sup>2</sup> /g)	>=2800	3820
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ) %	***	2.38	% Pass 325 Mesh	***	97.3
Calcium Oxide (CaO) %	***	61.55	14 day C1038 Expansion %*	<=0.02%	-0.020
Magnesium Oxide (MgO) %	<=6.0	2.63	% Autoclave Expansion	<=0.80	0.11
Sulfur Trioxide (SO <sub>3</sub> ) %	<=3.5*	4.56			
Loss of Ignition (LOI) %	<=3.0	2.50	Compressive Strength		
Sodium Oxide (Na <sub>2</sub> O) %	***	0.33	1 day	***	2830
Potassium Oxide (K <sub>2</sub> O) %	***	0.97	3 day	1740	3870
Total Alkali %	***	0.97	7 day	2760	4480
Insoluble Residue %	<=0.75	0.09	28 day	Prev Month	5640
Limestone	<=5.0				
Potential Compounds			Time of set		
C <sub>3</sub> S	***	48.6	Vicat		
C <sub>2</sub> S	***	18.8	Initial (minutes)	45>X<375	94
C <sub>3</sub> A	***	11.3			
C <sub>4</sub> AF	***	7.2			

\*In cases where cement properties can be improved by higher SO<sub>3</sub> content, SO<sub>3</sub> may exceed 3.5% provided that expansion in water at 14 days does not exceed 0.020% as demonstrated by test method C1038.

This cement has been tested and is certified to meet the requirements of the latest version of ASTM C-150.

This cement is PENNDOT, DELDOT, NYSDOT and NJDOT certified.

Jonathan Graham, Quality Control Manager



**KEYSTONE CEMENT COMPANY**  
P.O. BOX A, BATH, PA 18014-0058 TELEPHONE (610) 837-1881



July 20, 2012

Cava Stone and Marble  
Philadelphia, PA

To Whom It May Concern:

This is to certify that all Keystone Type I-II Cement – supplied in Keystone Type II bags – meets the requirements of the most recent revision of ASTM Specification C-150 for Portland Cement.

If you need additional information, please do not hesitate to call me at (610) 428-2442 or our Technical Services Manager, Fred Croen, at (484) 886-9353.

Sincerely,

Paul F. Pepe  
Regional Sales Manager

PFP:gj

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# KEYSTONE CEMENT COMPANY

6280 Nor-Bath Boulevard

P. O. Box A

Bath, PA 18014

Telephone (610) 837-1881 -- Fax (610) 837-2289

**MILL TEST RESULTS**  
**Laboratory: Bath, Pennsylvania**

**Date: June 2012**  
**Cement Type: II Portland**

CHEMICAL DATA			PHYSICAL DATA		
ITEM	LIMIT	RESULT	ITEM	LIMIT	RESULT
Silicon Dioxide (SiO <sub>2</sub> ) %	***	19.33	% Air Content	<=12%	8.9
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ) %	<=6.0	5.27	Blaine (cm <sup>2</sup> /g)	2800>=X<=4200	3860
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ) %	<=6.0	3.61	% Pass 325 Mesh	***	97.2
Calcium Oxide (CaO) %	***	61.65	14 day C1038 Expansion %*	<=0.02%	0.015
Magnesium Oxide (MgO) %	<=6.0	2.80	% Autoclave Expansion	<=0.80	0.030
Sulfur Trioxide (SO <sub>3</sub> ) %	<=3.0*	4.01	Compressive Strength		
Loss of Ignition (LOI) %	<=3.0	1.54	1 day	***	3170
Sodium Oxide (Na <sub>2</sub> O) %	***	0.32	3 day	1450	4340
Potassium Oxide (K <sub>2</sub> O) %	***	0.90	7 day	2470	4960
Total Alkali %	***	0.91	28 day	Previous Month	6300
Insoluble Residue %	<=0.75	0.06	Time of set		
Limestone	<=5.0		Vicat		
Potential Compounds			Initial (minutes)	45>X<375	110
C <sub>3</sub> S	***	52.1			
C <sub>2</sub> S	***	16.1			
C <sub>3</sub> A	<=8	7.8			
C <sub>4</sub> AF	***	11.0			
C <sub>4</sub> AF+2(C <sub>3</sub> A)		27			
C <sub>3</sub> S+4.75(C <sub>3</sub> A)	<=100	89.2			

\*In cases where cement properties can be improved by higher SO<sub>3</sub> content, SO<sub>3</sub> may exceed 3.0% provided that expansion in water at 14 days does not exceed 0.020% as demonstrated by test method C1038.

This cement has been tested and is certified to meet the requirements of the latest version of ASTM C-150.

This cement is PENNDOT, DELDOT, NYSDOT and NJDOT certified.

Jonathan Graham, Quality Control Manager