



## Mill Test Certificate Report

**Type:** EcoCem PLC-Type IL (10) MS, MH

**Test Period:** 09/01/24  
to: 09/30/24

**Grind Number:** September-24

### Certification

Heidelberg Materials, certifies that at time of shipment, the portland limestone cement designated as Type IL manufactured at the Union Bridge, Maryland plant conforms to the standard composition and physical requirements of the current Standard Specification for Blended Cement of ASTM C-595 Type IL and AASHTO M-240. This certification carries no other express or implied warranties and Heidelberg Materials, is not responsible for improper use or workmanship of the described cement.

### General Information

<b>Supplier:</b> Heidelberg Materials	<b>Source Location:</b> Union Bridge Plant
<b>Address:</b> 675 Quaker Hill Road Union Bridge, MD 21074	<b>Contact:</b> Sales Office
<b>Telephone:</b> 800-638-1716	

### Test Data on ASTM "Standard" Requirements

Chemical Requirements (ASTM C-595, Table 1)			Physical Requirements (ASTM C-595, Table 3)					
Item	Limit	Results	Item	Limit	Results			
SO <sub>3</sub>	D	2.70	Fineness:					
Loss on Ignition	10.0 max	5.48	% Passing 45µm (No. 325)	A	98.66			
			Blaine Fineness (m <sup>2</sup> /Kg)	A	423			
<b>Additional Data</b>								
C3A	A	6.64	Density (g/cc)	A	3.08			
Chlorides	A	0.03						
Equivalent Alkalies	A	0.47	Autoclave Expansion (%)	0.8 max	-			
Heat of Hydration, C-1702 at 3-day, cal/g		64	Vicat Setting Time:					
			Initial Set (minutes)	45 min	144			
<b>Notes</b> A: no limit applicable D: if SO <sub>3</sub> exceeds 3.0%, C-1038 shall not be more than 0.020% MS, MH: Meets optional requirements for both moderate sulfate resistance and moderate heat of hydration			Air Content (%)	12 max	8.1			
			Compressive Strengths Mpa:					
			1-Day	A	16.95			
			3-Day	13.0 min	29.29			
			7-Day	20.0 min	34.21			
			28-Day	25.0 min	39.95			
			Compressive Strengths, PSI:					
			1-Day	A	2458			
			3-Day	1890 min	4247			
			7-Day	2900 min	4960			
28-Day	3620 min	5792						
			Mortar Bar Expansion, C-1038, %	Max 0.020	0.003			

**October 15, 2024**  
Date

Quality Control Manager: Kagan Hoffman