

# Portland Cement Type II/ V (LA)



## Consistency

**Drake Cement Type II/ V (LA) Portland Cement** meets the physical and chemical requirements of ASTM C-150 for Types I, II, and V, low alkali cements, as well as ASTM C-1157 for Types GU, MS, HS cements.

## Applications

**Drake Cement Type II/ V (LA) Portland Cement** can be used in any general construction application including those with the exposure to moderate or high levels of sulfates in soils and/ or water.

## Durability

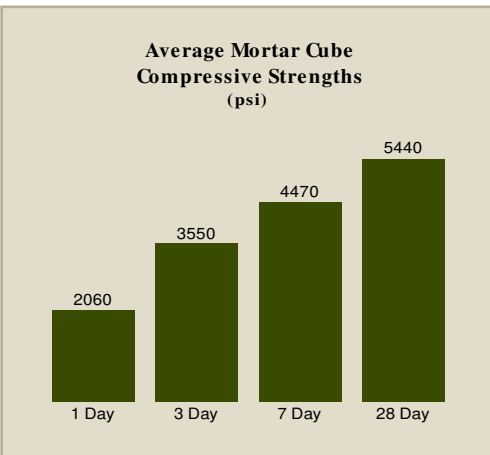
**Drake Cement Type II/ V (LA) Portland Cement** has low level of alkalis reducing the potential for damage due to alkali-silica reactivity (ASR).

## Quality

Production and truck samples of **Drake Cement Type II/ V (LA) Portland Cement** are tested in our certified cement laboratory. Additional market samples are regularly tested at our concrete laboratory to evaluate field performance.

Chemical Requirements	Drake Cement Results	ASTM C150 Specifications Type V	ASTM C1157 Specification GU
Calcium Oxide (CaO), %	64.59	---	---
Silicon Dioxide (SiO <sub>2</sub> ), %	21.13	20.00 Min	---
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ), %	4.31	6.00 Max	---
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ), %	4.08	6.00 Max	---
Magnesium Oxide (MgO), %	1.27	6.00 Max	---
Sulfur Trioxide (SO <sub>3</sub> ), %	2.50	2.30 Max*	---
Loss of Ignition, %	1.55	3.00 Max	---
Insoluble Residue, %	0.45	0.75 Max	---
Alkalis (%Na <sub>2</sub> O + 0.685% K <sub>2</sub> O), %	0.54	0.60 Max	---
<b>Potential Composition</b>			
Tricalcium Silicate (C <sub>3</sub> S), %	61	---	---
Tricalcium Aluminate (C <sub>3</sub> A), %	4	5 Max	---
Dicalcium Silicate (C <sub>2</sub> S), %	14	---	---
Tetracalcium Aluminoferrite (C <sub>4</sub> AF), %	12	---	---
(C <sub>4</sub> AF + 2 C <sub>3</sub> A)	22	25 Max	---
<b>Physical Requirements</b>			
Fineness, Blaine, cm <sup>2</sup> / gm (C 204)	4430	2800 Min	---
Autoclave Expansion, % (C 151)	0.02	0.80 Max	0.80 Max
Air Content, % (C 185)	4.0	12 Max	---
<b>Compressive Strength, psi (C 109)</b>			
1 Day	2060	---	---
3 Day	3550	1160 Min	1890 Min
7 Day	4470	2180 Min	2900 Min
28 Day	5440	3050 Min	4060 Min
Mortar Bar Expansion, % (C 1038)	0.008	0.020 Max	0.020 Max
<b>Time of Setting: Vicat (C 191)</b>			
Initial Set	1:16	0:45 Min	0:45 Min

\*Must conform to ASTM C 1038 mortar bar expansion limit of 0.020% if the maximum percent specified for SO<sub>3</sub> is exceeded.



## Buy Local

**Drake Cement Type II/ V (LA) Portland Cement** is manufactured at the Drake Plant near Paulden, AZ and is a U.S. made product.

## Sustainability

**Drake Cement Type II/ V (LA) Portland Cement** is produced at the newest cement plant in the state of Arizona with state-of-the-art technologies and equipment. Several operating and pollution controls incorporated into the plant are so advanced they are found in only a few other facilities throughout the world.



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