

LEHIGH

HEIDELBERGCEMENT Group

TECHNICAL SERVICES
SALES & MARKETING
 12667 Alcosta Blvd, Suite 400
 San Ramon, CA 94583
 Telephone (925) 244-6562
 FAX (925) 244-6586

PLANT LOCATION
 15390 Wonderland Blvd.
 Redding, CA 96003
 Telephone (530) 275-1581
 FAX (530) 275-2525

CEMENT TEST REPORT

Cement: ASTM C150-09 Type III, Low Alkali

Date Shipped: July 2010

Report Date:

8/12/2010

Lot #: 1188

Destination:

STANDARD CHEMICAL REQUIREMENTS ASTM C 114	TEST RESULTS	ASTM C150	AASHTO
		TYPE III	TYPE I
Silicon Dioxide (SiO ₂), %	20.7	----	----
Aluminum Oxide (Al ₂ O ₃), %	4.3	----	----
Ferric Oxide (Fe ₂ O ₃), %	4.0	----	----
Calcium Oxide (CaO), %	65.1	----	----
Magnesium Oxide (MgO), %	0.9	6.0 Max	6.0 Max
Sulfur Trioxide (SO ₃), %	2.8	3.5 Max	3.0 Max
Loss on Ignition (LOI), %	1.1	3.0 Max	3.0 Max
Insoluble Residue, %	0.21	0.75 Max	0.75 Max
Alkalies (Na ₂ O equivalent), %	0.21	0.60 Max	0.60 Max
Tricalcium Silicate (C ₃ S), % ^a	65	----	----
Dicalcium Silicate (C ₂ S), % ^a	10	----	----
Tricalcium Aluminate (C ₃ A), % ^a	5	15 Max	----
Tetracalcium Aluminoferrite (C ₄ AF), % ^a	12	----	----
PHYSICAL REQUIREMENTS			
(ASTM C 204) Blaine Fineness, m ² /gm	628	----	400 Max
(ASTM C 430) -325 Mesh, %	99.8	----	----
(ASTM C 114) Limestone, %	0.0	5 Max	----
(ASTM C 191) Time of Setting - Initial (Vicat)	62	45 Min	45 Min
(ASTM C 191) Time of Setting - Final (Vicat)	145	----	375 Max
(ASTM C 451) False Set, %	68	50 Min	50 Min
(ASTM C 185) Air Content, %	6.7	12 Max	12 Max
(ASTM C 151) Autoclave Expansion, %	-0.02	0.80 Max	0.80 Max
(ASTM C 187) Normal Consistency, %	30.8	----	----
(ASTM C 109) Compressive Strength, psi (MPa)			
1 Day	4259 (29.3)	1740 (12.0) Min	----
3 Day	5610 (38.7)	3480 (24.0) Min	1800 (12.4) Min
7 Day	6493 (44.7)	----	2800 (19.3) Min
28 Day (Previous Month)	7627 (52.5)	----	----

This cement meets the requirements of specification:

ASTM C150-09 Type III, Low Alkali

AASHTO M85 - Type I

ASTM C 1157 Portland Cement Type HE (MS)

^a Adjusted per ASTM C-150-09 Section A1.6



Albert J. Cornibe

Quality Manager