



PRODUCT SPECIFICATION SHEET

Product: Dolo-Krete® 70

Dolo-Krete® is a mineral additive for ready mix and precast concrete which increase compressive strength, lowers fly ash requirements, and improves the quality of concrete. Dolo-Krete® is a dry, dolomite powder specially ground for use in concrete mixes. It is light gray in color. Dolo-Krete® is available in 50-pound bags, 1.5-ton super sacks, or in bulk pneumatic tankers. Dolo-Krete® has been tested for ASTM 618 (Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete) and ASTM 1797 (Standard Specification for Ground Calcium Carbonate and Aggregate Mineral Fillers for use in Hydraulic Cement Concrete). Dolo-Krete® qualifies as a Type C mineral filler according to ASTM 1797.

Chemical Properties:

X-Ray Fluorescence - As Received Basis							
Al ₂ O ₃	%	0.172					
SiO ₂	%	1.06					
Na ₂ O	%	<0.015					
MgO	%	22.43					
P ₂ O ₅	%	0.013					
K ₂ O	%	0.106					
CaO	%	31.37					
TiO ₂	%	0.013					
MnO	%	0.012					
Fe ₂ O ₃	%	0.165					
V ₂ O ₅	%	<0.001					
Sum Of Majors	%	55.35					
LOI	%	44.65					
X-Ray Fluorescence - Oxidized Basis							
Al ₂ O ₃	%	0.312					
SiO ₂	%	1.92					
Na ₂ O	%	<0.015					
MgO	%	40.52					
P ₂ O ₅	%	0.024					
K ₂ O	%	0.192					
CaO	%	56.68					
TiO ₂	%	0.024					
MnO	%	0.021					
Fe ₂ O ₃	%	0.299					
V ₂ O ₅	%	<0.001					
Sand - Silt - Clay Ratio							
Clay	%	16.58					
Silt	%	68.56					
Sand	%	14.86					

These test results were obtained by BML technical staff operating within the limits of calibration of laboratory instruments and equipment. The results neither specify if the specimens were representative nor reflect any accuracy consideration with regard to information provided. The interpretation of the results is the sole responsibility of the party or parties paying for the test.

Gradation:

Sieve Size	Percent Passing
No. 20	100.0
No. 40	99.8
No. 50	99.0
No. 60	98.2
No. 100	94.4
No. 200	83.1
No. 325	67.7
No. 325 Decant Loss, %:	65.12

Permeability:

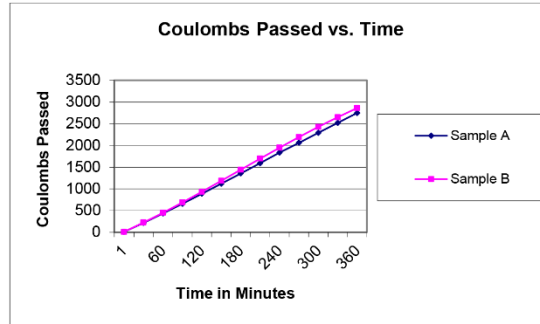
Wood Environment & Infrastructure Solutions, Inc
1070 West Main Street, Suite 5
Abingdon, Virginia 24210



Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration, AASHTO T 277-07*
 *AS Modified per Virginia Test Method - 112

Job Name:	E. Dillon Lab Testing	Location:	Trial Batch 3 - Dolo-Krete
Job No.:	3050-18-0369		
Lab No.:	5548		
Sampled By:	Robert Spriggs	Date:	4/24/2020
Tested By:	Robert Spriggs	Date:	5/27/2020
Reviewed By:	Jason C. Monk P.E.	Date:	5/29/2020

Charge Passed, Coulombs		
Time, Min.	Sample A	Sample B
1	8	8
30	217	225
60	435	450
90	659	688
120	889	931
150	1121	1185
180	1355	1441
210	1591	1698
240	1836	1947
270	2062	2192
300	2294	2427
330	2522	2652
360	2749	2864



Summary	
Sample	Total Coulombs In 360 Minutes
A	2749
B	2864
Average	2807

Charge Passed (Coulombs)/360 min	Chloride Ion Penetrability
>4000	High
>2000-4000	Moderate
>1000-2000	Low
100-1000	Very Low
<100	Negligible

Fine Aggregate E. Dillon & Co., Swords Creek, VA
 Large Aggregate E. Dillon & Co., Swords Creek, VA
 Cement Type 1, Cemex, Knoxville, TN
 Pozzolan Dolo-Krete, E. Dillon & Co., Swords Creek, VA.

Reviewed By:

Jason C. Monk P.E.

ASR Reduction:

Average Increase in Length, %		Age of Test Specimen, Days	Reduction of Mortar Expansion, %
Control Mix	Test Mix – 25% Dolo-Krete		
0.48	0.29	14	39.6

Compressive Strength:

SET ID: 202005548

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Concrete Field and Lab Test Data

CLIENT: E. Dillon & Company **DATE:** 5/29/2020
PROJECT: E. Dillon Lab Testing **JOB NO:** 3050-18-0369
MIX ID: Trial Batch 3 **REPORT NO:** C014
MIX DESC: Trial Batch 3 - Dolo Krete **SPECIFIED STRENGTH:** 4,000 PSI

FIELD INFORMATION

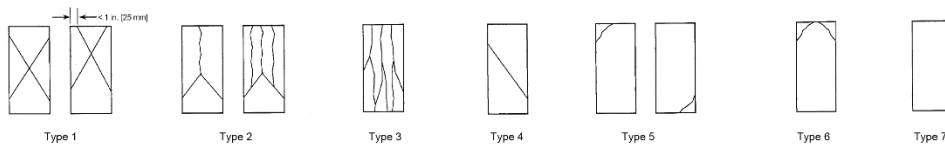
FIELD TESTS

DATE SAMPLED: 4/24/2020 **BY:** Robert Spriggs **SLUMP, INCHES:** (ACTUAL) 3.75 (SPECIFIED) LO: 3.50 HI: 4.50
TIME BATCHED: 4:30 PM **TIME SAMPLED:** 4:40 PM **AIR CONTENT, %:** 1.5 LO: # HI: #
BATCH PLANT: **UNIT WEIGHT, PCF:** LO: # HI: #
TRUCK: **DATE RECV'D:** 4/25/2020 **AIR TEMP, °F:** 61 LO: # HI: #
TICKET: **MIX TEMP, °F:** 71 LO: # HI: #

COMPRESSION TEST RESULTS

CYLINDER NO.	DIAMETER (IN.)	AREA (SQ. IN.)	TEST DATE	TEST AGE (DAYS)	MAX. LOAD (LBS.)	COMP. STRENGTH (PSI)	FRACTURE TYPE
1	4.00	12.6	5/1/2020	7	68,770	5,460	2
2	3.99	12.5	5/8/2020	14	72,195	5,780	3
3	3.99	12.5	5/15/2020	21	78,765	6,300	3
4	3.98	12.4	5/22/2020	28	89,375	7,210	2
5	3.98	12.4	5/22/2020	28	88,050	7,100	2
6	3.98	12.4	5/22/2020	28	88,535	7,140	5
7				R			

UNLESS OTHERWISE INDICATED, TESTS WERE PERFORMED IN GENERAL ACCORDANCE WITH THE FOLLOWING ASTM TEST METHODS C31, C39, C138, C143, C172, C173 or C231, C1064, C617 or C1231; SLUMP MEASURED TO ONE-QUARTER INCH; AIR CONTENT MEASURED TO ONE-TENTH PERCENT; # UNLESS OTHERWISE NOTED, INDICATES NO REQUIREMENT OR NOT SPECIFIED, AVAILABLE, AND/OR PROVIDED; * DENOTES CURED IN FIELD; <<< DENOTES LOW COMPRESSIVE STRENGTH; FRACTURE TYPE IS INDICATED BY NUMBER CORRESPONDING TO FRACTURE PATTERN SHOWN IN ASTM C39 AND SKETCHES BELOW:



POUR LOCATION:

Trial Batch 3 - Dolo-Krete
Large Aggregate - E. Dillon & Co, Swords Creek, VA
Fine Aggregate - E. Dillon & Co, Swords Creek, VA
Cement - Type 1, Cemex Knoxville, TN
Pozzolan - Dolo-Krete, E. Dillon & Co, Swords Creek, VA

DISTRIBUTION:

REMARKS:

Lab #5548
Air Content Tested By ASTM C231 Pressure Method
End Preparation by ASTM C1231 Unbonded Caps
Unit Weight of Cylinder Average #5545 : 159.31 pcf
Lab Testing By Jason Monk

RESPECTFULLY SUBMITTED

Jason C. Monk
P.E.

SET ID: 202005549

Wood Environment and Infrastructure Solutions, Inc.
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Concrete Field and Lab Test Data

CLIENT:	E. Dillon & Company	DATE:	5/29/2020
PROJECT:	E. Dillon Lab Testing	JOB NO:	3050-18-0369
MIX ID:	Trial Batch 4	REPORT NO:	C014
MIX DESC:	Trial Batch 4 - Fly Ash	SPECIFIED STRENGTH:	4,000 PSI

FIELD INFORMATION

DATE SAMPLED: 4/24/2020 **BY:** Robert Spriggs
TIME BATCHED: 4:50 PM **TIME SAMPLED:** 5:00 PM
BATCH PLANT:
TRUCK: **DATE REC'D:** 4/25/2020
TICKET:

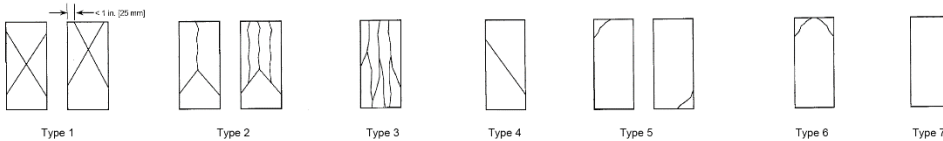
FIELD TESTS

	(ACTUAL)	(SPECIFIED)	
SLUMP, INCHES:	4.00	LO: 3.50	HI: 4.50
AIR CONTENT, %:	1.2	LO: #	HI: #
UNIT WEIGHT, PCF:		LO: #	HI: #
AIR TEMP, °F:	61	LO: #	HI: #
MIX TEMP, °F:	70	LO: #	HI: #

COMPRESSION TEST RESULTS

CYLINDER NO.	DIAMETER (IN.)	AREA (SQ. IN.)	TEST DATE	TEST AGE (DAYS)	MAX. LOAD (LBS.)	COMP. STRENGTH (PSI)	FRACTURE TYPE
1	3.99	12.5	5/1/2020	7	66,995	5,360	5
2	3.99	12.5	5/8/2020	14	68,675	5,490	2
3	3.99	12.5	5/15/2020	21	75,525	6,040	3
4	3.98	12.4	5/22/2020	28	79,535	6,410	1
5	3.98	12.4	5/22/2020	28	80,250	6,470	1
6	3.98	12.4	5/22/2020	28	81,095	6,540	1

UNLESS OTHERWISE INDICATED, TESTS WERE PERFORMED IN GENERAL ACCORDANCE WITH THE FOLLOWING ASTM TEST METHODS C31, C39, C138, C143, C172, C173 or C231, C1064, C817 or C1231. SLUMP MEASURED TO ONE-QUARTER INCH. AIR CONTENT MEASURED TO ONE-TENTH PERCENT. # UNLESS OTHERWISE NOTED, INDICATES NO REQUIREMENT OR NOT SPECIFIED, AVAILABLE, AND/OR PROVIDED; * DENOTES CURED IN FIELD; <<< DENOTES LOW COMPRESSIVE STRENGTH; FRACTURE TYPE IS INDICATED BY NUMBER CORRESPONDING TO FRACTURE PATTERN SHOWN IN ASTM C39 AND SKETCHES BELOW:



POUR LOCATION:

Trial Batch 4 - Fly Ash
 Large Aggregate - E. Dillon & Co Swords Creek, VA
 Fine Aggregate - E. Dillon & Co., Swords Creek, VA
 Cement - Type 1, Cemex Knoxville, TN
 Pozzolan - Fly Ash, Fly Ash Direct, New Haven, WV

DISTRIBUTION:

REMARKS:

Lab #5549
 Air Content Tested By ASTM C231 Pressure Method
 End Preparation by ASTM C1231 Unbonded Caps
 Unit Weight of Cylinder Average #5545 : 158.76 pcf
 Lab Testing By Jason Monk

RESPECTFULLY SUBMITTED

Jason C. Monk
 P.E.

The results presented in this report relate only to the items tested. This report shall not be reproduced, except in full, without written approval from Wood.

History:

Dolo-Krete® has been used successfully for three years in ready mix concrete for interior and exterior concrete slabs, building foundations, grout, and tower bases with great results.

Advantages:

Dolomite is dense with round particle shapes. The density allows for very little absorption leaving water for the cement where it is most needed. For this reason, Dolo-Krete® is known to provide up to ten (10) percent strength gains when used instead of fly ash (see comparison in compressive tests above). Round particle shape increases flowability and workability. Slabs using Dolo-Krete® can be finished much sooner. Since Dolo-Krete® is mined from a very consistent ore body, color is very consistent between pours.

Dolo-Krete® contains no contaminants. Fossil fuels are not burned to produce Dolo-Krete®, therefore, reducing carbon footprint. Dolo-Krete® is mined and processed locally in Russell County, Virginia possibly helping your project qualify for green points!

