

STANDARD MATERIALS, LLC

READY MIX CONCRETE SINCE 1953

DAMMON ENGINEERING INC

September 13, 2011

M. Natal Contractor, Inc.
394 Voters' Road
Slidell, LA 70461-3517

Date: 9.13.11 Project: Park Drive Imp.
Reviewed: _____
Reviewed as Noted: X
Revise and Resubmit: _____
Rejected: _____
Other: _____

Attention: Mr. Michael Natal

RE: City of Slidell
Park Drive @ Middle Drive
Slidell, LA 70458

Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of the general conformance with the design concept of the project and general compliance with the information given in the contract documents. This contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that at all other trades and performing all in a safe and satisfactory manner.

Submittal Item: Concrete Design Mix
Comments

MIX NO.: ~~021-F 4000 PSI @ 28 Days / Micro Fiber Sidewalks / Driveways~~
021-HPS 4000 PSI @ 28 Days / Macro Fiber Paving Mix

Gentlemen: Use throughout project.

The attached concrete mix designs utilizing the appropriate ASTM C-33 or ASTM C-330 aggregates is proposed for use on the above referenced project for ready mix concrete to be furnished by Standard Materials, LLC.

Standard Materials certifies that the above mix designs, when ordered by specified design identity, will meet or exceed the indicated design strength at a designated age when tested in accordance with the applicable and current ASTM Standards C 31, C 39, C 78, C172, C 293, applicable provisions of C 94, and evaluated in accordance with applicable provisions of the ACI 318 Building Code.

Please contact us if you have any questions or require any additional information. Please notify Standard Materials of approval of the proposed mix designs prior to their use.

Sincerely,

Standard Materials, LLC

Brian S. Moore
Quality Assurance Manager

Telephone 985-863-6304 - Fax 985-863-6303

62505 Highway 11 - Pearl River, Louisiana 70452

Standard Materials, LLC

Mix Design Proposal

MIX #: 021-F MIX DESCRIPTION: 4000 PSI @ 28 Days / Fiber 1.5 lbs. TYPE: Normal Weight

PROJECT: Pavement Rertoration CLASS: 4000 PSI @ 28 Days
 ADDRESS: Park Drive @ Middle Drive Flex @ _____
 LOCATION: Slidell, LA 70458 PUMPABLE: Yes
 APPLICATION: Sidewalks / Driveways ADDITIVES: Fiber (1.5 lbs per yard)

CONTRACTOR: M. Natal Construction

CEMENTITIOUS	ASTM	TYPE	BRAND	SP/GRAV	S.S.D. WEIGHTS
CEMENT	C-150	I/II	HOLCIM	3.15	<u>436</u> LBS.
FLYASH	C-618	C	BAYOU ASH	2.80	<u>109</u> LBS.

AGGREGATES	ASTM	MATERIAL	SIZE	SP/GRAV	S.S.D. WEIGHTS
FINE	C-33	SAND	Minus 3/8"	2.62	<u>1243</u> LBS.
COARSE #1	C-33	GRAVEL	1.0"	2.54	<u>1775</u> LBS.

MIXING WATER-----POTABLE----- 250 LBS.

WATER REDUCING ADMIXTURES ASTM-494

SET	TEMP	BRAND	TYPE	MANUFACTURER	DOSAGE PER CY.
NORMAL	<85	POLYHEED 997	A / F	BASF	<u>21.80</u> OZS.
RETARDER	>85	POZZOLITH 300R	D	BASF	<u>21.80</u> OZS.

NOTE: Normal set water reducer dosages vary according to seasonal temperatures. Adjustments are based on the manufactures recommendations. Retarders and accelerators to adjust set times and HRWR will be used at the customers request and are priced separately.

AIR ENTRAINING ADMIXTURE

ASTM C-260

BRAND: MB AE 90 MANUFACTURER: BASF 2.18 OZS.

MIX DESIGN AIR CONTENT 5.0 (+/- 2.0%)

W/C RATIO: 0.459 CEM. EQUIVALENCY: 5.80 SACKS YIELD CU. FT. 27.00

- STANDARD MATERIALS WILL HONOR STRENGTH INDICATED AT A MAXIMUM 4" (+/- 1.0") SLUMP. (CAUTION: INDIVIDUAL PROJECT SLUMP SPECS MAY BE MORE RESTRICTIVE)
- ICE, WHEN USED FOR TEMPERATURE CONTROL, REPLACES MIXING WATER POUND FOR POUND AND IS PRICED SEPARATELY.
- FOR FLY ASH DESIGNS , W/C (Water Cementitious) RATIO IS COMPUTED USING CEMENT+FLY ASH PER ACI 211.1

Submitted By: _____

Date: 09/13/11

Standard Materials, LLC

Mix Design Proposal

MIX #: 021-HPS MIX DESCRIPTION: 4000 PSI @ 28 Days / Macro Fiber 3.0 lbs. TYPE: Normal Weight

PROJECT: Pavement Rertoration CLASS: 4000 PSI @ 28 Days
 ADDRESS: Park Drive @ Middle Drive Flex @ _____
 LOCATION: Slidell, LA 70458 PUMPABLE: Yes
 APPLICATION: Paving Mix

ADDITIVES: Matrix HPS Fiber 3.0 lbs. per / Yard

CONTRACTOR: M. Natal Construction

CEMENTITIOUS	ASTM	TYPE	BRAND	SP/GRAV	S.S.D. WEIGHTS
CEMENT	C-150	I/II	HOLCIM	3.15	<u>436</u> LBS.
FLYASH	C-618	C	BAYOU ASH	2.80	<u>109</u> LBS.

AGGREGATES	ASTM	MATERIAL	SIZE	SP/GRAV	S.S.D. WEIGHTS
FINE	C-33	SAND	Minus 3/8"	2.62	<u>1243</u> LBS.
COARSE #1	C-33	GRAVEL	1.0"	2.54	<u>1775</u> LBS.

MIXING WATER-----POTABLE----- 250 LBS.

WATER REDUCING ADMIXTURES ASTM-494

SET	TEMP	BRAND	TYPE	MANUFACTURER	DOSAGE PER CY.
NORMAL	<85	POLYHEED 997	A / F	BASF	<u>21.80</u> OZS.
RETARDER	>85	POZZOLITH 300R	D	BASF	<u>21.80</u> OZS.

NOTE: Normal set water reducer dosages vary according to seasonal temperatures. Adjustments are based on the manufactures recommendations. Retarders and accelerators to adjust set times and HRWR will be used at the customers request and are priced separately.

AIR ENTRAINING ADMIXTURE

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 MIX DESIGN AIR CONTENT 5.0 (+/- 2.0%)

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- ICE, WHEN USED FOR TEMPERATURE CONTROL, REPLACES MIXING WATER POUND FOR POUND AND IS PRICED SEPARATELY.
- FOR FLY ASH DESIGNS , W/C (Water Cementitious) RATIO IS COMPUTED USING CEMENT+FLY ASH PER ACI 211.1

Submitted By: _____

Date: 09/13/11

Standard Materials, LLC
 62505 US Hwy 11
 Pearl River, LA 70452 United States of America
021-F - 4000 PSI @ 28 Days

Cast date	Sample ID	Slump	% Air	Conc Temp	Air Temperature	7 Day PSI	28 Day PSI	Avg 3 - 28 Day
09/16/2010	09-16-10	4.50	2.3	94	94	3490	4750	0.0
10/21/2010	10-21-10	5.75	4.0	67	69	3675	5110	0.0
11/10/2010	11-10-10	6.00	2.7	64	57	3275	4755	4872.0
01/10/2011	01-10-11	5.00	3.6	56	48	3460	4710	4858.0
03/25/2011	03-25-11	2.50	2.7	72	75	3230	5350	4938.0
04/15/2011	04-15-11	4.00	4.8	76	73	3700	5235	5098.0
04/21/2011	04-21-11	4.00	3.5	75	82	3625	4960	5182.0
05/19/2011	05-19-11	5.75	4.3	71	56	2820	4710	4968.0
06/15/2011	06-15-11	3.50	4.2	88	84	3590	4610	4760.0
07/08/2011	07-08-11	4.75	4.7	94	92	3600	4720	4680.0
07/11/2011	07-11-11	5.50	4.3	95	92	3460	4765	4698.0
07/12/2011	07-12-11	5.50	4.5	90	80	3510	4790	4758.0
07/13/2011	07-13-11	5.00	5.2	92	84	3510	4675	4743.0
07/14/2011	07-14-11	6.00	4.6	94	91	3360	5000	4822.0
07/27/2011	07-27-11	5.25	5.6	88	83	3290	5350	5008.0

Average
 STD
 Low
 High

Number of observations: 15



MATRIX HPS MACRO FIBERS

HIGH-PERFORMANCE SYNTHETICS

PRODUCT DATA SHEET

MATRIX –HPS (High-Performance Macro Synthetic Fiber)

MATRIX HPS are made of a high-performance polypropylene fibers. The high modulus, high strength fibers are distributed throughout the concrete to provide excellent crack control and add toughness, impact & fatigue resistance to the concrete matrix. These fibers are packaged in a pre-measured “water soluble bag” that offers owners, engineers, and contractors and easy way to provide a highly effective alternative to welded wire fabric.

MIXING – PLACING – FINISHING

- ◆ **Mixing** - Because of the water soluble packaging, MATRIX High-Performance Synthetics can easily be introduced into the concrete during or after the batching process. In most instances MATRIX HPS should be added before the concrete is batched. Mixing should conform to ASTM C94 standard specification for ready-mixed concrete.
- ◆ **Placing** - MATRIX HPS can be pumped and placed using conventional equipment. Hand screeds and vibratory laser screeds can be used, to place the concrete. At higher dosages, the use of a mid-range or high-range water reducer is recommended.
- ◆ **Finishing** - Normal finishing equipment & techniques can be used when finishing MATRIX HPS. Troweling blades should be kept at a flat angle for as long as possible to help to minimize the fibers on the surface.

TECHNICAL INFORMATION

PROPERTY

ASTM Specification
 Material Type
 Tensile Strength
 Fiber Length
 Average Aspect Ratio
 Specific Gravity
 Modulus of Elasticity
 Melting Point
 Absorption

 Net Package Weight 1lb—

MATRIX – HPS Macro Fibers

ASTM C-1116 Type III
 100% Virgin Polypropylene
 65 ksi minimum
 1.5"
 < 80
 .92
 minimum 1,250 ksi @ 70°
 324° F
 Nil

*Always follow ACI guidelines as to joint locations and details. Do not use MATRIX HPS Macro fibers to exceed the recommendations of proven ACI methods. Please consult our sales or engineering department for more details or designs with MATRIX Hybrid Fibers



**MATRIX HPS, High-Performance Synthetic Fibers
Mini-Specification: Section 03452**

MATRIX HPS Macro Fibers will be used for as secondary reinforcement to provide for temperature and shrinkage reinforcement of the concrete.

1.01 A. MATERIALS:

Fibrous concrete shall be 100% virgin polypropylene fibers conforming to ASTM C-1116 Type III, With a minimum Length of 1.5". In addition, the fibers shall have a minimum tensile strength of 65 ksi. Material shall be packaged in water soluble bags as manufactured by FRC INDUSTRIES.

B. MANUFACTURER:

Fibers shall be *MATRIX HPS Fibers* manufactured by FRC Industries, or approved equal. FRC Industries 1655 N. McFarland Blvd, Tuscaloosa AL 35406 * 888-783-2517

C. APPLICATION RATE:

Application rate of HPS shall be determined by Engineer and placed on construction plans.

REFERENCE DOCUMENTS

- ACI 302.1R** * Guide for Concrete Floor and Slab Construction.
- ACI 360R-92** * Design of Slabs on Grade.
- ACI 544-1R** * Fiber Reinforced Concrete
- ACI 544-3R** * Guide for Specifying, Proportioning, Mixing, Placing, and Finishing Steel Fiber Reinforced Concrete.
- ASTM C94** * Standard Specification for Ready-Mixed Concrete.
- ASTM C1116** * Standard Specification for Fiber-Reinforced Concrete and Shotcrete.

WARRANTY AND LIMITATION OF LIABILITY

MATRIX HPS Fibers shall conform to FRC standards and specifications. FRC's sole liability for claim shall be limited to replacement of defective or nonconforming fibers. In no event shall FRC be liable for any incidental, consequential, or special damages.

FRC Industries

Tuscaloosa, AL
(888) 783-2517

www.frcindustries.com

Description

MB-AE 90 air-entraining admixture is for use in concrete mixtures. It meets the requirements of ASTM C 260, AASHTO M 154 and CRD-C 13.

Applications

Recommended for use in:

- Concrete exposed to cyclic freezing and thawing
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

MB-AE™ 90

Air-Entraining Admixture

Features

- Ready-to-use in the proper concentration for rapid, accurate dispensing

Benefits

- Improved resistance to damage from cyclic freezing and thawing
- Improved resistance to scaling from deicing salts
- Improved plasticity and workability
- Reduced permeability – increased watertightness
- Reduced segregation and bleeding

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing, and adequate concrete strength, assuming the use of sound aggregates and proper mixing, transporting, placing, consolidation, finishing and curing techniques. MB-AE 90 admixture can be used to obtain adequate freeze-thaw durability in a properly proportioned concrete mixture, if standard industry practices are followed.

Air Content Determination: The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173/C 173M, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method."

The air content of lightweight concrete should only be determined using the Volumetric Method. The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138/C 138M, "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1-1/2%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.

Guidelines for Use

Dosage: There is no standard dosage for MB-AE 90 admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete-making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique.

Product Data: MB-AE™ 90

The amount of MB-AE 90 admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mixture, use 1/4 to 4 fl oz/cwt (16-260 mL/100 kg) of cementitious material. Measure the air content of the trial mixture, and, if needed, either increase or decrease the quantity of MB-AE 90 admixture to obtain the desired air content.

In mixtures containing water-reducing or set-control admixtures, the amount of MB-AE 90 admixture needed may be somewhat less than the amount required in plain concrete.

Due to possible changes in the factors that can affect the dosage of MB-AE 90 admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement.

If an unusually high or low dosage of MB-AE 90 admixture is required to obtain the desired air content, consult your BASF Construction Chemicals representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add MB-AE 90 admixture to the concrete mixture using a dispenser designed for air-entraining admixtures, or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate. If the concrete mixture contains fine lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions of water to air-entrained concrete. Furthermore, an air content check should be performed after any post-batching addition to an air-entrained concrete mixture.

BASF Construction Chemicals, LLC
Admixture Systems

www.masterbuilders.com

United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 ■ Tel: 800 628-9990 ■ Fax: 216 839-8821
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ■ Tel: 800 387-5862 ■ Fax: 905 792-0651

™BASF Construction Chemicals, LLC

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Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MB-AE 90 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: MB-AE 90 admixture may be used in combination with any BASF Construction Chemicals admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

Storage and Handling

Storage Temperature: MB-AE 90 admixture should be stored and dispensed at 31 °F (-0.5 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If MB-AE 90 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: MB-AE 90 admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of MB-AE 90 admixture has been exceeded.

Safety: Chemical goggles and gloves are recommended when transferring or handling this material.

Packaging

MB-AE 90 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: MB-AE 90 admixture.

Additional Information

For additional information on MB-AE 90 admixture, or its use in developing a concrete mixture with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.



**Master
Builders**

3	03 30 00	Product Data Cast-in-Place Concrete Precast Concrete Mass Concrete
	03 40 00	
	03 70 00	

Description

PolyHeed 997 admixture is a patented multi-component, non-chloride, mid-range water-reducing admixture. PolyHeed 997 admixture meets ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Conventionally placed concrete mixes containing a wide range of cements, slag cement, Class C and F fly ashes, silica fume and aggregates
- Reinforced, precast, prestressed, lightweight or normal weight concrete and pumped concrete
- Residential/commercial flatwork and formed surfaces
- Rheodynamic® Self-Consolidating Concrete
- 4x4™ Concrete
- Pervious Concrete

POLYHEED® 997

Mid-Range Water-Reducing Admixture

Features

- True mid-range water reduction (5-15%) and excellent performance across a wide concrete slump range, especially the difficult slump range of 5-8 in. (125-200 mm)
- Superior workability, pumpability and finishability qualities even in concrete mixes containing low amounts of cementitious materials
- Compressive and flexural strength performance increased at all ages
- Strength performance comparable to chloride-bearing, water-reducing admixtures at all ages
- Superior finishing characteristics for residential/commercial flatwork and formed surfaces

Benefits

- Significantly reduced placement and finishing time resulting in lower in-place concrete costs
- Improved concrete durability to damage from freezing and thawing
- Increased service life of concrete structures

Performance Characteristics

Mixture Data: 500 lb/yd³ (295 kg/m³) of Type I cement; slump, 6-7 in. (150-180 mm); 5-6% air; concrete temperature 70 °F (21 °C); ambient temperature, 70 °F (21 °C).

Setting Time Performance¹

Mixture	Initial Set h:min	Difference h:min
Plain	6:01	-
PolyHeed 997 admixture @		
5 fl oz/cwt (325 mL/100 kg)	6:22	+0:21
10 fl oz/cwt (650 mL/100 kg)	6:57	+0:56
15 fl oz/cwt (980 mL/100 kg)	7:31	+1:30

Compressive Strength Performance

Mixture	7-Day			28-Day		
	psi	MPa	%	psi	MPa	%
Plain	2360	16.3	100	3320	22.9	100
PolyHeed 997 admixture @						
5 fl oz/cwt (325 mL/100 kg)	3060	21.1	129	3930	27.1	118
10 fl oz/cwt (650 mL/100 kg)	3740	25.8	158	4610	31.8	136
15 fl oz/cwt (980 mL/100 kg)	4620	31.9	196	5460	37.7	165

¹Note: The data shown are based on controlled laboratory tests. Reasonable variations from the results shown here may be experienced as a result of differences in concrete making materials and jobsite conditions.

Product Data: POLYHEED® 997

Guidelines for Use

Dosage: PolyHeed 997 admixture has a recommended dosage range of 3-15 fl oz /cwt (195-980 mL/100 kg) of cementitious material for most concrete mixes.

As the dosage of PolyHeed 997 admixture increases to 15 fl oz/cwt (980 mL/100 kg) of cementitious materials, normal concrete setting characteristics are maintained and early and ultimate compressive strengths increase.

BASF Construction Chemicals does not recommend the use of dosages outside the recommended range without trial testing. Consult your local BASF Construction Chemicals sales representative for assistance in determining the dosage for optimum performance.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: PolyHeed 997 admixture will neither initiate nor promote corrosion of reinforcing or prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. PolyHeed 997 admixture does not contain intentionally added calcium chloride or other chloride-based ingredients.

Compatibility: PolyHeed 997 admixture may be used in combination with any BASF Construction Chemicals admixtures. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

Storage and Handling

Storage Temperature: If PolyHeed 997 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: PolyHeed 997 admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of PolyHeed 997 admixture has been exceeded.

Packaging

PolyHeed 997 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: PolyHeed 997 admixture.

Additional Information

For additional information on PolyHeed 997 admixture or its use in developing concrete mixtures with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

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**Master
Builders**

3	03 30 00	Product Data
	03 40 00	Cast-in-Place Concrete
	03 70 00	Precast Concrete Mass Concrete

Description

Pozzolith 300 R ready-to-use, liquid admixture is used for making more uniform and predictable high-performance concrete while retarding its setting time to facilitate placing and finishing operations.

It meets ASTM C 494/C 494M requirements for Type B, retarding, and Type D, water-reducing and retarding, admixtures.

Applications

Recommended for use in:

- Prestressed concrete
- Precast concrete
- Reinforced concrete
- Shotcrete
- Lightweight or normal weight concrete
- Pumped concrete
- 4x4™ Concrete
- Pervious Concrete
- Rheodynamic® Self-Consolidating Concrete (SCC)

POZZOLITH® 300 R

Set Retarding Admixture

Features

- Reduced water content required for a given workability
- Retarded setting characteristics
- Improved workability
- Reduced segregation
- Superior finishing characteristics for flatwork and cast surfaces
- Moderate to extended retardation – depending on the dosage rate
- Dead-load deflection can take place (before concrete sets) in extended pours for bridge decks, cantilevers, nonshored structural elements, etc.

Benefits

- Flexibility in the scheduling of placing and finishing operations
- Offsets the effects of early hardening during extended delays between mixing and placing
- Helps eliminate cold joints
- Peak temperature and/or rate of temperature rise in mass concrete lowered thereby reducing thermal cracking
- Increased compressive and flexural strength

Performance Characteristics

Concrete produced with Pozzolith 300 R admixture will have rapid strength development after initial set occurs. It develops higher early (24-hour) and ultimate strengths than plain concrete when used within the recommended dosage range, under normal, comparable curing conditions.

When Pozzolith 300 R admixture is used in heat-cured concrete, the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

Rate of Hardening: The temperature of the concrete mixture and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing. Pozzolith 300 R admixture retards the set of concrete. Within the normal dosage range, it will generally extend the working and setting times of concrete containing normal portland cement approximately 1 hour to 5 hours compared to that of a plain concrete mixture, depending on job materials and temperatures.

Trial mixtures should be made with job materials approximating job conditions to determine the dosage required.

Product Data: POZZOLITH® 300 R

Guidelines for Use

Dosage: Pozzolith 300 R admixture is recommended for use at a dosage of 4 ± 1 fl oz/cwt (260 ± 65 mL/100 kg) of cementitious materials for most concrete mixtures using typical concrete ingredients. Because of variations in job conditions and concrete materials, dosages other than the recommended amounts may be required. In such cases, contact your BASF Construction Chemicals representative.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Pozzolith 300 R admixture will neither initiate nor promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally-added calcium chloride or other chloride-based ingredients.

Compatibility: Pozzolith 300 R admixture may be used in combination with any BASF Construction Chemicals admixtures. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mix.

Storage and Handling

Storage Temperature: If Pozzolith 300 R admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: Pozzolith 300 R admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Pozzolith 300R admixture has been exceeded.

Packaging

Pozzolith 300 R admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Pozzolith 300 R admixture.

Additional Information

For additional information on Pozzolith 300 R admixture or its use in developing a concrete mixture with special performance characteristics, contact your BASF Construction Chemicals representative.

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BASF Construction Chemicals, LLC
Admixture Systems

www.masterbuilders.com

United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 ■ Tel: 800 628-9990 ■ Fax: 216 839-8821
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ■ Tel: 800 387-5862 ■ Fax: 905 792-0651

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