

Description

Pozzutec® 20+ admixture is a multi-component, non-chloride, water-reducing and accelerating admixture formulated to accelerate concrete setting time and increase early and ultimate strengths across a wide range of ambient temperatures (hot, mild, cold and subfreezing). Pozzutec 20+ admixture meets ASTM C 494 requirements for Type C, accelerating, and Type E, water-reducing and accelerating, admixtures.

Applications

Recommended for use in:

- Concrete being placed in subfreezing ambient conditions
- Reinforced, precast, pumped, flowable, lightweight or normal weight concrete and shotcrete (wet mix)
- Concrete placed on galvanized steel floor and roof systems
- Prestressed concrete
- Fast-track concrete construction
- Concrete subject to chloride ion limitations
- Rheodynamic® Self-Consolidating Concrete
- Pervious Concrete
- 4x4™ Concrete

POZZUTEC® 20+

Accelerating Admixture

Features

- Accelerated setting time
- Especially effective for concrete placement at ambient temperatures as low as 20 °F (-7 °C)
- Superior workability
- Increased early and ultimate strength
- Superior finishing characteristics for flatwork and cast surfaces

Benefits

- Earlier finishing of slabs – reduced labor costs
- Reduced in-place concrete costs
- Reduced or eliminated heating and protection time in cold weather
- Earlier stripping and reuse of forms

Performance Characteristics

Mix Data

| | |
|---|----------------------------|
| Type II cement, lb/yd ³ (kg/m ³) | 600 (356) |
| Slump, in. (mm) | 4 ± 1 (100 ± 25) |
| Air Content % | Non-air-entrained concrete |
| Concrete Temperature | 55 °F (12 °C) |

Mild Weather

Setting Time: Ambient Temperature: 70 °F (21 °C)

| Mix | Time of Set | |
|--------------------------------|---------------------|--------------------|
| | Initial Set (h:min) | Comparison (h:min) |
| Plain | 4:30 | REF |
| Pozzutec 20+ admixture @ | | |
| ■ 10 fl oz/cwt (650 mL/100 kg) | 3:18 | - 1:12 |

Cold Weather

Setting Time: Ambient Temperature: 50 °F (10 °C)

| Mix | Time of Set | |
|----------------------------------|---------------------|--------------------|
| | Initial Set (h:min) | Comparison (h:min) |
| Plain | 5:48 | REF |
| Pozzutec 20+ admixture @ | | |
| ■ 20 fl oz/cwt (1,300 mL/100 kg) | 4:00 | -1:48 |

Product Data: POZZUTEC® 20+

Subfreezing Weather

Setting Time: Ambient Temperature: 30 °F (-1 °C)

| Mix | Time of Set | |
|----------------------------------|---------------------|--------------------|
| | Initial Set (h:min) | Comparison (h:min) |
| Plain | 12:12 | REF |
| Pozzutec 20+ admixture @ | | |
| ■ 60 fl oz/cwt (3,910 mL/100 kg) | 3:54 | - 8:18 |
| ■ 90 fl oz/cwt (5,850 mL/100 kg) | 2:24 | - 9:48 |

Guidelines for Use

Dosage: The specific dosage of Pozzutec® 20+ admixture for a given application is dependent on ambient and concrete temperatures, cement chemistry, concrete mixture proportions, the amount of set time acceleration needed and strength performance required. Listed below are the recommended dosage ranges for various weather applications.

Recommended Dosage for Mild and Cold Weather Applications: Use 5 - 60 fl oz/cwt (325 - 3,910 mL/100 kg) of cementitious material. As the dosage rate of Pozzutec 20+ admixture is increased, setting time is accelerated and early and ultimate strengths are increased.

Recommended Dosage for Subfreezing Weather Applications: Use 60 - 90 fl oz/cwt (3,910 - 5,870 mL/100 kg) of cementitious material to reduce the freezable water content of the mixture, to accelerate setting time and to provide early protection against freezing while the concrete is plastic in subfreezing temperatures.

Conservation of the heat generated by the concrete through the use of wind protection and/or insulation will permit placement in subfreezing ambient temperatures. See ACI 306.1, "Standard Specification for Cold Weather Concreting," and ACI 306 committee report, "Cold Weather Concreting" for recommended protection in cold weather.

Exposure to air movement, concrete surface to volume ratio, and mixture proportions affect performance under extreme cold weather conditions. Concrete containing Pozzutec 20+ admixture may reduce or eliminate the need for recognized protective measures and protection time required in cold or subfreezing weather concreting applications. Field evaluations of the concrete mixture selected for the project should be performed using local materials to determine: the optimum dosage rate of Pozzutec 20+ admixture required to achieve the desired setting time and strength performance, the minimum acceptable ambient and concrete temperatures for placement, and if the recognized protective measures and protection time required for cold and subfreezing weather concreting may be reduced or eliminated.

Concrete containing Pozzutec 20+ admixture that will be exposed to subfreezing weather conditions must be sealed to prevent the ingress of additional water to hardened concrete during curing. A surface sealer must be applied as soon as the concrete reaches initial set or finishing is complete. Confilm® evaporation retarding admixture is recommended to minimize evaporation of surface moisture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Pozzutec 20+ admixture will neither initiate nor promote corrosion of reinforcing steel in concrete.

Compatibility: Pozzutec 20+ admixture can be used as a singular admixture or as a component in a BASF Admixtures, Inc. admixture system. When used with other admixtures, each admixture must be dispensed separately into the mixture.

In applications that require Pozzutec 20+ admixture dosages of 30 fl oz/cwt (1,950 mL/100 kg) or more, the use of a Glenium® high-range water-reducing admixture is recommended to obtain increased water reduction and strength performance. At such dosages, erratic slump behavior may be experienced when Pozzutec 20+ admixture is used in concrete mixtures that also contain naphthalene-based admixtures.

Storage and Handling

Storage Temperature: Store at 50 °F (10 °C) or above. If Pozzutec 20+ 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: Pozzutec 20+ admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Admixtures, Inc. representative regarding suitability for use and dosage recommendations if the shelf life of Pozzutec 20+ admixture has been exceeded.

Packaging

Pozzutec 20+ admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Pozzutec 20+ admixture.

Additional Information

For additional information on Pozzutec 20+ admixture or its use in developing a concrete mixture with special performance characteristics, contact your BASF Admixtures, Inc. representative.

BASF Admixtures, Inc. is a leading provider of innovative chemical admixtures and silica fume for specialty concrete used in the ready mix, precast, manufactured concrete products, underground] construction and paving markets in the United States and Canada. 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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