

Description

Navitas 33 rheology-controlling admixture is a patent-pending, liquid admixture that is specially developed for low-slump concrete and paving mixes.

Navitas, the Latin word for "energy", describes the *energized* performance this admixture incorporates into the concrete. Concrete containing Navitas 33 admixture exhibits enhanced rheology and excellent extrusion properties, surface texture, and facilitates placement, consolidation, and finishing.

Applications

Recommended for use in:

- Mainline concrete paving
- Low-slump concrete
- Curb and gutter
- Extruded concrete
- Median barriers

Navitas™ 33

Rheology–Controlling Admixture for Paving

Features

- Modifies concrete rheology
- Improves response to vibration
- Reduces vibration requirement for consolidation
- Facilitates extrusion - higher volume flow
- Provides enhanced surface appearance
- Exhibits thixotropic properties – adds body
- Acts as a lubricant
- Produces smoother surfaces
- Increases durability potential

Benefits

- Increases productivity
- Reduces costs required for finishing
- Reduces concrete mixture costs by optimizing cementitious materials required and allowing for the use of manufactured sands
- Minimizes edge slump
- Extends service life of vibrators/paving equipment
- Enhances riding surface
- Increases service life of pavements

Performance Characteristics

Air Content: Navitas 33 admixture does not affect the air content in either air-entrained or non-air-entrained concrete. Typical dosages of air-entraining admixtures may be used to achieve the desired air content.

Time of Setting: Navitas 33 admixture has little to no impact on the time of setting of concrete within the recommended dosage range of 2 – 12 fl oz/cwt (130 – 780 mL/100 kg) of cementitious materials.

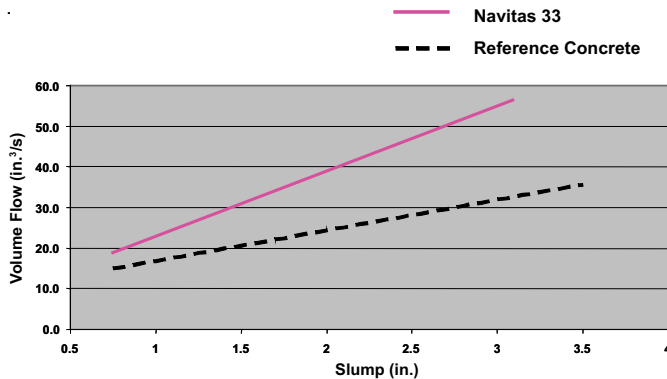
Workability/Extrudability: Navitas 33 admixture imparts a lubricating effect in concrete resulting in a very workable mixture. This effect allows low-slump concrete, such as a paving mixture, to be easily extruded thereby facilitating placement. A lower slump mix that can be easily placed permits the design and placement of lower water to cementitious materials ratio mixes resulting in higher compressive strengths and minimized edge slump.

Compressive Strength: Navitas 33 admixture does not affect the compressive strength of concrete.

Volume Flow: Concrete containing Navitas 33 admixture will exhibit an increase in mixture fluidity during vibration. Using the L-Box (equipment typically used for measuring the flow of self-consolidating concrete) with an externally-mounted vibrator, the volume flow of concrete, including low-slump paving mixes, can be measured.

Product Data: Navitas™ 33

Effect of Navitas 33 on Volume Flow of Concrete



Note: 1 in. = 25.4 mm, 1 in.³ = 16.39 mL

Both laboratory and field testing have demonstrated that concrete containing Navitas 33 admixture will exhibit a higher volume flow for a given concrete slump when consolidated with a fixed level of vibration. This desirable performance may result in increased productivity (more linear ft/h) or equal productivity with a reduced vibration requirement for consolidation. Lowering the vibration requirement may extend equipment life and help maintain a quality air-void system in concrete.

Guidelines for Use

Dosage: The recommended dosage range for Navitas 33 admixture is 2 – 12 fl oz/cwt (130 – 780 mL/100 kg) of cementitious materials. The typical dosage for most paving applications is 4 -8 fl oz/cwt (260 – 520 mL/100 kg). Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the suggested range may be required.

Mixing: Navitas 33 admixture is typically added with the initial mix water. Alternatively, Navitas 33 admixture may be added after all other concreting ingredients have been batched and thoroughly mixed, either at the batch plant or at the jobsite.

Product Notes

Compatibility: Navitas 33 admixture works best when used in combination with BASF's polycarboxylate-based water-reducing admixtures. Navitas 33 admixture is compatible with most admixtures used in the production of quality concrete including normal, mid-range and high-range water-reducing admixtures, and air entrainers. Navitas 33 admixture is also compatible with most accelerators, retarders, extended set-control admixtures, corrosion inhibitors, and shrinkage reducers. However, a field trial mixture is recommended to ensure appropriate performance.

Storage and Handling

Storage Temperature: Navitas 33 admixture should be stored at temperatures above 32 °F (0 °C) and below 110 °F (43 °C). It is recommended that Navitas 33 admixture be protected from freezing. However, if Navitas 33 admixture freezes, it should be completely thawed and mildly agitated using mechanical stirring to restore uniformity.

Shelf Life: A product stability evaluation has shown that Navitas 33 admixture has a shelf life of 8 months. Please contact your local sales representative regarding suitability for use and dosage recommendations if the stated minimum shelf life of Navitas 33 admixture has been exceeded.

Dispensing: Navitas 33 admixture should be dispensed using direct-feed dispensing systems. It is recommended that fail-safe features be included in this dispenser application for potential meter malfunctions. Consult your local sales representative for the proper dispensing equipment for Navitas 33 admixture.

Packaging

Navitas 33 admixture is supplied in 55 gal (208 L) drums, and 275 gal (1040 L) totes.

Related Documents

Material Safety Data Sheets: Navitas 33 admixture

Additional Information

For additional information on Navitas 33 admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales 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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