

Description

Rheocell 30 admixture is a highly concentrated foaming agent for use in producing Controlled Low Strength Materials (CLSM), and engineered, cellular cementitious mixtures (mortar, concrete, or grout) for numerous applications. Rheocell 30 admixture is suitable for use in combination with various types of foam generating equipment, especially equipment that generates foam via air pressure.

Rheocell 30 admixture meets the requirements of ASTM C 869, "Standard Specification for Foaming Agents Used in Making Preformed Foam for Cellular Concrete."

Applications

Recommended for use in:

- Tunnel Annulus Grouting
- Floor Fill
- Nuclear Decommissioning
- Thermal Insulation
- Basement Abandonment
- Unstable Soil Replacement
- Mining Backfill
- Slab Jacking
- Pipeline/Storage Tank Abandonment
- Roof Decks
- Pipe Bedding
- Roadbase/Abutment Fill
- Load-Reducing Fill
- Void Fill
- Mine Abandonment
- Slipliner Grouting
- Trench Fill
- Backfill
- Structural Fill
- Highway Barriers
- Lightweight Precast Panels

RHEOCELL® 30

Foaming Agent

Features

- Liquid, easy to dispense
- Produces stable air and density (unit weight)
- Pre-selected strength and density values

CLSM produced using Rheocell 30 admixture achieves:

- Good thermal insulation
- Reduced bleeding, consequently reduced segregation
- Optimum workability
- Easy placement by means of chutes, pumps, or buckets
- Lightweight structural material

Performance Characteristics

Air Pressure System

Cement Factor, lb/yd ³ (kg/m ³)	600	(356)
Water, lb/yd ³ (kg/m ³)	270	(160)
w/c	0.45	
Target Density	35 lb/ft ³	(561 kg/m ³)

Laboratory mixture. Foamed material pumped 150 ft (45.7m) in increments of 50 ft (15.2 m)

Initial Density	118.00 lb/ft ³	(1890 kg/m ³)
Density After Foaming	36.8 lb/ft ³ (590 kg/m ³)	Foam time, 26 sec.

Density After Pumping	lb/ft ³	(kg/m ³)
50 ft (15.2 m)	37.8	(606)
100 ft (30.5 m)	40.7	(652)
150 ft (45.7 m)	40.6	(650)
Compressive Strength @7 days	psi	(MPa)
after foaming	60	(0.41)
after pumping 150 ft (45.7 m)	100	(0.69)
Compressive Strength @28 days	psi	(MPa)
after foaming	120	(0.83)
after pumping 150 ft (45.7 m)	220	(1.52)

Product Data: RHEOCELL® 30

Water-Pressure System

Rheocell 30 admixture can be used with a variety of mixture proportions: straight cement, cement and pozzolans and/or sand mixtures.

(Lightweight Fill) – Straight Cement	Mass as Batched
Type I Cement, lb/yd ³ (kg/m ³)	600 (356)
Water, lb/yd ³ (kg/m ³)	270 (160)
Foam Time, seconds	5.9
Initial Density (Unit Weight)	118 lb/ft ³ (1,890 kg/m ³)
Density (Unit Weight) After Foaming	37 lb/ft ³ (593 kg/m ³)
Compressive Strength @ 7 days	110 psi (0.76 MPa)
Compressive Strength @ 28 days	210 psi (1.45 MPa)

*Masses shown are as batched prior to foaming. Proportions for the CLSM mixtures will be different when adjusted to a cubic yard (or cubic meter).
NOTE: Data taken from laboratory evaluations.

Guidelines for Use

Air Pressure System: Rheocell 30 admixture is a ready-to-use solution for producing lightweight cellular concrete.

Pre-Foamed Method:

1. Dilute Rheocell 30 admixture with water by 20-40 times depending on the application.
2. Control the amount of compressed air and flow of diluted Rheocell 30 admixture in order to obtain appropriate foam volume. Rheocell 30 admixture has an expansion rate of approximately 20-25 times the diluted solution.
3. Introduce foam into either a continuous mixer or agitator truck directly and mix well with mortar or concrete.

Water-Pressure Systems: Rheocell 30 admixture is introduced to the CLSM mix using a Rheocell foam gun.

1. Do not dilute or mix Rheocell 30 admixture with water or any other admixture.
2. Connect the Rheocell foam gun to the water supply of the ready mix truck or other main source of water supply. A water source with a pressure of 30 psi (207 kPa) is required.
3. Introduce foam directly into the ready mix truck or continuous mixer and mix well.

Dosage: There is no standard dosage for Rheocell 30 admixture foaming agent. The dosage is dependent upon the required density and end use. A trial evaluation should be conducted to determine the foaming time necessary to obtain the required density. Contact your local BASF Construction Chemicals representative for mixture design assistance.

Product Notes

When needed, set-controlling admixtures (i.e., accelerators or retarders) meeting ASTM C 494/C 494M requirements may be used to control the rate of set. However, the set-controlling admixture should be added separately to the mixture.

BASF Construction Chemicals, LLC Admixture Systems

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Storage and Handling

Storage Temperature: Rheocell 30 admixture can be stored at 34 °F (1 °C) or above. Low temperatures may cause flocculation (clumping) of the material.

If flocculation occurs, allow product to warm at room temperature, 70-73 °F (21-23 °C) and reconstitute by gentle agitation. **Do not use pressurized air for agitation.**

Handling: Any prolonged contact with Rheocell 30 admixture should be avoided, as it may cause irritation. If such contact occurs, the affected area should be washed thoroughly with water. In case of eye contact, seek immediate medical advice. When applying Rheocell 30 admixture, the use of chemical gloves and goggles are recommended.

Shelf Life: Rheocell 30 admixture has a shelf life of 12 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 Rheocell 30 admixture has been exceeded.

Packaging

Rheocell 30 admixture is supplied in 3 gal (11.4 L) pails, 55 gal (208 L) drums and 275 gal (1,040 L) totes.

Related Documents

Material Safety Data Sheets: Rheocell 30 admixture.

Additional Information

For additional information on Rheocell 30 foaming agent or its use in developing a concrete or mortar mixture, 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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