

Sika® Lightcrete Flow-Air *(Formerly Flow-Air)*

Flowable Fill Performance Admixture

Description Sika® Lightcrete Flow-Air is primarily used in control density fill (CDF) cementitious mixtures to lower densities and control compressive strength where applications may call for future excavations. Sika® Lightcrete Flow-Air is designed for use with cement and pozzolans, such as fly ash and slag, to produce flowable fill. Sika® Lightcrete Flow-Air is carefully formulated and subjected to stringent quality control in order to guarantee superior results in both the plastic and hardened control density fill (CDF).

Where to Use Sika® Lightcrete Flow-Air is designed for CDF mixtures, and is not recommended for use in conventional concrete. Sika® Lightcrete Flow-Air benefits CDF as follows:

- Reduced settlement compared to compacted soils.
- Mix designs can be varied to suit jobsite requirements.
- Increases efficiency of labor and equipment.
- Cost effective compared to compacted soils.
- Self-leveling performance reduces voids.
- Safe, efficient fill material for trenches, tanks and pipes.

Advantages The addition of Sika® Lightcrete Flow-Air generates high, stable air contents while significantly reducing water requirements in CDF. When used as recommended, Sika Lightcrete Flow-Air enhances the performance of CDF as follows:

- Increases flowability with a water reduction as high as 50%.
- Reduces segregation.
- Controls strength development with stable air contents of 20% to 35%.
- Produces consistent performance from the plant to the jobsite.
- Increases the yield of materials up to 35%.
- Yields wet densities in the range of 1450 to 1800 kg/m³ consistently.
- Generates extremely high stable air contents.
- Provides comparable or faster setting times compared to conventional CDF.
- Aids pumpability and reduces segregation from pumping.
- Reduces shrinkage as a result of lower cement and water contents.

Typical Data

Packaging	205 L (54 US gal.) drum 1040 L (275 US gal.) IBC Bulk delivery
Colour and Form	Clear liquid
Shelf Life and Storage	1 year when stored in dry warehouse conditions between 5 - 27°C (40 - 80°F). Store at above 5°C (40°F). If frozen, thaw and agitate thoroughly to return to normal state. Protect from direct sunlight.
Properties	
Specific Gravity	Approx 1,0

How to Use

Dosage

Typical dosage of Sika® Lightcrete Flow-Air is 120 to 200 mL/m³ of CDF which will generate 20% to 35% of air. Dosage rates and the percentage of air generated can vary depending upon the nature of concrete materials, slump, temperature, mineral additions, mixing energy and time. It is suggested that trial batches be conducted in order to determine the required dosage for optimum performance with your concrete components. Contact your Sika Canada Technical Sales Representative for further information.



Sika® Lightcrete Flow-Air Mix Designs

The following control density fill (CDF) mix designs with Sika Lightcrete Flow-Air are presented only as guidelines. It is suggested that trial batches be conducted in order to determine the optimum mix design with your materials.

0.28 - 0.55 MPa (40 - 80 psi)

Cement: 30 kg/m³ (50 lb/yd³)
 Sika® Lightcrete Flow-Air: 195 mL/m³
 Sand: 1480 kg/m³ (2500 lb/yd³)
 Water: 125 - 178 kg/m³ (210 - 300 lb/yd³)

0.21 - 0.41 MPa (30 - 60 psi)

Cement: 18-35 kg/m³ (30-60 lb/yd³)
 Sika® Lightcrete Flow-Air: 195 ml/m³
 Sand: 1365 kg/m³ (2300 lb/yd³)
 Water: 172 kg/m³ (290 lb/yd³)

0.41 - 0.69 MPa (60 - 100 psi)

Cement: 30 kg/m³ (50 lb/yd³)
 Type F Fly Ash: 89 kg/m³ (150 lb/yd³)
 Sika® Lightcrete Flow-Air: 195 mL/m³
 Sand: 1365 kg/m³ (2300 lb/yd³)
 Water: 125-178 kg/m³ (210-300 lb/yd³)

Fast-Set Concrete: 1.03 - 1.38 MPa (150 - 200 psi)

Cement: 74 kg/m³ (125 lb/yd³)
 SikaSet® NC-2: 8345 mL/m³ (128 oz/yd³)
 Sika® Lightcrete Flow-Air: 195 mL/m³
 Sand: 1424 kg/m³ (2400 lb/yd³)
 Water: 125 - 178 kg/m³ (210 - 300 lb/yd³)

Long Distance Flows: 0.69 - 2.07 MPa (100 - 300 psi)

Cement: 24 kg/m³ (40 lb/yd³)
 Type F Fly Ash: 237 kg/m³ (400 lb/yd³)
 Sika® Lightcrete Flow-Air: 390 - 650 mL/m³
 Sand: 1365 kg/m³ (2300 lb/yd³)
 Water: 148 - 178 kg/m³ (250 - 300 lb/yd³)

NOTE: Hold back 25% of water until Sika® Lightcrete Flow-Air has time to generate desired air content (20-30%), then add additional water required for the desired flow.

Mixing	For best results, Sika® Lightcrete Flow-Air can be incorporated in the mixer before or after the addition of the cementitious material. Sika® Lightcrete Flow-Air is compatible with other Sika® admixtures. However, each admixture should be added separately to the mix.
Clean Up	Use personal protective equipment (chemical resistant goggles/gloves/clothing). Without direct contact, remove spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

**KEEP OUT OF REACH OF CHILDREN
 FOR INDUSTRIAL USE ONLY**

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelf life. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.



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