

CARBOFEN® 5055

Air Entraining Agent

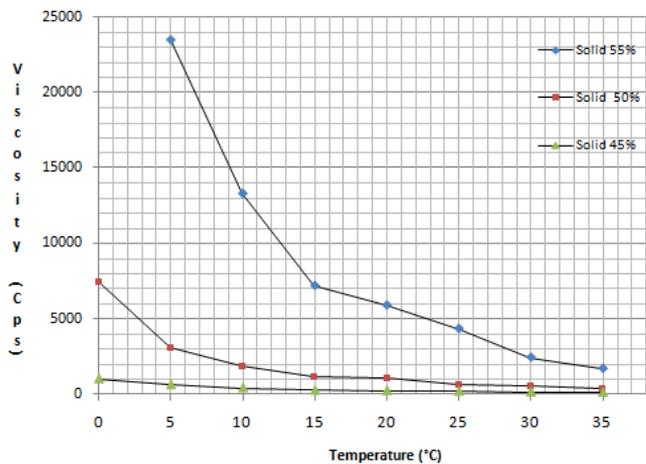
PRODUCT DESCRIPTION

Carbofen 5055 is a thick, viscous solution of a compound resin dissolved in water. It is derived from the synthesis of naturally occurring polyphenol resins saponified with natural resin acids, which are specially processed resulting in a product with excellent properties as an air entraining agent. Carbofen 5055's chemical composition and physical properties make it ideal for an air entraining agent in mortars and concrete.

SPECIFICATIONS

No volatiles (%), ASTM D-1259	49 – 56
pH (in solution at 2%), ASTM E-70	10 – 12
Density at 25°C (g/m ³), ASTM D-1963	1.10 – 1.20
Free Alkali (mg NaOH/g), EQP	90 – 110

The viscosity of Carbofen 5055 may change with temperature and solid content, following the guideline chart below:



ADVANTAGES OF CARBOFEN 5055 AS AN AIR ENTRAINER:

- Improves strength, workability and freeze-thaw resistance of cement;
- Grants concrete a better resistance to sulfate and chloride;
- Improved plasticity, water retention and cohesiveness of mortar effectiveness at low usage rates;
- Improved grinding during the manufacture of cement;
- Reduces fissures during the drying process;
- Neutralization of the resin is not required.



SOLUBILITY

Excellent solubility in water.

DIRECTIONS FOR USE

Carbofen 5055 is concentrated at approximately 50% solids and for use, we recommend it be diluted in a water solution until the solution reaches 20%. The optimal ratio is 300 kilograms (661.39 lbs) of water for every 200-kilogram (440.92 lbs) drum of our product.

First, load a tank with 60% of the total amount of water to be used. Then, slowly add Carbofen 5055 and stir until a homogeneous mixture is obtained. Continue adding the rest of the water and stirring until all the ingredients have been added. It is not necessary to heat the water. Once this process is completed, the Carbofen 5055 Solution will be ready to be added into mortars and concrete mixes.

Important: Once the Carbofen 5055 Solution is ready, check pH of soap solution. If pH different than 11.5 – 12, adjust using caustic soda as necessary.

These directions are a reference. We understand that the exact quantity of product need to produce cement may vary, because of differences in materials, sand granulation, mixture proportions, slump, etc. Confirmatory dosage testing for the exact conditions of use is recommended.

APPLICATIONS

Our air entraining agent has broad use in foundations of concrete, slabs, dikes, tunnels, canals, bridges, concrete highways projects, and others. It produces a content of air of 3% to 6% in the concrete when dosages of 100mL of Carbofen 5055 Solution* to each 50kg bag of cement are used. To increase these properties, one can increase quantities once experimental tests are concluded.

**It must be diluted to the recommended concentration of 20% solution as described in Directions for Use.*

WHAT ARE AIR ENTRAINING AGENTS?

Retention of air in concrete consists in the mechanic entraining of a large and well distributed number of minuscule air bubbles during the mixing of cement. This retention can be obtained by adding the appropriate air entraining agent, like Carbofen 5055, to the cement mix.

The entrainment of air in concrete is very important, since the float of these minuscule air bubbles are distributed in the mixture and the sedimentation of the solid particles is delayed.

Consequently, the “bleeding” is reduced, providing an overall better quality of concrete, better resistance to freeze-thaw cycles as well as better plasticity, uniformity, and cohesion characteristics. The honeycomb-like areas (areas of great space), which are caused by bad consolidation after the placement of concrete, are reduced and sometimes eliminated with the entraining of air. Therefore, improving the overall quality of the structure.

There are several items that influence the quality of the entrained air, such as: composition of the mixture, consistency of the concrete, temperature, vibration, classification of the type and size of the agglomerate, among others. Therefore, one must plan for the best conditions and utilize an additive that aids the air entraining of concrete, like Carbofen 5055.

Caution: The use in excess of an air entraining additive may result in a low compressive strength of concrete.

PACKAGING

- Plastic IBC totes of 330 gallons (1,249.19 L)
- Metal drums of 200 kilograms (440.92 lbs)

PRODUCT INFORMATION AND SAFETY

Please read our Safety Data Sheet (SDS) and our Material Safety Data Sheet (MSDS) for detailed information.

Note: The information given here is valid at the time of publication and Polytrade reserves the right to amend any without notice. We try our best to keep our records up to date, but if you want the latest information, contact one of our agents. Also, the data and suggestions regarding this product are given in good faith, but without guarantee, since the ultimate use of our products is beyond our control.

SAVE UP TO 5% ON YOUR YEARLY CEMENT CONSUMPTION

Concrete naturally has 1.5% of its volume in air. Depending on the application, the air volume can be raised up to 6.5% with an air entrainer. The resulting mixture has the same volume as one without our product, but there could be a savings of up to 5.1% in costs of cement.



Carbofen 5055 delivered to you at a concentration of approximately 50% solids