

**SOFT ROCK MINING / HARD ROCK MINING**

**CARBOFILL**

**TWO-COMPONENT PHENOLIC FOAM RESIN**

**DESCRIPTION**

Carbofill is a two-component phenolic foam resin. Carbofill Part A is an aqueous phenolic resin which contains a suspension of solid carbonates as a blowing agent. Carbofill Part B is a blend of various acids which affect the foaming process and the curing reaction. The final product is a lightweight material with a yellow to pink colour.



**APPLICATION AND USES**

Carbofill is a two-component phenolic foam resin used for:

- Filling of cavities e.g. in roads and longwalls
- Filling of cavities to prevent gas accumulation.
- Stabilisation of debris.
- Forming temporary plug seals

**ADVANTAGES**

- Extremely fast reaction time
- Minimises formwork requirements
  - Dual purpose system - Strata injection and cavity filling
- High foam factor (low product consumption for transport and handling)
- Injection against water flow possible
- Low reaction temperature
- Allows application at lower temperatures
- The product allows injection as well as spraying techniques
- Low formaldehyde emissions during product reaction – fire resistant

**TECHNICAL DATA**

Typical Properties at 25°C	
<b>Mixing Ratio</b>	4:1 (p.b.v.) 4.3:1 (p.b.w.)
Start of Foaming	<10"
End of Foaming	3'10" +/- 50"
<b>Foam Factor</b>	20-26
Consumption	50-65kg/m <sup>3</sup>
Temperature of Reaction	<90°C
<b>Density:</b>	
Component A	1290+/-30kg/m <sup>3</sup>
Component B	1540+/-30kg/m <sup>3</sup>
<b>Colour:</b>	
Component A	beige-brown
Component B	blue-black
<b>pH Value:</b>	
Component A	8-9
Component B	0-1
<b>Viscosity:</b>	
Component A	200-900 mPas
Component B	<100 mPas

**APPLICATION METHOD**

To ensure safe and efficient application of Carbofill, the application must be performed by or under the guidance of Minova operators who have been trained in accordance with Minova's strata injection training program.

**Mixing and Planning**

- Carbofill components are mixed in a volume ratio 4:1
- Components are conveyed via a twin pump and hoses to the place of use.
- Mix in a static mixer unit and discharge into the cavity to be filled.
- To keep the admissible concentrations of the ingredient's phenol and formaldehyde below exposure levels the Groundcon SOP TM/Carbofill/01 should be followed.

**Formwork**

The foamed resin cures very rapidly so only light formwork is required (such as pogo sticks and brattice cloth). In some cases, no formwork may be required as the foam can be built up on itself.

**Cleaning**

At the completion of injection work any residual material in delivery lines should be collected. Flush the pump in the following manner:

- With Phenet and water for Part A
- With water for Part B.

**PACKAGING AND TRANSPORTATION**

Carbofill (Part A) is supplied in 21kg steel drums. Carbofill (Part B) is supplied in 24.3kg anti-static plastic drums. Carbofill is also available in IBC's for bulk handling.

**STORAGE AND SHELF LIFE**

Carbofill (Part A) should be stored at 5-8°C and will have a shelf life of 12months. The shelf life will be reduced to approximately 3 months when stored at 20°C.

Carbofill (Part B) should be stored at between 20-30°C and will have a shelf life of 6 months. Store away from materials stated in the SDS (Download from [www.minovaglobal.com](http://www.minovaglobal.com)).

**STORAGE CONDITIONS**

It is recommended the product be stored between 15-25 °C for 12 hours prior to processing.

**DISPOSAL**

We recommend disposing of liquid residues and empty drums in an authorized incineration plant. Dispose of contents/container in accordance with local/regional/national regulations.

**HEALTH AND SAFETY**

Carbofill Part A and Part B are classified as hazardous according to GHS. For more information please refer to the Safety Data sheet at [www.minovaglobal.com](http://www.minovaglobal.com)

**TECHNICAL SUPPORT**

We provide technical advisory service by a team of specialists in the field. The service includes on site assistance and advice on evaluation trials and laboratory work.

**MANUFACTURER**

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