

# Hydrocal® B-11 PRODUCT DATA SHEET

**FOAMGLAS**  
Industry

IMPORTANT: MATERIAL SAFETY DATA SHEETS ARE AVAILABLE AND SHOULD BE READ BEFORE USING THIS PRODUCT.

## DESCRIPTION:

Hydrocal® B-11 is a reactive gypsum product that is mixed with water to form an inorganic, noncombustible adhesive or coating for fabricating, bore coating, or forming HT reinforced FOAMGLAS® insulation shapes. Hydrocal® B-11 is normally used at operating temperatures above 93°C (200°F), or in other special situations.

## \*TYPICAL PROPERTIES:

PROPERTY	
Color:	White
Appearance:	Dry fine powder
Density, g/cm <sup>3</sup> ( lbs/ft <sup>3</sup> )	2.7 to 3.0 (168 to 187)
Melting Point °C (°F):	1450 (2642)
Application Temp °C (°F):	4 – 38 (40 – 100)
**Set Time, 25°C (77°F), mins:	20 - 30
Service Temp, °C (°F):	-268 to 482 (-450 to 900)
Water Vapor Transmission:	Not Available
pH:	Alkaline
Combustibility:	Incombustible wet or dry

\* Properties subject to change. Consult Pittsburgh Corning Corporation.

\*\*Will vary with batch size, temperature and mixing ratio.

## SPECIFICATION COMPLIANCE:

Will meet the chemical requirements of NRC 1.36 and MIL-24244 specifications if chloride and fluoride levels of mixing water are acceptable. Does not meet the coupon testing acceptability requirements of NRC 1.36 and MIL-24244.

Materials containing chloride, fluoride, mercury, zinc or other low melting metals should not be added.

## ESTIMATING:

The working time and quantity of product used may vary 30 to 50% depending on cell size, application method, and temperature. Therefore, the figures listed below are estimated Hydrocal® B-11 powder quantities based on an assumed loss of 30%. The suggested quantities are offered as a guide to the user and should not be relied upon as absolutes.

Fabrication Joint Adhesive: 1.5 kg/m<sup>2</sup> (30lbs/100ft<sup>2</sup>)

Bore Coating: 880g/m<sup>2</sup> (18lbs/100ft<sup>2</sup>)

HT Reinforced Coating: 1.9 kg/m<sup>2</sup> (38lbs/100ft<sup>2</sup>)

## TOOLS AND EQUIPMENT:

Hand mixing is usually sufficient. A plastic coated straight mixing paddle (similar to what paint stores provide) is recommended. Containers and tools should be plastic. Brushes should be disposable bristle type. Have sufficient tools and containers available. Clean tools and containers with water before adhesive sets.

## SURFACE PREPARATION:

Check substrate surfaces for flatness, adhesive cannot make up for poor surface uniformity. FOAMGLAS® insulation should be free of loose dust. Lay out work before mixing adhesive

## MATERIAL PREPARATION:

Store in a dry area. Lumpy material should not be used. The volume mix ratio for fabricating is 2.0/1 (powder/water). Powder and water may be mixed in a container and applied by tool as a slurry. Alternately, powder and water may be mixed on the block surfaces. "On block" mixing is generally limited to billet or flat shape fabricating.

The volume mix ratio for bore coating is approximately 1.5/1 (powder/water). The volume mix ratio HT reinforced coating is approximately 2.5/1 (powder/water).

For slurry application, add powder to water and mix until desired consistency. Use immediately. Cold water will delay set, hot water will accelerate set.

For "On block" mixing, apply water to both substrate surfaces. Sprinkle powder on one block 0.7 kg to 1.0 kg per 457mm x 610mm (1 to 1¼ cup per 18" x 24") block and mate wet surfaces. Rub blocks back and forth with a rotary motion until powder is wetted and spread uniformly (occasionally remove a block to check to make sure adhesive is thoroughly mixed and surfaces are fully covered)

Once adhesive sets, it cannot be recovered

## JOINT FABRICATION:

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Apply by brush or other suitable applicator. Application to both faces is necessary for the required adhesive. Remove any excess adhesive before it sets. Provide any needed support and don't move piece until adhesive sets. Assembled pieces can be cut within 1 hour, but may be wet. Adhesive sets by chemical reaction, not by drying.

## BORE COAT APPLICATION:

Check FOAMGLAS® insulation for fit and clearance to allow for pipe expansion and bore coat. Hot work should be loose fitting. Apply to bore with brush or other suitable applicator. Cells should not be filled and a continuous coating is not needed. A salt and pepper appearance is sufficient. Remove any lumps or excess adhesive from all surfaces before adhesive sets.

## CLEAN UP AND DISPOSAL:

Adhesive will set under water. Do not wash or discard into sewer.

Clean up with water before adhesive hardens. Set adhesive must be mechanically removed.

Set adhesive can be land filled. Powder should be mixed with water before discarding to landfill.

## STORAGE:

To achieve maximum shelf life, store unopened containers in a dry area.

## LIMITATIONS:

Do not use for permanent bonding of FOAMGLAS® insulation to other materials without first contacting Pittsburgh Corning Corporation for more information.

Adhesive is not a vapor barrier. Some coatings may blister over cured adhesive, or HT reinforced coating.

**PACKAGING:** Available in 45.4 kg (100 lb) double wall bags

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