



Design Considerations

FOUNDATION INSULATING SYSTEM, INCLUDING WATERPROOFING AND DAMP PROOFING

GENERAL FIRE SAFETY

Foam insulation will ignite if exposed to fire of sufficient heat and intensity. Rigid foam insulation installed on foundation walls must be separated from the building interior with a code approved thermal barrier.

Thermal barriers must be mechanically fastened, or installed in a manner to remain in position for the code specified time period, typically 15 minutes. Compliance with local codes must be verified.

Foam insulation installed on the outside of masonry foundation walls or on All Weather Wood Foundations complies with the model code requirements.

In certain foundation applications, such as crawl spaces, the model building codes only require that foam insulation is covered with an ignition barrier. Typical ignition barriers include: mineral fiber insulation, plywood or sheet metal. These applications do not require a thermal barrier.

Basements or half basements are typically considered part of the building "interior". Foam insulation installed on interior walls in these applications must be properly separated from the building interior with a thermal barrier.

Where a crawl space is not connected with a basement or half basement, Foamular insulation may be installed on crawl space walls without a cover material. Contact Owens Corning for model building code evaluation reports.

Code accepted thermal barriers include 1/2" gypsum drywall, equivalent plaster on lath, 1" masonry or other materials that meet the performance requirements prescribed in Section 2603 of the model building codes.

Protect foam insulation from exposure to open flame or other ignition sources during shipping, storage and installation.

WATER AND MOISTURE CONTROL

Foundation walls with moisture from exterior sources on the interior surface should not be insulated on the inside with Foamular insulation until the water entry is stopped. Surrounding grade and concrete slabs should slope to drain surface water away from the building foundation.

Before installing foam insulation on the interior surface of foundation walls with excessive condensation, steps should be taken to dehumidify the space. Assemblies should be evaluated for effectiveness and location of vapor retarders to avoid condensation. See the ASHRAE Handbook of Fundamentals.

CHEMICAL COMPATIBILITY

Solvent based waterproofing / damp proofing materials can deteriorate polystyrene insulation. Water based emulsion materials are not harmful to polystyrene insulation. Determine waterproofing / damp proofing type. Contact manufacturer if necessary.

Compatibility can also be field checked by placing a layer of the waterproofing / damp proofing material between 2 – 12" x 12" pieces of Foamular. After 24 hours, separate the foam pieces and

examine for damage. Compatible materials will not deteriorate or cavitate the polystyrene foam surface.

Foamular insulation can be used with incompatible waterproofing / damp proofing as long as the material cures for approximately 48 hrs before installing insulation. Membrane should be nearly fully cured, slightly "tacky", before placing the polystyrene insulation.

SERVICE TEMPERATURE

Foam insulation is not recommended for use where sustained temperatures exceed 165°F. Do not use foam insulation in contact with chimneys, heater vents, pipes, or other surfaces with temperatures over 150°F. In applications where Foamular insulation will be exposed to hot bitumen, the bitumen must cool to 225° – 250°F before applying insulation.

JOBSITE STORAGE AND INSTALLATION

Protect insulation stored on the jobsite from physical damage and direct sunlight. Insulation should be stored off the ground and covered with a light color polyethylene film. Make sure the covered insulation is well ventilated to prevent excessive temperature build-up.

Install only as much insulation as can be covered, at least temporarily, during the same day.

INSECT INFESTATION

In areas with potentially heavy termite infestation, check local building codes regarding the below grade use of foam insulation. Foamular insulation does not attract insects or provide nutritional value. Infestation is a random event.

Foam insulation may provide a soft media that conceals insect tunneling. In areas of infestation, the following preventative measures may be

appropriate: pre and post construction treatment of the soil, termite shields, and wrapping EIFS around the foal insulation edges to reduce exposed insulation surfaces.

It may be appropriate to terminate EIFS 6 above grade, providing a gap in the insulation to inspect for termite tunneling. Termite baiting systems in conjunction with regular professional inspection have also been proven effective at eliminating termite colonies.

HORIZONTAL AND VERTICAL APPLICATIONS

Frequently building surfaces require the use of waterproofing or damp proofing membranes to protect the building from moisture intrusion. Foamular insulation products are applied over the membrane to enhance the performance of both horizontal and vertical applications.

Foamular insulation products are designed to improve thermal performance, prevent condensation on interior surfaces and enhance drainage.

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Foam insulation will ignite if exposed to fire of sufficient heat and intensity. Rigid foam insulation installed in waterproofing / damp proofing systems must be separated from the building interior in accordance with building code requirements.

The concrete substrates, over which waterproofing / damp proofing is typically installed, provide an

FIRE RESISTANCE RATINGS

Owens Corning Foamular insulation can be used in many fire rated waterproofing assemblies. See the Underwriters Laboratories Fire Resistance Directory for hourly fire resistance rated roof assemblies; or, the Underwriters Laboratories Roofing Materials and Systems Directory for Class A, B, or C rated roof covering system.

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Foamular also protects the membrane from backfill damage, and traffic loads on horizontal decks.

In horizontal applications, Foamular insulation helps extend the waterproofing / damp proofing membrane's life by reducing stress on the membrane caused by temperature cycles.

adequate thermal barrier. See Section 2603 of the model building codes for more information. Compliance with local code requirements must be verified.

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Foamular should not be installed directly over new coal tar pitch, or similarly incompatible waterproofing systems.

cavitate the polystyrene foam surface.

CHEMICAL DISCHARGE

Waterproofing systems exposed to chemical discharge require special consideration.

Waste products (petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat, etc.) or vented steam must not come in contact with the waterproofing / insulation / ballast system.

Contact Owens Corning or the waterproofing membrane manufacturer for information.

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FOR WATERPROOFING AND DAMPPROOFING ONLY

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