

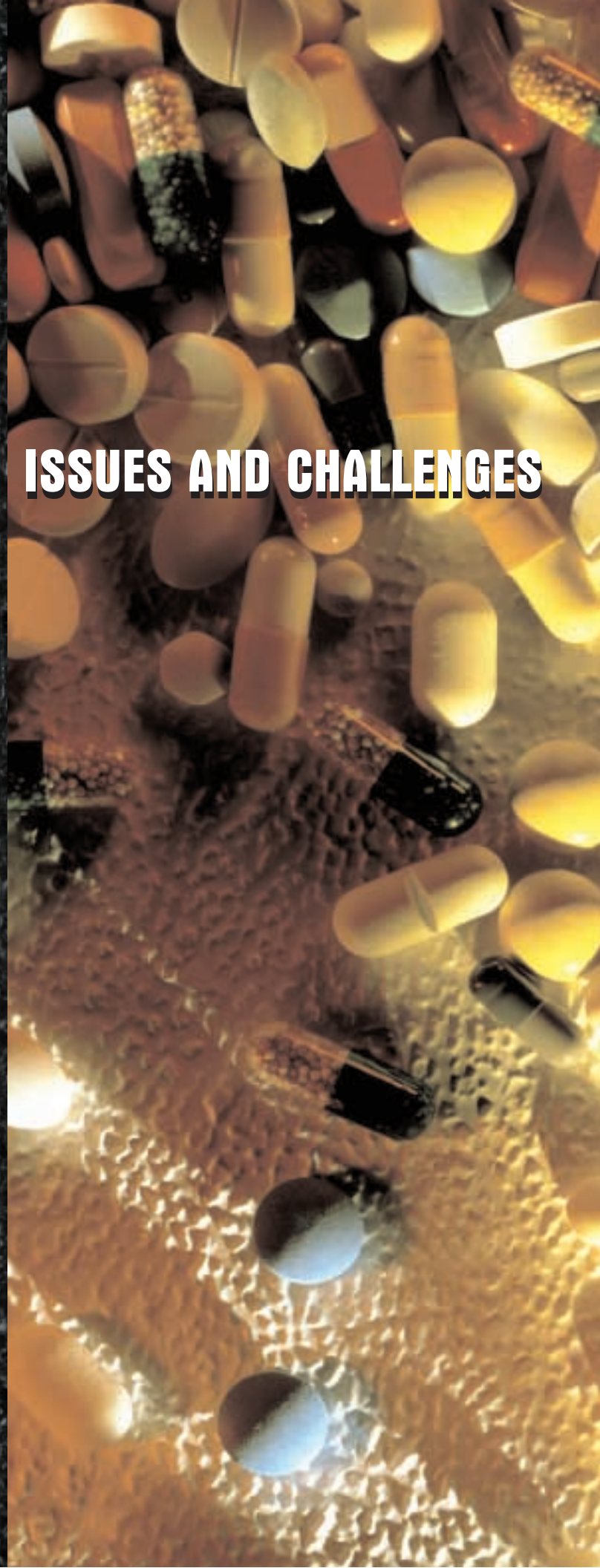


PHARMACEUTICAL PROCESSING

PITTSBURGH
CORNING
FOAMGLAS[®]
INSULATION

*Undisputed Performance.
Unmatched Versatility.™*

ISSUES AND CHALLENGES





The FOAMGLAS® Insulation Solution

Thermal Insulation is Critical to your Facility's Operating Success

In addition to the product and complementary, high-performance accessory products, Pittsburgh Corning's Technical Services staff provides product, application and materials testing, standardized and customized specifications, on-site customer assistance and installation guidance.

We offer industry-leading technical services expertise. Contact us to learn how we can help you regarding:

- Pre-installation specification/application review sessions
- Field start-up assistance
- Heat-flow analysis
- Energy analysis calculations
- Competitive product analysis and assessment
- Accessory product review and assessment

In the pharmaceutical industry, thermal insulation is used on process piping, vessels and tanks as well as in chilled water and steam distribution systems used in the facility's heating and cooling systems.

Most frequently in pharmaceutical plants, insulation is used at operating temperatures below ambient—such as on cold process lines and storage tanks—in applications requiring precise temperature control. In these applications, insulation must maintain its insulating value indefinitely so that temperatures remain precisely where the process design dictates. This is true when the system first becomes operational, and after years of potential mechanical abuse and attack by humidity, chemicals and moisture that can cause ice buildup on the system and affect performance.

In chilled water distribution lines used for cooling, the insulation is often the target of condensation penetration when water vapor is driven from the outside air toward the cooler piping systems.

When the insulated equipment is operating at above ambient temperatures—such as for hot water and in dual-temperature systems—the insulation system is critical in protecting against stress crack corrosion on stainless steel and in meeting the varying needs of cycling systems.

Insulation can also be used to protect the building structure itself in a pharmaceutical facility. It is used to help insulate and support high-load-bearing floors, and for temperature control in floors and walls and also as part of a total roofing system, especially in low-temperature buildings.

The FOAMGLAS® Insulation Solution

Pittsburgh Corning Corporation has been an industry leader in industrial insulation systems for more than six decades. The company manufactures FOAMGLAS® insulation for use in a variety of applications ranging in temperature from -450° F to +900° F (-268°C to +482° C).

The key characteristics of FOAMGLAS® insulation that benefit pharmaceutical manufacturing plants include:

Moisture and Water Vapor Resistance—Water intrusion is the single-most destructive force for an insulation system. FOAMGLAS® insulation is 100% impermeable to moisture in both liquid and vapor forms and is unaffected by the elements.

Fire and Smoke Resistance—Because it is composed of glass cells, FOAMGLAS® insulation will not burn and will not promote or contribute to toxic smoke or flame spread. It provides excellent protection for personnel and the facility because it won't absorb flammable liquids and, in the case of a fire, will not burn and emit lethal gases such as carbon monoxide, carbon dioxide, hydrochloric acid, nitrous oxides, formaldehyde and acrylonitrile like other insulation materials.





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Inorganic Composition—It is composed of glass cells and contains no fibers, chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs).

Vermin Resistant—It is resistant to vermin and microbes and will not provide an environment of sources of food and water in which they can flourish.

Dimensionally Stable—Under a variety of temperatures and humidity conditions, FOAMGLAS® insulation remains dimensionally stable to provide a long life of high performance.

The unique diversity of properties that is provided by FOAMGLAS® insulation offers an unmatched combination of benefits to the specifier and facility owner. With billions of square feet of FOAMGLAS® insulation having been installed throughout the world in a variety of industries and operating temperatures, it has been proven in the field to provide:

- Enhanced process control
- Constant, long-term performance and energy efficiency
- Minimal maintenance/repair/replacement of insulation or facility infrastructure, reducing life-cycle costs
- Corrosion resistance and fire resistance that protects the insulated equipment and helps to minimize subsequent plant shutdown time
- Proven durability in high-humidity environments as well as in underground and exterior applications

- The manufacturing of FOAMGLAS® insulation puts no stress on the atmosphere's ozone layer, while its long-term thermal efficiencies reduce energy demand and the effects of burning fossil fuels on the environment

Ask for your FREE Energy Analysis Report

The primary reasons for insulation system failure include specifying a permeable material that allows moisture to enter the system and using an improper insulation thickness.

Let Pittsburgh Corning take the guesswork out of the equation. FOAMGLAS® Insulation has solved problems in a variety of applications to help companies save money on insulation maintenance and replacement, reduce personnel risk and maintain better process control.

Energy Analysis Report (EAR)—helps to ensure that you specify a system that will meet your requirements. Developed with customer-specific data subjected to computer analysis and other calculations, an EAR will assist systems designers in specifying the proper insulation thicknesses that will help to:

- Save money by minimizing lost energy and the need for maintenance and/or replacement
- Provide increased process control
- Maintain safe surface temperatures for personnel protection

- Minimize surface condensation
- Reduce CO² emissions
- Ensure long-term performance
- Offer general peace of mind to the specifier and building owner

Energy Survey Service—Assists in the planning for building renovations and also identifies deteriorating insulation systems. It helps to determine payback periods for reinsulated systems. This will evaluate the performance of existing thermal insulation on piping and equipment. They are conducted on-site and can result in:

- energy savings
- condensation-ice control

These are free services offered to prospective clients.

Contact Pittsburgh Corning at

1-800-359-8433 or visit us on the

Web at www.foamglasinsulation.com

for answers to your specification

and installation questions.

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**PITTSBURGH CORNING
CORPORATE HEADQUARTERS**

800 Presque Isle Drive
Pittsburgh, PA 15239-2799
724-327-6100
800-359-8433
Fax: 724-325-9704

INTERNATIONAL

Pittsburgh Corning
International Sales Corporation
724-327-6100
Fax: 724-733-4815

CANADA

Edmonton, Alberta
780-424-2640
Montreal, Quebec
514-866-9100

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KEMA CERTIFICATE**



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