

WHEN YOUR INSULATION IS IMPORTANT TO YOU.....

U.S. DEPARTMENT OF ENERGY

Stimulus and American Recovery and Reinvestment Act grant recipients are using awarded funds to improve or increase their distribution systems and Gilsulate has been helping them save energy. Owners have felt the skyrocketing changes in operating costs. That coupled with new environmental demands have impacted the energy generation and distribution marketplace. Gilsulate500XR® provides our clients with some of the most cost effective, energy savings and CO₂ reduction that just is not achieved by others. We help our clients achieve their energy and ROI goals of their steam, condensate, hot and chilled water systems. We at Gilsulate International, Inc. are excited to be helping our clients reduce their BTU loss/gain and improve the environment through the use of our superior product; providing them the long-term reliable system they are seeking. *When you know and understand the benefits of Gilsulate500XR®.... the choice of how to insulate and protect your distribution systems will be clear.*



WHAT'S NEW?

Gilsulate's expertise, experience and knowledge of the various underground pour-in-place insulation materials is unmatched in the industry. We have been asked by owners/engineers if there are any additional ASTM standards applicable to performance and density. We have been working with multiple calcium carbonate and industrial minerals manufacturers, civil engineers, testing laboratories and minerals experts to identify ASTM tests that are representative of how a mineral powder would perform in an in ground application.

Identified ASTM tests are the following:

- Bulk density of a powder
- Density of a powder under static backfill loading
- Thermal conductivity testing at application use density

Specifying a product without taking these in-ground properties into account will result in less than expected system performance. ROI requires accurate representation of application properties and insulation value; it is crucial to the owner.

There has been a misrepresentation prevalent in the marketplace for decades as a result of specific Military advertising by distributors of poured-in-place insulation. The Army Corps of Engineers and Navel Facilities Engineering Command has specifically *determined and acknowledged that:*

- NO 10' Corps of Engineers water head test exists
- NO Accepted/Recognized 10' head of water test exists
- NO pour-in-place insulation product has an APPROVAL

As a result of this, the Army Corps of Engineers and Navel Facilities Engineering Command issued a major rewrite (August 2010) of their UFGS 33.61.13 specification, which addresses pour-in-place insulation.

Gilsulate500XR® meets the current Military specification; NO product met the prior specification.

OWNERS TURN TO GILSULATE AS ALTERNATE TO PREINSULATED PIPING

- Significant ROI over life of district cooling systems
- Quick and easy solution for time sensitive projects
- Long-Term protection to owner's critical infrastructure
- Less Excavation = Less Hardscape & Landscape replacement
- Cost effective, long-term and energy efficient solution for district heating systems
- Sustainable alternate to: "the same way we have always done it"



RELIABLE • EFFICIENT COST EFFECTIVE

Owners and Engineers specify Gilsulate500XR® because of its insulating properties, proven performance, recognized track record of long-term reliability and its simplistic design. Gilsulate has been a market leader for nearly 70 years. That accomplishment isn't due to luck; it has been achieved because it works. With low installed costs and high insulating value, Gilsulate500XR® provides the incredible overall value owners are seeking in today's economy. *There is no equal to Gilsulate500XR®.*



WHY VIBRATE A FILL MATERIAL USED UNDERGROUND?

It makes logical sense! Civil and soil engineers understand this concept and recognize that buried fills need to be mechanically compacted. Since all powders contain air and it's primary use is for buried applications; air will be released and the material will compact. Gilsulate500XR® like any other powder will compact under a static load. There are intrinsic challenges of relying solely on static loading for compaction. The final loading weight will impact the amount of initial compaction and allows for the potential of a gradual or delayed settlement of the fill. This will effect the final density and material thicknesses, impacting the final efficiency of the system.

To eliminate this dilemma, Gilsulate500XR's® particle engineering was developed to enable the product to be vibrated to its specific use density before backfill. Being able to compact to a known density prior to backfill is imperative.

ONLY Gilsulate500XR's® ASTM testing and published performance properties are at application use/compacted density. ONLY Gilsulate500XR® is packaged and sold by a use/compacted cubic foot. Enabling the contractor/owner to have a successful installation and system.

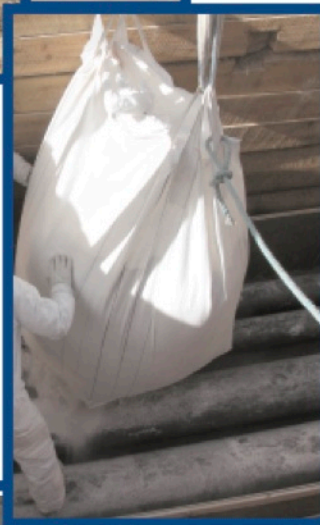
Since Gilsulate500XR® is compacted, it is able to support the weight of any size pipe as well as tanks too. There is no need for permanent intermittent pipe supports that add costs, labor and create penetrations to the seamless insulation envelope. You actually walk on the Gilsulate before backfill and therefore, there is no requirement of plastic to prevent the backfill dirt from pouring into the insulation envelope.



STEEL TANKS SITTING ON BED OF COMPACTED GILSULATE TANKS ARE COMPLETELY ENCAPSULATED IN GILSULATE INSTALLED 1993 • TANKS STILL IN OPERATION TODAY!

WHY AN ENGINEERED PATENTED PARTICLE FORMULA?

Since 1943, Gilsulate has always been a pour-in-place insulation. Gilsulate500XR® is a patented engineered formulation of various inert and inorganic minerals which are non-toxic and safe. It was developed and patented for the sole purpose as an underground insulation and corrosion protection product. The ingredients for Gilsulate500XR® were carefully developed with specific purposes in mind. Calcium carbonate is used for its great dielectric properties but offers minimal insulating value (CaCO₃ ASTM C-177-04:82lbs 100°F .931/175°F 1.090/300°F 1.221). To achieve high insulating values, we use specifically manufactured insulating minerals, which create its superior properties (Gilsulate500XR® ASTM C-177-04:40-42lbs 100°F 0.53/175°F 0.60/300°F 0.65). The final engineered product results in a multi-size multi-faceted insulating and corrosion protection product which is hydrophobic and provides true load bearing properties. The formulation engineering enables this fill material to be mechanically compacted and the low weight makes for contractor ease in installation and handling. *The outstanding performance properties and the insulating components are what make Gilsulate500XR® the PROVEN CHOICE!*



USAGE & FIELD CONDITIONS

Whether your critical infrastructure is chilled water, domestic water, hot water, steam or condensate; Gilsulate500XR® will be your long-term solution. It insulates and protects against corrosion for service temperatures between 35°-800°F. It doesn't matter what type of pipes, sizes or configurations you have; we handle them all with our one patented product. It pours out of the bag with no mixing or curing. There is no maintenance on your Gilsulate500XR® system and no need for expensive cathodic protection or leak detection. Gilsulate500XR® is field flexible, so unforeseen underground obstructions during installation won't slow it down. Long lead times are not part of the vernacular with Gilsulate500XR®. We can help you with quick repairs to get your systems back up and running.

.....WALK WITH US!