



DynaGuard™ 1600 and 1600 H Microporous silica Insulation

DynaGuard™ 1600 Insulation System DynaGuard™ 1600 Insulation System represents one of ThermoDyne's microporous products for use in industrial, commercial, and automotive applications. The DynaGuard™ 1600 is a flexible and malleable composite system, encasing comparatively dense material with high compression resistance and exceptional strength. Its superior thermal performance allows the maximum amount of thermal protection to be provided within minimum space and weight requirements. DynaGuard™ 1600 systems are also specially formulated to minimize heat transfer via conduction, convection and radiation through the material by use of the following:

Ceramic Powders with Intrinsically Low Thermal Conductivity

The microporous core materials used in the manufacture of DynaGuard™ 1600 systems possess a thermal conductivity even lower than that of still air, and minimize the solid conduction of energy through the material.

Microporous Structure

The microporous structure of the DynaGuard™ 1600 system inherently minimizes the possibility for air current convection through the material as void spaces are too small for air currents to exist between the core material components.

Special Opacifiers

The introduction of special opacifiers into the DynaGuard™ 1600 formulation ensures that the transmission of infrared radiation through the material is kept to the lowest possible levels.

DynaGuard™ 1600 Materials of Construction

The DynaGuard™ 1600 microporous core material is a 1,600°F continuous use formulation, and is compressed into a uniform thickness and density to ensure the proper distribution of the core material. After compression, the material is quilted on 1" parallel centers (other stitch patterns available) with a poly thread in order to provide both flexibility and greater vibration resistance for the material.

DynaGuard™ 1600 can be hydrophobic or non hydrophobic depending on the need. The hydrophobic material maintains its hydrophobicity up to 625F.

In addition to the hydrophobic microporous core, DynaGuard™ 1600 systems are supplied encased in many different coverings. The standard configuration is an E glass fiberglass that gives the material conformability that holds its shape, and a practically dust free surface for ease of handling. Parts can be taped together easily if desired. The surface and the compression resistance of the material make for a perfect combination for all pipe and vessel covers, especially composite cure systems because of minimum dust on the surface which allows good tack and adhesion of the material.

DynaGuard™ 1600 systems are supplied standard at 12lbs/ft³ density. Other densities available. The standard sheet size is 36"x72". Other sizes available. Thicknesses of 1/4" and 1/2", and 5mm and 10mm are standard. Other thickness available.

DynaGuard™ 1600 Insulation Systems Advantages Lowest Thermal Conductivity

Because DynaGuard™ 1600 systems inherently possess a thermal conductivity lower than that of still air, even at elevated temperatures, they are ideal in environments where materials with low thermal conductivity, thermal diffusivity and heat storage are necessary.

Space and Weight Savings

Because smaller amounts of DynaGuard™ 1600 are needed for thermal management, it is an ideal material for industrial, commercial and modern automotive applications where considerable space and/or weight savings are valuable in increasing capacity or efficiency without sacrificing the thermal performance of the system. This is most notable on pipe systems where the thinnest system keeps the outer surface area increase to a minimum.

High Temperature Capability

DynaGuard™ 1600 systems are designed to meet continuous high temperature environments up to 1,600°F, but are also capable of performing in intermittent exposure to 2,300°F temperatures for fire.

Easy Fabrication

Shapes can be fabricated in the field by various cutting methods, but Thermo Dyne also provides a virtually limitless range of custom pre-fabricated and intricate shapes upon request.

Thermal Conductivity Data (Btu-in/hr-ft²-°F)*

DynaGuard™ 1600, 12 lbs/ft³

Mean Temp. °F (°C)	Thermal Conductivity
0° F (-17°C)	(0.14 (.020 W(m·K)))
500°F (260°C)	(0.18 (.026 W(m·K)))
1,000°F (538°C)	(0.29 (.042 W(m·K)))
1,500°F (816°C)	(0.42 (.060 W(m·K)))

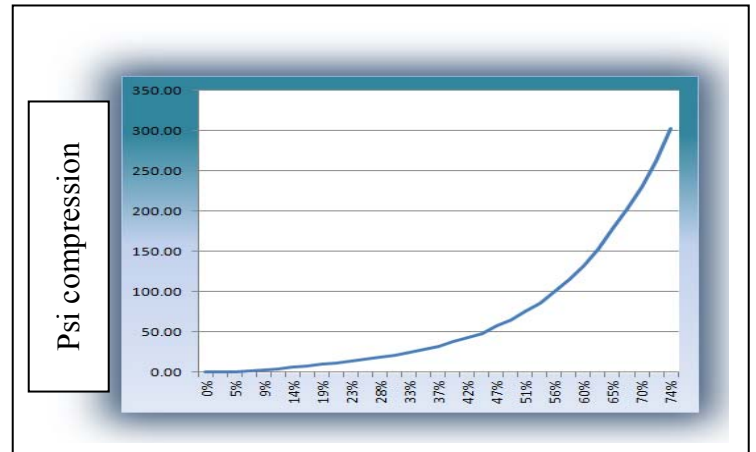
*NOTE: Thermal conductivity values have been measured in accordance with ASTM Test Procedure C-177 then curve fit for round numbers. When comparing similar data, it is advisable to check the validity of all thermal conductivity values and ensure the resulting heat flow calculations are based on the same condition factors. Variations in any of these factors will result in significant differences in the calculated data.

Typical Characteristics

Core Density 12 lbs/ft³(258kg/m³) others available
 Thickness 1/4", 1/2"(5mm,10mm) others available
 Pad Size 36"x72" (915mmX1830mm) others available

NOTE: Other non-standard sizes are available in many thicknesses and densities.

DynaGuard™ 1600 Compression Data For 12 lbs/ft³



For technical and installation support for DynaGuard™ Microporous Insulation, please contact Thermo Dyne's application engineering team.

DynaGuard™ products offer a variety of solutions for many applications.

Industrial

Power Plants
 Petrochemical
 Off Shore Top side
 Glass Production

Commercial

Lab Furnaces
 Solar
 Appliances
 Night Storage Heaters

Automotive

Exhaust Systems
 Interior Shielding
 Engine Bay
 Diesel Exhaust



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