



Features

- Replaces dense castable burner blocks
- Lightweight
- Excellent insulator/thermal shock resistant
- High mechanical abuse resistance
- Variety of sizes/attachment systems
- Low heat storage
- Cost effective

Applications

- EDC (Ethylene Dichloride) linings
- VCM (Vinyl Chloride Monomer) linings
- Ethylene heaters and reformers

Thermal Ceramics Pyro-Bloc and folded module systems have been replacing insulating firebrick linings inside fired EDC, VCM, ethylene heaters and reformers with great success for years. End users, questioning the temperature and mechanical abuse resistance around the critical burner area, were reluctant to use fiber burner blocks in place of dense refractory burner blocks. This caused major design difficulties in the support of these dense blocks and the interface between the dense block and the surrounding fiber. Additionally, using the dense blocks to cover up to 20% of the wall area can negate the main reasons for using fiber – excellent thermal conductivity (heat/fuel savings) and thermal shock resistance (faster startups and shutdowns). These problems have been solved with the development and use of Pyro-Bloc Burner Blocs.

The Pyro-Bloc Burner Bloc starts with 15 pcf (240 kg/m^3) monolithic Pyro-Log, a uniquely tough form of ceramic fiber. The Pyro-Log is turned edge-grain to attain its maximum mechanical abuse resistance. A vacuum-formed sleeve, available in several temperature grades and sized to the specific burner, is mounted in the center of the module to improve high temperature velocity resistance. A cordierite pilot tube is also available upon request.

The Pyro-Bloc Burner Bloc utilizes 316SS internal hardware and can be attached to the furnace shell using one of several available attachment schemes. The block is typically wrapped with a layer of appropriate temperature grade ceramic fiber blanket and encased in cardboard for easier handling. Each block is specifically designed to match existing size, temperature and furnace casing requirements. The end result of the Pyro-Bloc Burner Bloc is a lightweight, cost effective, thermally efficient, thermal shock resistant burner block that has proven to give excellent service life in the tough flat flame burner block application.

Pyro-Bloc Burner Bloc

Product Information

Physical Properties

Color	Pyro-Bloc Burner Bloc white	Vacuum Form Sleeve available in several grades
Density, pcf (kg/m^3)	15 (240)	12 - 20 (192 - 321)
Thickness, in (mm)	6 - 12 (152 - 305)	per design
Max. temperature rating, °F (°C)	2600 (1427)	2400 - 3000 (1316 - 1649)
Melting point, °F (°C)	3200 (1760)	-

Thermal Conductivity, BTU•in/hr•ft²•°F ($w/m\cdot k$) ASTM C201

Mean temperature	
@ 500°F (260°C)	0.49 (0.07)
@ 1000°F (538°C)	0.85 (0.12)
@ 1500°F (816°C)	1.43 (0.21)
@ 2000°F (1093°C)	2.19 (0.32)

Typical Attachment Systems

M Module

Used in conjunction with Pyro-Bloc M module linings, utilizing pre-laid out studs. Studs and nuts are purchased separately.

T-Bar

Pre-laid out system that connects into the support tubes between the module. Studs, nuts and yokes are purchased separately.

Y Module

Industry standard with internal support system that welds the stud, tightens the nut and torque tests the weld all in one step.

Eye-Bolt

Attaches to the yoke and support tubes to the casing and allows a flexible bolt-through system. Nuts and washers (if necessary) are purchased separately.

Bolt-Through

Bolts through a standard M Module yoke for positive attachment. Bolt and nut are purchased separately.

Installation

There are a number of factors which must be considered when designing a Thermal Ceramics Pyro-Bloc Module lining. The use limits of Pyro-Bloc Modules should be used only as a guide when considering lining installation and design. For assistance please call your nearest Thermal Ceramics representative.

**Studs, nuts and installation tools must be purchased separately.*

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.

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