

## DELTA DF® MODULE

**Delta DF® Modules** have the highest insulating value achievable in a ceramic fiber lining. Each module is comprised of folded blanket under compression to insure a tight seal and a “spring-back” action not found in typical wall-paper linings.

Noted features of a **DF® Module** lining are:

- Fast & Easy installation
- Low heat storage and fuel costs
- Self-Supporting internal hardware reduces structural steelwork vs. castable or brick linings.
- Bolt-On and Bolt-Thru attachment methods provide versatility for retro-fits & rebuilds especially in tight areas.
- Thermal shock resistance speeds up heat ups and cool downs for quick turn-around times.
- Industry-leading heavy gauge hardware reduces the chance of channel tear-through during torque down.
- Manufactured in the USA with Unifrax Blanket

Typical Applications for **DF® Modules** are:

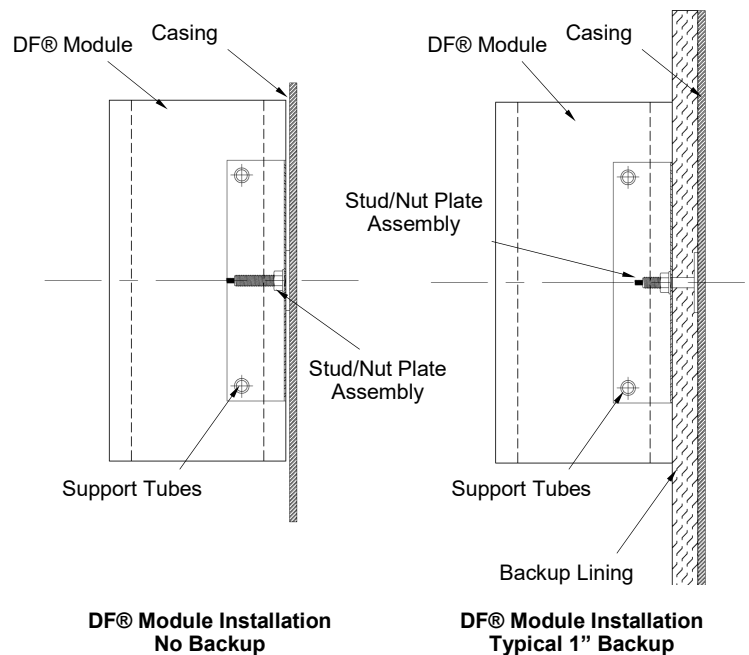
- Stress Relieving Furnaces
- Annealing Furnaces
- Car Bottom & Heat Treating Furnaces
- Process Heaters
- Reheat Furnaces
- Kiln & Boiler Linings
- Incineration Equipment
- Stack Linings
- Soaking Pit Covers
- Ladle Covers & Ladle Preheaters
- Forge Furnaces

Size & Densities Available

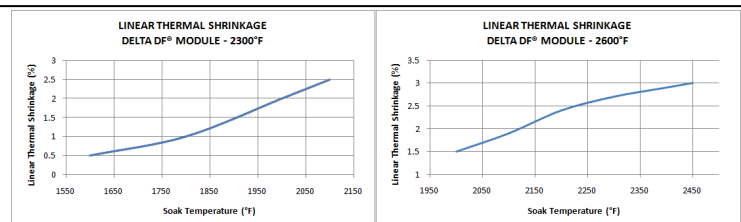
- 8, 9.3, 10.7, 12 (Lbs/Ft<sup>3</sup>)
- Standard Sizes range from 24” x 24” to 12” x 12” in thicknesses from 4” to over 12”
- Custom sized, pre-cut modules, & special bolt locations are also available for a seamless installation.
- DF® Modules are also available in a cut hot face “edge grain” style.



Typical Bolt-On Installation Methods



### DF® Module Shrinkage Data



#### Corporate Office

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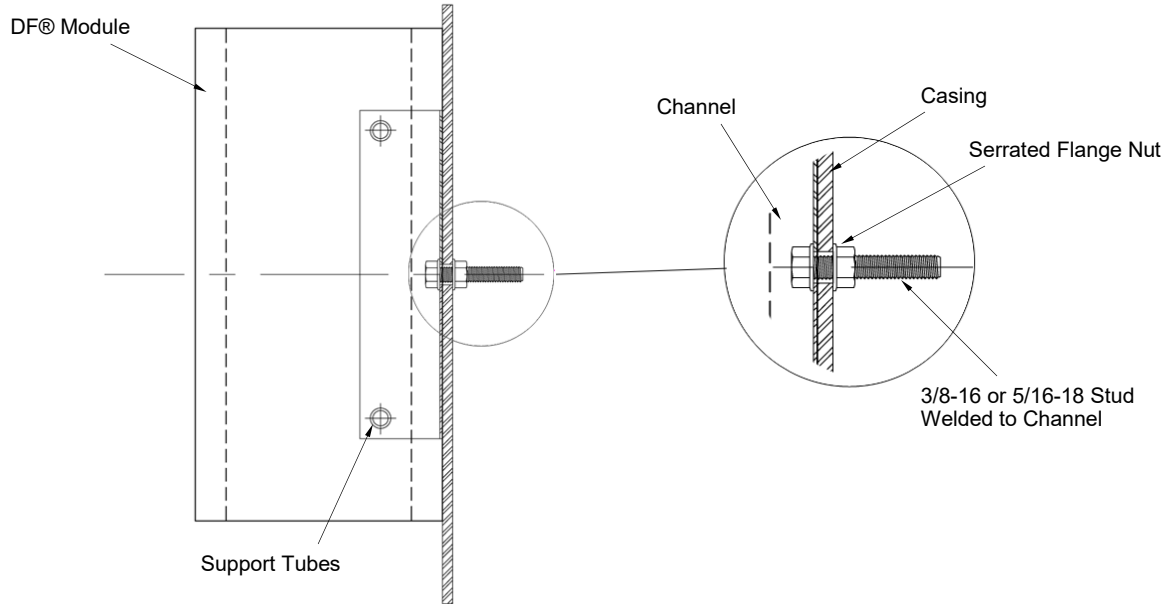
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#### Mailing Address

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Katy, Texas 77450

**Typical Bolt-Thru Installation Methods**



Typical Product Parameters			
Grade (Recommended Operating Temperature)			
Chemical Composition	1800°F (1800°F)	2300°F (2150°F)	2600°F (2450°F)
Al <sub>2</sub> O <sub>3</sub>	31-35%	43-47%	29-31%
SiO <sub>2</sub>	50-54%	53-57%	53-55%
ZrO <sub>2</sub>	5%	—	15-17%
Fe <sub>2</sub> O <sub>3</sub>	1.3%	Trace	—
TiO <sub>2</sub>	1.7%	Trace	—
MgO	*0.5%	—	—
CaO	≤ 7.5%	—	—
Na <sub>2</sub> O <sub>3</sub>	—	< 0.5%	—
Alkali	—	0.05%	—
Leachable Chlorides	—	< 10 ppm	< 10 ppm
Other Inorganics	—	0.85%	—
*MgO and other trace elements			

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