AzoCore™ BY AZON

**Product Data Sheet**

# TBF 10-90

## Rigid Foam Thermal Barrier

### Product description

The AzoCore™ TBF 10-90 is a rigid, two-component, polyurethane foam, formulated to optimize thermal performance and structural strength in aluminum fenestration systems.

TBF 10-90 is a best-in-class thermal barrier with industry-leading material thermal conductivity ratings, and it is free from CFCs, HCFCs, and other ozone-depleting substances.

**Table 1: Physical properties of uncured materials**

| | 13-302A A-ISO | AzoCore TBF 10-90 B Resin | Measurement |
|---|---|---|---|
| Appearance | dark brown liquid | black liquid | |
| Specific gravity at 77°F (25°C) | 1.237 ± 0.006 | 1.088 ± 0.003 | |
| Viscosity at 77°F (25°C) | 200 ± 50 | 600 ± 100 | centipoise |

**Table 2: Processing parameters**

| | Value | Measurement |
|---|---|---|
| Mix ratio 13-302A per AzoCore TBF 10-90 | 100 / 100 | grams |
| Mix ratio 13-302A per AzoCore TBF 10-90 | 88 / 100 | milliliters |
| 13-302A temperature | 25 (77) | degrees Celsius (Fahrenheit) |
| AzoCore TBF 10-90 temperature | 25 (77) | degrees Celsius (Fahrenheit) |
| Cream time | 75 ± 15 | seconds |
| Rise time | 270 ± 10 | seconds |

All mixing and tests were conducted at 25°C (77°F) unless otherwise noted. Cream time and rise time will vary slightly with variation in ambient and chemical temperatures.

**Table 3: Performance characteristics of cured materials (2 hours at 158°F [70°C])**

| | SI | IP | Measurement |
|---|---|---|---|
| Thermal conductivity K-factor | 0.028 W/m²-K | 0.22 Btu-in/(hr-°F-ft²) | ASTM C518-10 |
| Density | 0.1602 g/cm³ | 10 lb/ft³ | ASTM D1622 |



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### Adhesion and dry shrinkage

The adhesive performance of thermal barrier chemicals largely depends on the condition of the substrate. For optimal bonding, Azon recommends utilizing a thermal barrier cavity with a mechanical lock.

### Curing

As with all thermal barrier polymers, the reactivity and cure rate of AzoCore TBF 10-90 varies depending on the temperature of both the chemicals and the aluminum. To ensure proper curing, it is recommended that both the chemical components and the extrusion be maintained at 25 ± 5°C (77 ±10°F). The metal temperature should not fall below 18.3°C (65°F). Processing outside these temperature ranges can result in curing inconsistencies, fabrication issues, or dimensional distortion.

AzoCore TBF 10-90 is intended solely for approved thermal barrier applications. Use in any other application requires prior written authorization from Azon.

### Storage and Handling

Azon thermal barrier components are very stable materials when properly handled. To avoid problems, it is important to understand that these materials are sensitive to moisture. Containers of the components must be stored in a dry area where the temperature range does not fall below 10°C (50°F) and does not exceed 37°C (100°F) for prolonged periods.

The expected shelf life of Azon chemical products is 12 months. When properly stored in unopened, sealed containers, the shelf life may be considerably longer . It is important to observe good inventory control by using the first in, first used practice.

When removing the chemical supply from the machinery, always reseal the partially full container with dry nitrogen or dry air (dew point below -40°C [40°F] to protect the contents from moisture contamination.

### Disposal

Care should be taken to protect our environment. The user of this product has the responsibility to dispose of unused material or residue in compliance with local governmental guidelines regarding the disposal of nonhazardous and hazardous waste.

### Health and safety

Safety data sheets and product labels must be reviewed prior to use or handling the material. Ordinary hygienic principles, such as washing the compound from the hands before eating or smoking, should be observed. Hands should be washed with a waterless cleaner followed by soap and water. Avoid breathing of vapors, prolonged contact with the skin, contact with open breaks in the skin and ingestion. Use with adequate ventilation.

### Ordering

To place orders or for pricing information, please contact Azon customer support at 1.800.788.5942.

### Technical service

For assistance with thermal barrier design, please contact the AZO/Tec® department. Our team provides expert analysis and guidance on cavity sizing, placement, and mechanical lock recommendations. AZO/Tec offers support to optimize both existing and new thermal barrier systems, ensuring superior thermal and structural performance in field applications.

### Cavity design

Cavity design in aluminum extrusions should follow the guidelines outlined in AAMA TIR-A8-16. The AZO/Tec® design and simulation team supports customers in developing structurally sound and energy-efficient fenestration systems by offering thermal simulations and comprehensive design consulting services.



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