

Rigid foam thermal barrier



Product description

The Azo-Core™ TBF 10-90 system is a two-component polyurethane polymer, rigid-foam with a 160.18 kilogram-per-cubic-metre free-rise density (10 pound per cubic foot). It is specifically designed for poured-in-place insulating applications that require extended cream and tack-free times and good flow characteristics.

The Azo-Core™ TBF 10-90 system is a rigid foam that contains no CFCs, HCFCs or other ODS¹ ideally suited to improve energy-savings and condensation resistance.

General uses

- thermal barrier foam core for aluminium fenestration products
- meets stringent global energy standards

Table 1: Physical properties of uncured materials

	13-302A A ISO	Azo-Core™ TBF 10-90 B Resin	Measurement
Appearance	dark brown liquid	grey black liquid	
Specific gravity at 25°C (77°F)	1.237 ± 0.006	1.089 ± 0.005	
Viscosity at 25°C (77°F)	200 ± 50	600 ± 100	centipoise

Table 2: Processing parameters

	Value	Measurement
Ratio: 13-302A per Azo-Core™ TBF 10-90	100 / 100	grams
13-302A temperature	25 (77)	degrees Celsius (Fahrenheit)
Azo-Core™ TBF 10-90 temperature	25 (77)	degrees Celsius (Fahrenheit)
Cream time	90	seconds
Rise time	220-260	seconds

All mixing and tests were conducted at 25°C (77°F) unless otherwise noted.

Cream and rise time may differ slightly with variation in ambient and chemical temperatures.

¹ no chlorofluorocarbon (CFC), no hydrochlorofluorocarbon (HCFC) or other ozone depleting substances (ODS)

Table 3: Performance characteristics of cured material (two hours at 158°F [70°C])

	SI	IP	Test method
Thermal conductivity K-factor	0.028 W/m ² -K	0.201 Btu-in/(hr-°F-ft ²)	ASTM C518-10
Thermal resistance - R	0.839 m ² •K/W	4.969 hr-ft ² °F/Btu-in	ASTM C518-10
Density	0.1602 g/cm ³	10 lb/ft ³	ASTM D1622

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Processing

The adhesive properties of thermal barrier chemicals remain primarily a function of the surface to which they are applied. To ensure a secure bond, Azon highly recommends the use of a mechanical lock.

As with all thermal barrier polymers, the reactivity and curing of the Azo-Core™ TBF 10-90 system can vary slightly with the temperature of the chemicals and the aluminium. It is recommended that the chemicals and extrusions be maintained at $25\pm 5^{\circ}\text{C}$ ($77\pm 10^{\circ}\text{F}$) for proper curing. Metal temperature should be maintained at a minimum of 18.3°C (65°F) for proper curing of the polymer.

Processing above or below recommended temperatures may result in processing, fabrication and distortion concerns for the manufacturer.

Azon Azo-Core™ TBF 10-90 is not to be used for any other applications unless it is approved by written consent 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 is indefinite. It is important to observe good inventory control by using the first in, first used practice.

When it becomes necessary to remove supply lines, always add dry nitrogen or dry air (dew point of less than -40°C [-40°F]) when the partially full container is resealed to protect the contents from moisture.

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 for 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:

Telephone: +44 (0) 1443 878010

E-mail: info@azonuk.com.

Technical service

Please contact the AZO/Tec® department for technical assistance and a review of thermal barrier cavity sizes, locations and mechanical lock recommendation. Through AZO/Tec, Azon will provide analyses and recommendations to improve existing and new thermal barrier products for optimal thermal and structural performance for field use.

Cavity and product design

The AZO/Tec® design and simulation team aids customers with the technical design of structural and energy-efficient fenestration systems by providing thermal simulation studies and a range of design functions.

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