

Tyfo® Blast-Flex System

(Spray Elasto-Plastic Blast Protection)

DESCRIPTION

Tyfo® Blast-Flex is a urethane-urea base, two-component system. This high-tech system is spray-applied and cures as a rubber-like material. The material is used for blast and other protection systems.

USE

Force protection for walls, columns, beams, slabs, and other elements.

ADVANTAGES

- Blast-protective coating for masonry, concrete, metal, wood and/or composite surfaces
- Good high temperature properties
- Excellent adhesion to most materials
- High elongation
- Ambient cure
- 100% solvent-free

COVERAGE

Depends on design thickness. The material will fill small voids, grout lines, and uneven surfaces.

PACKAGING

Tyfo® Blast-Flex is packaged in two 15-gallon (57L) containers for smaller applications. Also available in 52-gallon (197L) drums for larger applications.

MIX RATIO

100 parts of component A to 100 parts of component B by volume.

SHELF LIFE

Six months in original, unopened and properly stored containers.

STORAGE CONDITIONS

The material must be stored in a 70° to 90° F (21 to 32° C) temperature range. Avoid freezing.

CERTIFICATE OF COMPLIANCE

- Will be supplied upon request, complete with state and federal packaging laws with copy of labels used.
- Material safety data sheets will be supplied upon request.
- Possesses 0% V.O.C. level per ASTM B-2369.

HOW TO USE THE TYFO® BLAST-FLEX SYSTEM

INSTALLATION

Tyfo® Blast-Flex System is to be installed by Fyfe Co. LLC trained and certified applicators.

SURFACE PREPARATION

The required surface preparation is largely dependent on the type of element to which the material is being applied.

MIXING

The mixing of the two components is performed at time of application.

APPLICATION

Use spray equipment with pump to set high pressure spray-in-place.

Equipment Pressure	1500 psi (min.) (10.3 MPa)
Pre-Heater Temperature	
A Component	120°-140° F (49°-60° C)
B Component	120°-140° F (49°-60° C)

FINISHING

Material is coated with Tyfo® U paint for final U.V. protection and color.

FIRE RESISTANCE

The Tyfo® FC/F System is used for final fire protection.

LIMITATIONS

Minimum application temperature of the material is 35° F (2° C). DO NOT THIN, solvents will prevent proper cure.

MATERIAL PROPERTIES

PROPERTY	ASTM METHOD	TYPICAL TEST VALUE		
		TYPE I	TYPE II	TYPE III
Density, pcf (pcm)	ASTM D-1622	70 (2)	70 (2)	70 (2)
Hardness (shore D)	ASTM D-2240	40-46	52-60	50-58
Tensile Strength, psi (MPa)	ASTM D-412	4,000 (27.5)	5,000 (34.4)	2,300 (15.8)
Elongation (%)	ASTM D-412	700 (+/-90)	300 (+/-70)	150 (+/-50)
Young's Modulus, psi (MPa)	ASTM D-412	13,000 (89.6)	40,000 (257.7)	25,000 (172.3)
Tear Resistance, psi (MPa)	ASTM D-1004	370 (2.5)	500 (3.4)	400 (2.7)
Color		Gray	Gray	Gray

CURE PROPERTIES

Gel Time	3 - 7 sec.	3 - 7 sec.	3 - 7 sec.
Tack Free	10 - 22 sec.	10 - 22 sec.	10 - 22 sec.
Final Cure	7 days	7 days	7 days

CAUTION!

VAPOR INHALATION

Problems are characterized by coughing, shortness of breath and tightness in the chest. Anyone exhibiting these type of symptoms should be removed from the work area to fresh air. If the condition is prolonged or extreme, seek medical attention immediately.

SKIN CONTACT

Contact with skin may result in a rash or other irritation. Wash any affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, consult a physician.

EYE CONTACT

Can result in corneal burns or abrasions. In case of eye contact, flush eyes with water for an extensive period. Get medical attention immediately.

DISPOSAL

Do not mix liquid waste components together for disposal convenience as conditions for spontaneous combustion may exist. Dispose of materials in accordance with local, State and Federal disposal regulations.

PROTECTIVE EQUIPMENT

Maximum effort should be made to protect the spray mechanic and others near the work area from undue exposure. Some ingredients in the material may be sensitizing in regards to skin or eye contact.

PROTECTION OF THE WORKPLACE

The foam overspray from the liquid chemical system can carry considerable distances. The following precautions should be taken:

- 1) Post warning signs a minimum of 130 ft. from the immediate work area.
- 2) Cover all intake vents near the work area.
- 3) Set up wind breaks when necessary.
- 4) Minimize or exclude all personnel not directly involved with the spray application.
- 5) DO NOT weld, smoke or allow open flames near the work area.

SHIPPING LABELS CONTAIN

- State specification number with modifications, if applicable
- Component designation
- Type, if applicable
- Manufacturer's name
- Date of manufacture
- Batch name
- State lot number, if applicable
- Directions for use
- Warnings or precautions by law

**KEEP CONTAINER TIGHTLY CLOSED.
NOT FOR INTERNAL CONSUMPTION.
CONSULT MATERIAL SAFETY DATA SHEET
(MSDS) FOR MORE INFORMATION.
KEEP OUT OF REACH OF CHILDREN.
FOR INDUSTRIAL USE ONLY.**

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