

# TECH DATA

## Backer Rod Mfg. Inc.

### 1. PRODUCT NAME

#### ULTRA BLOCK®

Mechanical Expansion and Construction Joint fire stop ping System: 2-Hour, 3-Hour, 4-Hour Fire Rated

### 2. MANUFACTURER

Backer Rod Mfg. Inc.  
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### 3. PRODUCT DESCRIPTION

ULTRA BLOCK® is a pre-engineered, patented, flexible textile fiberglass roll material with a fiberglass matt facing, containing approximately 30% by weight unexpanded vermiculite.

**Specific Uses:** ULTRA BLOCK®, when used together with an approved sealant, provides a 2-Hour, 3-Hour, or 4-Hour fire rated joint system as designated by design configuration, which is capable of withstanding  $\pm 50\%$  expansion and contraction. Most sealant manufacturers in the United States have tested one or more of their sealants in a UL® classified ULTRA BLOCK® system ranging in joint size from 1/2" up to 7". Approved sealant manufacturers include:

- Dow Corning
- General Electric
- Tremco Vulkem
- C R Lawrence
- Lymtal
- Pecora
- Quaker
- Sika
- Sonneborn
- Specified Technologies Inc
- Nelson

### 4. Benefits

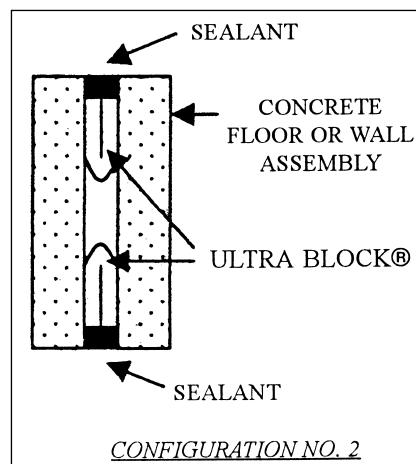
**Resiliency:** To be an effective fire blocking joint packing system, a product must remain highly resilient and must completely fill the moving joint for a great number of years. In most packed and caulked joints, examination of the resiliency of the forming material is difficult to check, as the material is covered up with sealant. Many joint packing materials, such as mineral wool and ceramic fiber, are not designed to handle joint movement and may fall out or slump in the joint when subjected to continuous joint expansion and contraction. Under fire situations, the fire blocking material must be in the same condition as when it was installed, meaning that the material must completely fill the void in order to block a fire. ULTRA BLOCK® has a unique patented, hinged design and composition that remains highly resilient under the most extreme conditions.

**Structurally Rested:** The structural testing of ULTRA BLOCK® was performed by Hauser Laboratories. The test was run on a  $\pm 50\%$  joint movement. Mineral wool and ceramic fiber joint packing materials were also tested. The joints were packed in the fully open position and were under the 25% joint side compression. The test ran continuously until either failure occurred or the test was terminated. Failure of both the mineral wool and ceramic fiber materials occurred in under 600 cycles, or 1.6 years. The ULTRA BLOCK® successfully performed for over 28,000 cycles without failure or loss of resiliency, representing 76 years of service at one cycle per day!

**Fire Stopping:** ULTRA BLOCK® has been proven to withstand the test of time in joint expansion and contraction. The ULTRA BLOCK® system also has a very unique feature not present in either mineral wool or ceramic fiber material. ULTRA BLOCK® contains vermiculite, which expands when exposed to heat. As the vermiculite expands it produces thousands of reflective shields that reflect heat back away from the expansion joint. When exposed to fire on the caulked and uncaulked side there is no passage of destructive heat to the sealant bead on the opposite side.

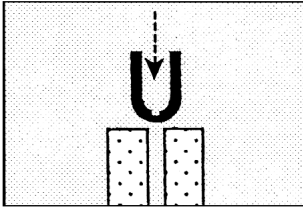
ULTRA BLOCK® is a fire blocking material in the fire rated joints that will be in place if and when needed. It is the only fire rated joint system today, which gives this protection using standard construction sealants! In addition, it does not require metal cover plates as some systems do.

**Composition and Materials:** All ULTRA BLOCK® systems are manufactured in accordance with project requirements. ULTRA BLOCK® is manufactured in various widths and thicknesses, depending on the joint width, and sold in rolls.



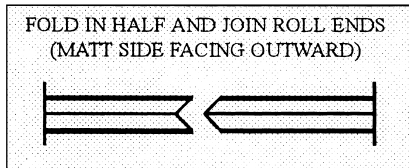
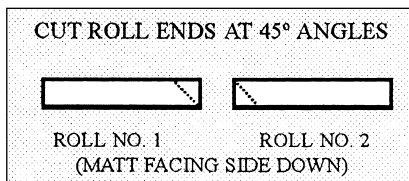
## 5. EASY INSTALLATION

ULTRA BLOCK® requires no cutting, fitting, or fabrication. Simply open the bag, unwind the roll, fold in half with the matt side facing outward, compress and slide it in the joint to required depth. Apply sealant per manufacturers instructions.



When joining ends of rolls, cut each end at a 45° angle, alternating cuts so that the folded over ULTRA BLOCK® forms an interlocking v-shape. (See drawing below.)

### SPLICING



### SIZING CHART

JOINT WIDTH*	ULTRA BLOCK® THICKNESS	ULTRA BLOCK® WIDTH 2-HOUR FIRE RATING		ULTRA BLOCK® WIDTH 3-HOUR FIRE RATING		ULTRA BLOCK® WIDTH 4-HOUR FIRE RATING	
		CONFIGURATION		CONFIGURATION		CONFIGURATION	
		NO. 1	NO. 2*	NO. 1	NO. 2*	NO. 1	NO. 2*
1/2"	3/8"	6"	2"	8"	4"	12"	6"
3/4"	1/2"	6"	2"	8"	4"	12"	6"
1"	3/4"	6"	3-1/2"	8"	4"	12"	6"
1-1/2"	1"	6"	3-1/2"	8"	4"	12"	6"

\*Configuration NO. 2 requires ULTRA BLOCK® on both sides of joint opening. The above table represents the requirement for only one side of the joint opening. Please call us for information regarding joint widths of 2" or greater.

### PACKAGING INFORMATION

ULTRA BLOCK® THICKNESS*	ROLL LENGTH	2" WIDE LF PER BAG	3-1/2" WIDE LF PER BAG	4" WIDE LF PER BAG	6" WIDE LF PER BAG	8" WIDE LF PER BAG	12" WIDE LF PER BAG
3/8"	70 LF	1260	700	630	420	280	210
1/2"	60 LF	1080	600	540	360	240	180
3/4"	40 LF		400	360	240	160	120
1"	30 LF		300	270	180	120	90

\*Please call us for packaging information on sizes over 1" thick.

## 6. TECHNICAL INFORMATION

All ULTRA BLOCK® systems are covered with a nominal sealant (see list of manufacturers). System designs can range from 1-Hour, 2-Hour, 3-Hour or 4-Hour fire ratings and joint widths from 1/2" up to 7" wide.

ULTRA BLOCK® systems allow the mechanical expansion/construction joint to function and fulfill the purpose it was designed for, MOVEMENT.

Testing of ULTRA BLOCK® for use in expansion/construction joints was conducted at Underwriters Laboratories®, Northbrook, Illinois. Tests were performed to the full-scale, 180 sf surface area, and each joint tested was 12 ft. long. Our testing also included the hose stream portion. The full scale testing earned us classifications by UL® for use in horizontal and vertical joints plus compliance with all major codes in the United States.

Seismic testing of ULTRA BLOCK® systems was performed by the University of California-San Diego. The seismic "earthquake" simulation test was a joint project between the US and Japan. ULTRA BLOCK® performed perfectly under the most severe conditions.

**Specific Compliance:** ULTRA BLOCK® Systems comply with and/or have been tested under the following standards and building codes:

- UBC – Uniform Building Code
- BOCA – Building Officials and Code Administrators International
- SBCCI – Southern Building Code Congress International
- City of Los Angeles Building Code
- UL 2079 – UL Standard for Safety Tests for Fire Resistance of Building Joint Systems
- UL 263-92 – UL Standard for Safety Fire Tests of Building Construction and Materials
- UL 1479 – UL Standard for Safety Fire Test of Through Penetration Firestops
- UL 723 – UL Standard for Safety Test for Surface Burning Characteristics of Building Materials
- ASTM E119 – Method for Fire Tests of Building Construction and Materials
- ASTM E814 – Methods of Fire Tests of Through Penetration Fire Stops
- ASTM E84 – Test Method for Surface Burning Characteristics of Building Materials
- ASTM E136 – Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
- ASTM E90 – Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
- ASTM E1399 – Test Method of Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint System
- ASTM C719 – Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement
- ASTM C920 – Specification for Elastomeric Joint Sealants
- NFPA 251 – Fire Test of Building Construction Materials
- NFPA 255 – Burning Character of Building Materials

## 7. WARRANTY

Unless otherwise agreed to in writing, product is sold without warranty.