



1. Product Name

MetaZeal®, MetaZeal AJ, Physite® 380
Preformed Expansion Joint Materials

2. Manufacturer

Chase Construction Products
401 New Karner Road
Albany, NY 12205
(800) 356-6007
(518) 344-7777
Fax: (518) 346-1110
E-mail: dtesta@chasecorp.com
www.chaseconstructionproducts.com

3. Product Description

BASIC USE

MetaZeal®

MetaZeal is a flexible closed cell preformed foam joint seal that is resistant to abrasion, weather and most chemicals. Capable of moving in 25% tension, 50% compression and 50% shear and able to withstand sustained temperatures higher than 150 degrees F (66 degrees C), MetaZeal is suited for use as an expansion joint seal or as a gasket in bridge joints, commercial buildings, parking garages, water treatment facilities and industrial constructions. MetaZeal material can be installed in standing water and is safe for use in potable and processed water applications.

MetaZeal AJ

MetaZeal AJ, the original closed cell expansion joint seal, is a resilient UV stable preformed expansion joint material that is cost competitive and quick to install. When bonded in place, the material is watertight and withstands limited hydrostatic pressure. Capable of moving in 25% tension, 50% compression and 50% shear, MetaZeal AJ is suited for bridges, arroyos, parking decks, water treatment facilities and industrial sites.

Physite® 380

Physite 380 is a closed cell preformed expansion joint seal with Hindered Amine Light Stabilizers (H.A.L.S.) for improved resistance to ultraviolet light. Capable of moving in 25% tension, 50% compression and 50% shear,

Physite 380 is recommended for expansion joint applications with long-term exposure to UV light, including bridges, water treatment facilities, parking garages, commercial buildings, dams and other structures with thermal or seismic movement. Physite 380 can also be used for industrial environments where a watertight gasket is required.

COMPOSITION & MATERIALS

- MetaZeal - Preformed closed cell expanded polyethylene foam
- MetaZeal AJ - Preformed closed cell foam of ethylene vinyl acetate/polyethylene copolymer and 1% carbon black
- Physite 380 - Preformed closed cell ethylene vinyl acetate/polyethylene copolymer foam

SIZES

MetaZeal, MetaZeal AJ and Physite 380 are typically sized 25% larger than the joint opening, but can vary a minimum of 10% to a maximum of 35%. The amount of compression varies by season, temperature and the designed movement of the joint.

Preformed joint material can also be fabricated to a wide range of custom sizes and configurations. Contact the manufacturer for details.

COLORS

- MetaZeal - Gray
- MetaZeal AJ - Gray
- Physite 380 - Sandy beige

BENEFITS

- Watertight, flexible, impermeable
- Safe for potable water and processed water applications
- Accommodates multidirectional movement
- Withstands up to 70' (21 m) of head pressure when installed
- Allows field performed directional changes and heat welds
- Suited for stage construction or segmental repairs
- Can be installed with Ceva Joint Systems to act as a seismic expansion joint seal

LIMITATIONS

All directional changes in joint material must be done using the heat welding method. Heat welds add to the aesthetics of an installation and are required for horizontal 90 degree turns. For vertical turns, the maximum angle the joint material can sustain without heat welding is 115 degrees. For horizontal turns, the maximum angle the joint material can sustain with-



out heat welding is 135 degrees.

If a joint opening is not uniform, opening limitations are as follows:

- Maximum limit for increase in joint opening is 8%
- Maximum limit for decrease in joint opening is 13%
- If stated limits are exceeded, the joint material may be spliced in different sizes to ensure compliance

ACCESSORIES

- Eva-Pox® Bonder #1 - A modified epoxy adhesive designed for bonding MetaZeal, MetaZeal AJ and Physite 380 to concrete, masonry and steel
- Eva-Pox® heat welding iron - Tools that allow installers to custom configure and change directions of Physite 380, MetaZeal and MetaZeal AJ joint materials for continuous, monolithic, 100% watertight joint seals
- Z10 and Z-15 installation tools - Tools with extremely smooth flat bent heads that allow the seals to slide easily into the joint opening by reducing friction created by the substrate

4. Technical Data

APPLICABLE STANDARDS

American Association of State Highway and Transportation Officials (AASHTO) - AASHTO T42 Standard Method of Test for Preformed Expansion Joint Filler for Concrete Construction



Exposure of Nonmetallic Materials

International Organization for Standardization (ISO)

- ISO 868 Plastics and ebonite - Determination of Indentation Hardness by Means of a Durometer (Shore Hardness)
- ISO 8302 Determination of Steady-State Thermal Resistance and Related Properties - Guarded Hot Plate Apparatus

APPROVALS

MetaZeal, MetaZeal AJ and Phyzite 380 meet ASTM D1056 Type 2, Class B, Grade 2 and AASHTO T42 standards.

PHYSICAL & TECHNICAL PROPERTIES

See Table 1.

5. Installation

PREPARATORY WORK

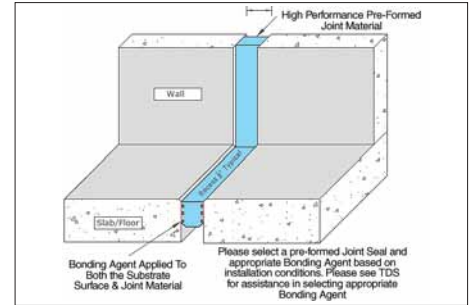
Joint material must be stored in an area that maintains a temperature 50 - 90 degrees F (10 - 32 degrees C). Storage containers exceeding 90 degrees F (32 degrees C) are not an acceptable means of storage.

Before beginning, brush blast all concrete surfaces to be in direct contact with the joint seal. Concrete surfaces should be free of all contaminants and laitance buildup. Using oil-free compressed air, blow dirt and debris from joint openings and joint surfaces. Steel surfaces must be cleaned to SSPC 10 or better. Ensure that all moisture is removed from steel surfaces prior to applying the bonding agent.

Follow the manufacturer's published installation procedures at all times.

METHODS

A 4-person crew is required: 2 people apply



the adhesive to the joint material and to the joint surfaces, while 2 other people insert the joint seal into the expansion joint and clean the surface.

Place the joint seal lengthwise next to the expansion joint. Verify that the joint material is 25% wider than the joint opening. The compression of the joint material may be reduced in cold weather installations; conversely, additional compression may be necessary in excessive heat when long intervals exist between joints or when conditions might indicate excessive movement.

The factory-laminated welds that run the length of the material indicate depth; these welds should not be visible when the installation is complete.

Open the 2 cans of the bonding agent and use a separate stirring rod for each can. To prevent the bonder from prematurely curing, do not allow the 2 components to infiltrate each other. Pour the 2 components at the specified mixing ratio into a clean mixing bucket. Mix with a low speed drill (400 rpm) until a uniform color is achieved. There should be no visible marbling.

Apply a generous amount of the bonder to

American National Standards Institute/
Builders Hardware Manufacturers Association
(ANSI/BHMA)

- ASTM D545 Standard Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types)
- ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- ASTM D1056 Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber
- ASTM D3575 Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers
- ASTM G154 Standard Practice for Operating Fluorescent Light Apparatus for UV

TABLE 1 PHYSICAL & TECHNICAL PROPERTIES

Test	MetaZeal	MetaZeal AJ	Phyzite 380
Compression set (ASTM D3575)	25% compression - 1/2 hr recovery 9% set; 24 hr recovery 3.6% set	50% compression - 2 hr recovery 10% set 24 hr recovery 9% set	2 hr recovery 10% set 24 hr recovery 9% set
Extrusion (ASTM D545)	0.25" (6.4 mm) max.	0.25" (6.4 mm) max.	0.25" (6.4 mm) max.
Elongation (ASTM D3575)	152 - 245%	185 - 275%	185 - 275%
Density (ASTM D3575)	2.12 pcf (34 kg/m ³) avg.	2.7 - 3.4 pcf (43 - 54 kg/m ³)	2.7 - 3.4 pcf (43 - 54 kg/m ³)
Water absorption (ASTM D3575)	0.03 lb/ft ² avg.	0.035 lb/ft ² avg.	0.02 lb/ft ² avg.
Thermal stability (ASTM D3575)			5.9% max.
Compression deflection (ASTM D3575)		25% 6 psi avg.; 50% 16 psi avg.	
Tensile (ASTM D3575)	101 psi (700 kPa) min.	92 - 140 (640 - 950 kPa)	92 - 140 psi (640 - 950 kPa)
Tear resistance (ASTM D624)	16 lb/in ² min. (110 kPa) min.	10 - 20 lb/in (1.79 - 3.57 kg/cm)	10 - 20 lb/in (1.79 - 3.57 kg/cm)
Weatherability (ASTM G154)			3000 hrs; no degradation
Recovery (ASTM D545)		98.9%	
Shore hardness (ISO 868)	55		
Thermal conductivity (ISO 8302)	0.039 W/m x k		

both joint surfaces and to the joint material. With gloved hands, compress and push the Physite or MetaZeal into the joint until it is recessed 1/8" (3 mm) below the surface. When pushing down on the material, always use a downward motion. If pushed at an angle, the material may become stressed and the designed performance limits will be reduced.

Once a joint has been started, do not stop until it is complete. Do not allow epoxy to cure before removing it; clean it immediately with a margin trowel. Do not allow any epoxy bonder near an area to be cut and welded until the weld is completed. Once the joint is installed and cleaned, remove the tape from the joint edges before the epoxy cures.

Allow the bonder to set approximately 20 minutes at 77 degrees F (25 degrees C) before allowing traffic onto the joint. Slightly longer time is required during cooler weather.

6. Availability & Cost

Contact Chase Construction Products for information about the availability and cost of MetaZeal and Physite products.

7. Warranty

Complete warranty terms and conditions are available from the manufacturer. For details, consult Chase Construction Products.

8. Maintenance

No special maintenance is required.

9. Technical Services

Technical assistance and product information, including product literature, test results and assistance in preparing project specifications, are available by contacting Chase Construction Products or by visiting the website: www.chaseconstructionproducts.com.

10. Filing Systems

- Reed First Source®
- Additional product information is available from the manufacturer upon request.