CHASE Construction Products

1. Product Name

CEVA® 100, CEVA® 200, CEVA® 250
Expansion Joint Systems

2. Manufacturer

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3. Product Description

BASIC USE

Chase Construction Products, a division of Chase Corporation, is a leading manufacturer of preformed expansion joints and expansion joint systems for civil structures and industrial applications. The CEVA product line integrates preformed, closed-cell foams and Eva-Pox® bonding agents to produce joint seal systems for a variety of applications.

The CEVA 100 system is a watertight joint seal suited for vertical or horizontal expansion joints in buildings, parking decks, bridges, highways, tunnels, sea walls, water treatment plants and other applications that require a watertight seal. This joint seal system can also be installed as a water stop for applications, such as fountains or dams, where hydrostatic pressure is present.

The CEVA 200 system is a watertight joint seal that is bonded between cast-in-place, aluminum-edged or steel-edged joint nosings of various sizes. This high performance joint seal is recommended for new and rehabilitation construction in bridges, parking garages, ramps, piers and industrial facilities.

The CEVA 250 system is a high performance joint seal with an elastomeric concrete that serves as a cost-effective, energy-absorbing replacement for the traditional steel header (nosing). This system can be installed with little or no modification to an existing structure, making it ideal for both new and rehabilitation projects, including bridges, parking decks and stadiums.

COMPOSITION & MATERIALS

CEVA® 100

The CEVA 100 system is a combination of one of the following closed-cell foams and bonding agents:

- MetaZeal®, MetaZeal® AJ or Phyzite® 380 preformed closed-cell foam
- Eva-Pox Bonder No. 1 or an applicable specialized Eva-Pox bonding agent

The seal is bonded to a cast-in-place or precast concrete or wood substrate.

CEVA® 200

The CEVA 200 system combines one of the following preformed closed-cell foams with one of the Eva-Pox bonding agents:

- MetaZeal, MetaZeal AJ or Phyzite 380 preformed closed-cell foam
- Eva-Pox bonding agent No. 1 or an applicable specialized Eva-Pox bonding agent

The seal is bonded to a cast-in-place aluminum or steel angle.

CEVA® 250

With the CEVA 250 system, one of the closed-cell foams is bonded to the cast-in-place elastomeric concrete header material:

- MetaZeal, MetaZeal AJ or Phyzite 380 preformed closed-cell foam
- E-Crete No. 57 elastomeric concrete

SIZES

For bridge and parking deck applications, CEVA expansion joint systems can be used for joints as small as 1" (25.4 mm) and as large as 6" (152.4 mm). Depending upon the type of traffic expected, a cover plate can be added. The expansion joint material is typically 25% larger than the joint opening; the size can, however, be within a range of 10 - 35% larger than the joint opening. The amount of compression varies by season, by temperature and by the designed movement of the joint.

The preformed joint material can be fabricated to a range of custom sizes and configurations. Contact Chase Construction Products for details.

COLORS

The standard joint material color is beige or gray.

BENEFITS

- Can be configured for installation in a wide range of civil and industrial applications
- Watertight and resistant to abrasion, oxidation, oils, gasoline, salt and other materials
- Safe for potable water and processed water applications
- Suited for stage construction or segmental repairs
- Can be installed as part of a seismic expansion joint seal system
- Accommodates multidirectional movement
- Withstands up to 70' (21 m) of head pressure when installed
- Allows field performed directional changes and heat welds

LIMITATIONS

All directional changes and horizontal 90 degree turns in joint material must be done using the heat welding method. 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 without heat welding is 135 degrees.

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

- The maximum limit for an increase in the joint opening is 8%
- The maximum limit for a decrease in the joint opening is 13%
- If the limits are exceeded, the joint material may be spliced in different sizes or can be custom fabricated to ensure compliance

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

ASTM International

- ASTM A36 Standard Specification for Carbon Structural Steel
- ASTM C882 Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear
- ASTM D545 Standard Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types)
- ASTM D570 Standard Test Method for Water Absorption of Plastics
- ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- ASTM D638 Standard Test Method for Tensile Properties of Plastics
- ASTM D695 Standard Test Method for

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Compressive Properties of Rigid Plastics
- ASTM D3575 Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers
- ASTM G154 Standard Practice for Operating Fluorescent Light Apparatus for UV 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

PHYSICAL & TECHNICAL PROPERTIES
See Table 1.

5. Installation

PREPARATORY WORK
During all stages of delivery, storage and handling, materials 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.

Damaged, open containers must not be used. Soiled or damaged joint material must not be used without written consent from the manufacturer.

METHODS
Follow the manufacturer's published installation procedures at all times. Installation must be in strict accordance with the manufacturer's published directions.

For detailed installation instructions, visit www.chaseconstructionproducts.com or contact Chase Construction Products.

6. Availability & Cost
Contact Chase Construction Products for information about the availability and cost of CEVA expansion joint systems.

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
For additional product information, contact Chase Construction Products or visit their website: www.chaseconstructionproducts.com.

TABLE 1 PHYSICAL & TECHNICAL PROPERTIES

Components of CEVA	100, CEVA 200, CEVA 250 MetaZeal	MetaZeal AJ	Phyzite 380	Eva-Pox Bonder No. 1	Elastomeric concrete header E-Crete No. 57
Characteristics	Impermeable, closed-cell, cross linked, polyethylene copolymer, nitrogen blown, resilient, non-extruded foam with a carbon black additive	Impermeable, closed-cell, cross linked, ethylene vinyl acetate, polyethylene copolymer, nitrogen blown, resilient, non-extruded foam with a carbon black additive	Impermeable, closed-cell, cross linked, ethylene vinyl acetate, polyethylene copolymer, nitrogen blown, resilient non-extruded foam with hindered amine light stabilizer (H.A.L.S.)	2-component, moisture insensitive epoxy for bonding preformed joint seals to substrates. Can also act as primer for E-Crete No. 57.	E-Crete No. 57 is a 3-component elastomeric compound used as a header material for CEVA joint systems
Tensile elongation per ASTM D3575	175% average	225% average	225% average		
Tensile strength per ASTM D3575	101 psi (696 kPa)	115 psi (792 kPa) ± 20%	115 psi (792 kPa) ± 20%		
per ASTM D638				3500 psi (246 kg/cm)	600 psi (42 kg/cm)
Compressive strength per ASTM D695				7000 psi (492 kg/cm)	2600 psi ± 400 (183 ± 28 kg/cm)
Tear resistance per ASTM D624	16 pli min. (2.9 kg/cm)	10 - 20 pli (1.79 - 3.57 kg/cm)	10 - 20 pli (1.79 - 3.57 kg/cm)		
Density per ASTM D3575	2.12 pcf (34 kg/m³)	2.7 - 3.4 pcf (43 - 54 kg/m³)	2.7 - 3.4 pcf (43 - 54 kg/m³)		
Water absorption per ASTM D3575	0.03 lb/ft² (0.14 kg/m²)	0.035 lb/ft² (0.17 kg/m²)	0.035 lb/ft² (0.17 kg/m²)	0.02 lb/ft² (0.09 kg/cm)	
per ASTM D570				0.25%	0.35%
per AASHTO T42 per ASTM G154	No deterioration	No deterioration	3000 hours, no effect		
Elongation at break per ASTM D638				3 - 5%	120%
Bond strength per ASTM C882				430 psi (30 kg/cm)	
Operating temperature	212 degrees F max. (100 degrees C max.)	160 degrees F max. (71 degrees C max.)	160 degrees F max. (71 degrees C max.)		
Movement Range					
Compression	50%	50%	50%		
Tension	25%	25%	25%		
Shear	50%	50%	50%		

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10. Filing Systems

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

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