JP-Series

Two Part Epoxy Systems

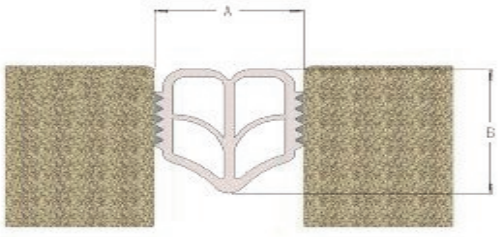
Description

The JP-Series system includes an extruded elastomeric profile and a high-strength two-part epoxy-based structural adhesive. When the expansion joint system is inserted into a contraction or expansion joint in a substrate, it will seal the opening from the intrusion of water and debris. Its unique design allows the seal to work under compression as well as tension, enabling the structure to shift in all directions as needed.

JP-Series profiles were designed to compete specifically with those seals that claim a movement component in the tension cycle. This seal can be used in parking garages and bridge applications, where normal, as well as vertical movements, are a design parameter. The JP-Series is designed for applications that are required to meet ADA guidelines and provide a smooth walking surface for pedestrians.

The larger size seals (greater than 2 inch) are installed using a vacuum to depressurize and collapse the lower internal chambers, thereby facilitating ease of insertion. After insertion, the vacuum is released and air pressure returns to normal. The stiffener webs of the seal provide constant compression on the adhesive as it cures. This is an improvement over similar seals that use air to inflate the seal, as contractors have difficulty controlling the 20-psi requirement. Excessive air pressure can squeeze the adhesive out of the gap and move the profile out of place.

LEED Credits - Up to two (2) LEED credits depending on the location of the project.



Physical Properties

The JP-Series system consists of two items: an elastomeric seal profile and a high-strength adhesive.

The seal profile is available in several specific designs. The seal material is a high-quality, polychloroprene (neoprene) rubber, meeting ASTM D3542 with physical requirements as shown in Table 1.

The adhesive is a high-strength, two-part, modified epoxy-based material. It is 100% reactive and will develop a strong bond in approximately twenty-four hours at room temperature. For typical physical properties, see Table 2.

TABLE 1 – Physical Properties of the Neoprene Seal

Property	ASTM Test Method	Requirement
Tensile strength, min.	D412	2000 psi
Elongation at break, min.	D412	250%
Hardness, Type A durometer	D2240	65 +/-5
Oven aging, 70h @ 212º F	D573	
Tensile strength, max.		20% loss
Elongation, max.		20% loss
Hardness, Type A duro.		0 to +10 pts
Oil swell, ASTM Oil No. 3		
70h @ 212 º F		
Weight change, max.	D471	45%
Ozone resistance, 20% strain	D1149	
70 hours aging, D573, 3 ppm in air		No cracks

TABLE 2 – Physical Properties of the High Strength Adhesive

Property	Requirement
Adhesive type	2-Component thixotropic paste
Tensile strength	4500 psi
Axial compression	8775 psi
Pot life	45 minutes at 68F
Flash point	> 200° F (both components)
Non-volatile content	100% Reactive
Initial cure @ 70º F	24 hours

PRODUCT	MIN. WIDTH IN (MM) 35%	MID-RANGE IN (MM)	MAX. WIDTH IN (MM) +35%	TOTAL MOVEMENT IN (MM) 70%	DIM. A: IN (MM)	DIM. B: IN (MM)
JP-100	0.65" (16.5)	1.00" (25.4)	1.35" (34.3)	0.70" (17.8)	1.00" (25.4)	1.19" (30.2)
JP-150	0.98" (24.9)	1.50" (38.1)	2.02" (51.3)	1.05" (26.7)	1.50" (38.1)	1.88" (47.8)
JP-200	1.30" (33.0)	2.00" (50.8)	2.70" (68.6)	1.40" (35.6)	2.00" (50.8)	2.44" (62.0)
JP-250	1.63" (41.4)	2.50" (63.5)	3.38" (85.9)	1.75" (44.4)	2.50" (63.5)	2.94" (74.7)
JP-300	1.95" (49.5)	3.00" (76.2)	4.02" (102.1)	2.10" (53.3)	3.00" (76.2)	3.94" (100.1)
JP-400	2.60" (66.0)	4.00" (101.6)	5.40" (137.2)	2.80" (71.1)	4.00" (101.6)	4.50" (114.3)
JP-500	3.25" (82.6)	5.00" (127.0)	6.75" (171.5)	3.50" (88.9)	5.00" (127.0)	6.00" (152.4)