

**1.0 SEALS**

Provide preformed seals manufactured from elastic polychloroprene material. Provide seals that are compatible with concrete and resistant to abrasion, oxidation, oils, gasoline, salt and other materials that are spilled on or applied to the surface. Splicing is not permitted.

Choose the appropriate seal design and cross-section so that it is substantially solid when fully compressed. A middle vertical rib in the seal cross-section is required. Use a seal with closure, defined as the point at which the seal is fully compressed, in the range of 50-70% of the original seal width. Provide a seal that, when compressed, the center portion of the top surfaces does not extend upward above the original height of the seal. Install the compression seal so that it is watertight along its entire length including the ends.

Provide seals that meet the requirements given below.

TEST SPECIFICATIONS FOR PREFORMED COMPRESSION JOINT SEALS		
TEST	REQUIREMENT	TEST METHOD
Min. Tensile Strength, psi (MPa)	(13.8)	ASTM D412
Elongation at Break, %min.	250	ASTM D412
Hardness, Type A Durometer	55 ± 5	ASTM D2240
Oven Aging, 70 hrs. @ 212°F (100°C) Tensile strength, % change, max. Elongation, % change max. Hardness, points change, max.	-20 -20 0 to ± 10	ASTM D573
Ozone Resistance 20% strain, 300 pphm in air, 70 hrs. @ 104°F (40°C) (Wipe with solvent to remove surface contamination)	No cracks	ASTM D1149
High Temperature Recovery 70 hrs. @ 212°F (100°C), under 50% deflection, % min.	85	AASHTO M220
Low Temperature Recovery 22 hrs. @ -20°F (-29°C), under 50% deflection, % min. 72 hrs. @ 14°F (-10°C), under 50%	83 88	AASHTO M220

deflection, % min.		
Compression-Deflection Test P = Force per square inch (sq. mm) @ 15% deflection of minimum seal width	3 psi (20.7 kPa) min.	
@ 50% deflection of minimum seal width	15 psi (103.4 kPa) max.	

Have the top of the compression seal clearly shop marked. Inspect the compression seals upon receipt to ensure that the marks are clearly visible upon installation.

## 2.0 BON-LASTIC ADHESIVE

Provide bon-lastic adhesive that is one-part moisture polyurethane and hydrocarbon solvent mixture with the following physical properties:

Average weight per gallon (liter).....	8.00 lbs (3.6 kg) = 10%
Solid content.....	72 - 74% by weight
Adhesive to remain fluid from.....	5°F (-15°C) to 120°F (49°C)
Film strength (ASTM D412).....	1200 psi (8.3 MPa)
Elongation.....	350%

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Submit to the Engineer the manufacturer's affidavit that all materials furnished by the manufacturer are in conformance with this Special Provision. Submit these affidavits for each separate project and clearly state the project number.

## 3.0 SAWING THE JOINTS

Where the plans call for sawing the joints, initially form the joints to the width shown on the plans.

Allow the concrete slab to cure for at least 2 days prior to sawing the concrete joint to its final specified width and depth.

When sawing the joint to receive the compression seal, always use a rigid guide to control the saw in the desired direction. To control the saw and to produce a straight line as indicated on the plans, anchor and positively connect a template or a track to the bridge deck. Do not saw the joint by visual means such as a chalk line. Fill the holes used for holding the template or track to the deck with an approved, flowable non-shrink, non-metallic grout.

Saw cut to the desired width and depth in one or two passes of the saw by placing and spacing two metal blades on the saw shaft to the desired width for the compression seals.

The desired depth is the depth of the compression seal plus 1/4 inch (6 mm) above the top of the seal plus approximately 3/4 inch (19 mm) below the bottom of the seal. An irregular bottom of sawed joint is permitted as indicated on the plans. Grind exposed corners on saw cut edges to a 1/4" (6 mm) chamfer.

Remove any staining or deposited material resulting from sawing with a wet blade to the satisfaction of the Engineer.

Use extreme care to saw the joint straight to the desired width and to prevent any chipping or damage to sawed edges of the joint.

#### **4.0 PREPARATION OF SAWED JOINT**

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The Engineer thoroughly inspects the sawed joint opening for spalls, popouts, cracks, etc. Make all necessary repairs prior to blast cleaning and installing the sealer. The installed compression seal is required to be watertight.

Immediately before sealing, clean the joints by sandblasting. Sandblast to provide a firm, clean joint surface free of curing compound, loose material and any foreign matter. Sandblast without causing pitting or uneven surfaces.

Dry blast cleaning is required. Use clean dry sand for the abrasive when blast cleaning.

After blasting, either brush the surface with clean brushes made of hair, bristle or fiber, blow the surface with compressed air, or vacuum the surface until all traces of blast products and abrasives are removed from the surface, pockets, and corners.

If nozzle blasting, use compressed air that does not contain detrimental amounts of water or oil.

Examine the blast cleaned surface and remove any traces of oil, grease or smudge deposited in the cleaning operations.

Bond the seal to the blast cleaned surface on the same day the surface is blast cleaned.

#### **5.0 BASIS OF PAYMENT**

Payment for all compression sealing assemblies will be at the lump sum contract price bid for "Preformed Compression Joint Seals" which prices and payment will be full compensation for furnishing all material, labor, tools and equipment necessary for installing these units complete in place and accepted.