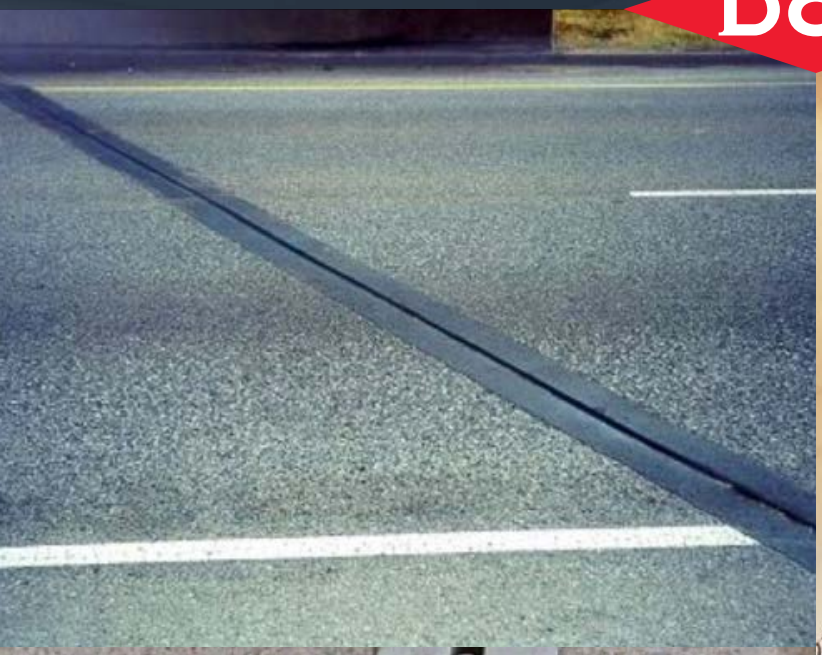
DOW BUILDING SCIENCE

Installation guidelines and equipment recommendations

DOWSIL™ 902 RCS Joint Sealant



Installation guidelines

For proper installation of DOWSIL™ 902 RCS Joint Sealant, follow installation recommendations described in the DOWSIL™ Silicone Pavement Sealants Installation Guide, Form No. 61-507. In addition, follow these procedures:

- For rehab, completely remove the old seal/sealant.
- Clean (sandblast) the areas the sealant will bond to. To determine this depth, allow for a 1/2" (13 mm) recess and the 1/2" (13 mm) bead thickness, plus an additional distance equal to at least one half the diameter of the backer rod.
  (See Figure 1.)
- Air blast the joint with oil/moisture free compressed air.
- Apply the proper primer.
  - DOWSIL™ 1200 OS Primer or DOWSIL™ P5200 Adhesion Promoter is intended for concrete and polymer nosing materials.
  - Carboline Carboguard® 635 is suggested for carbon steel.
- Priming and sealing must take place on the same day. Install backer rod at a minimum of 1" (25 mm) below the pavement surface. Never install more backer rod than can be sealed in the same day.
- Silicone sealants can be applied in subfreezing temperatures provided the substrate is frost and moisture-free. Although cure will be slower in colder temperatures, adhesion will be acceptable. At colder temperatures (below 4°C/40°F), substrates should be inspected for frost and moisture. Daily inspections are strongly recommended. Maintain a log, reviewing and recording low-temperature start-up conditions. Please allow longer curing time prior to performing field adhesion testing.
- Install the sealant.
  - Make sure both components (A and B) dispense prior to installing the static mixer. This procedure should be repeated with every kit used.
  - Attach the static mixer.
  - Dispense through the static mixer; look for uniform color (no streaking).
  - Dispense the sealant close to both joint side walls.
  - Check the bead thickness immediately after installation.
- Do not let the static mixer idle for more than 5 minutes during kit change out.
- Cleanup varies depending on the equipment being used. Consult the equipment manufacturer or your Dow representative for recommendations.

Primer recommendations

When using primers, consult local and state laws for VOC compliance.

- For concrete substrates, uniformly coat the entire surface with DOWSIL™ 1200 OS Primer using a clean cloth or brush. Over-application may affect adhesion.
- Allow a minimum of 10 minutes for the primer to dry prior to sealant application.
- Install backer rod.
- Apply sealant as soon as possible after primer dries.

The primer suggested for carbon steel substrates is Carboline Carboguard 635. The application procedure for this product is outlined below.

- Mix the two primer components. Each component should be mixed individually prior to combining the two and mixing. Refer to the Carboline Carboguard 635 data sheet for more information regarding mixing and pot life.
- Either pour the contents of the quart container into the gallon size container or pour each component into a container with liquid measurement markings. The material mix ratio is 4:1. So, if one mixes 20 ounces of primer there will be 16 ounces of Part A and 4 ounces of Part B.
- Steel should be blasted to white metal with no rust or scale remaining.
- Place backer rod to the proper depth. See backer rod recommendations below.
- Apply the primer with a brush or small roller with 3/4" nap length. Regardless of method used the steel joint face must be completely coated.
- Care should be taken to minimize the amount of primer on the backer rod, although it is likely it cannot be completely avoided.
- Immediately after applying the primer, install the DOWSIL™ 902 RCS Joint Sealant to the proper depth and thickness. The sealant should be applied while the primer is wet or tacky.

Full Depth Priming

- If priming deeper into the joint is desired, coat the bottom portion of the joint with primer prior to installing the backer rod. The top portion of the joint where the sealant will contact the joint wall should remain unprimed at this time.
- Allow the primer to cure long enough to develop sufficient integrity so the backer rod can be placed without damaging the primer coating.
- Place the backer rod to the appropriate depth, prime the top portion of the joint, and install the sealant to the proper depth and thickness while the primer is still wet or tacky.

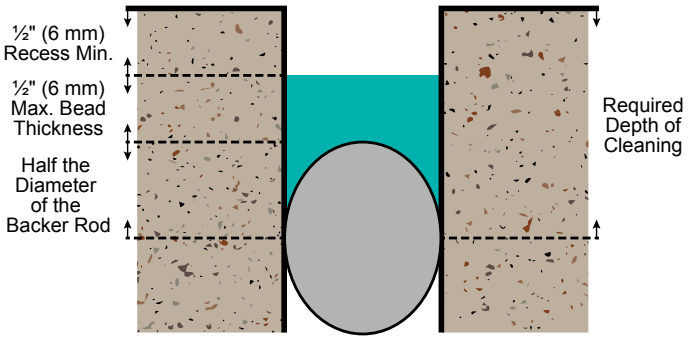
Contact Dow Technical Service and Development for further recommendations on metal surfaces other than carbon steel.

Limitations

DOWSIL™ 902 RCS Joint Sealant is not recommended for continuous water immersion. Do not install the sealant under totally confined conditions. Do not apply to wet or dirty surfaces.

DOWSIL™ 902 RCS Joint Sealant must be recessed below the pavement edge to prevent traffic abrasion or snowplow damage. Do not install in joints that cause the sealant to come in contact with traffic or exceed its stated capability.

Figure 1: Proper Sandblasting Depth



Backer Recommendations

1. Use of soft, open-cell rod with an impervious skin that will readily compress to smaller joint widths without damage.
2. Increasing the size of a standard backing rod by slicing it open and inserting a smaller diameter rod – a practice known as "hot dogging" (see Figure 2).

For joints greater than 2" (50 mm) in width at the time of sealing, it may be difficult to obtain a backer rod in a diameter that will stay in place during sealant cure and not be so large that it tears or is punctured during backer installation. Options include:

Figure 2: Enlarging Backer Rod by "Hot Dogging"

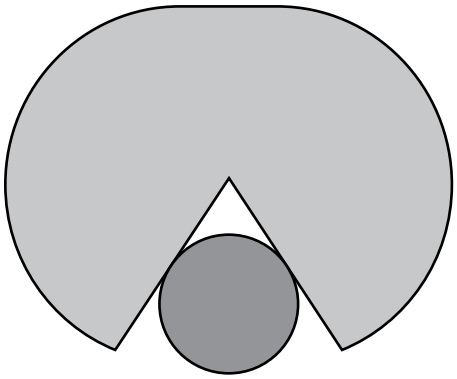


Table 1: Movement range and usage rate

Joint width[1]		Movement rating	Maximum sealant bead thickness		Linear yield[2], 40-oz kit		Linear yield[3], 9-gal kit	
inches	mm	percent	inches	mm	ft	m	ft	m
1	25.4	+100/-50	½	12.7	9	2.74	260	79.3
1¼	31.8	+100/-50	½	12.7	7.5	2.29	210	64.0
1½	38.1	+100/-50	½	12.7	6	1.83	160	48.8
1¾	44.5	+100/-50	½	12.7	5	1.52	135	41.1
2	50.8	+100/-50	½	12.7	4.5	1.37	120	36.6
2¼	57.2	+100/-50	½	12.7	4	1.22	110	33.5
2½	63.5	+100/-50	½	12.7	3.5	1.07	100	30.5
2¾	69.9	+100/-50	½	12.7	3	0.91	75	22.9
3	76.2	+100/-50	½	12.7	2.5	0.76	60	18.3
3¼	82.6	±50	½	12.7	2.25	0.69	55	16.8
3½	88.9	±50	½	12.7	2.1	0.64	50	15.2
3¾	95.3	±50	½	12.7	2	0.61	45	13.7
4	101.6	±50	½	12.7	1.5	0.46	40	12.2

[1]Joint width as measured at time of installation.

[2]Yield based on one kit containing two 20-fl oz E-Z Pak™ sausages. Yield will vary depending on joint design, tooling, backer, placement, waste and experience.

[3]Yield based on one kit containing two 4.5-gallon pails. Yield will vary depending on joint design, tooling, backer, placement, waste and experience.

Equipment Recommendations

Four manufacturers have evaluated DOWSIL™ 902 RCS Joint Sealant and recommend the following equipment for sealant application:

For 20-oz E-Z Pak Sausage Kits	
Albion Engineering Co.	Model AT 1200 S Air Gun
Cox North America	Model CBA 600S & A600 HPS
For 9-gal Plastic Pals Kits	
Dedoes	Contact for specific models
Value Added	Contact for specific models
Static Mixers	
Laboratory and field testing of DOWSIL™ 902 RCS Joint Sealant indicates that the following static mixers give good mixing and application results:	
Sources Unlimited Disposal unit	**Nordson Disposal unit**
Sources Unlimited Disposable unit Minimum 20 element 3/4” ID	Minimum 20 element 3/4” ID Series 140 female PT disposable mixer (ready to attach to manifold)

For more information

Learn more about Dow’s full range of building solutions, including service and support, at **dow.com/dowbuildingscience.**

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