CRL Backer Rod Basics for Dynamically Moving Joints

• Prevents Three-Sided Adhesion

The sealant will not adhere to the bottom of the joint, allowing more movement of the sealant (Figure 1).

• Controls Depth of Sealant Bead

The sealant bead will be the design recommended by the sealant manufacturer to maximize sealant movement capability. Round rod configuration also creates less sealant in the middle for greater movement capability of the sealant (Figure 2). Creates less stress at the bond line which means less sealant failures.

• Provides Resistance to Tool Against

The sealant is pushed against the backer rod during tooling thus forcing the sealant against the side walls of the joint for maximum adhesion (Figure 3). Backer rod must be oversized to hold tightly in the joint (Figure 4).

Figure 1
Prevents Three-Sided Adhesion

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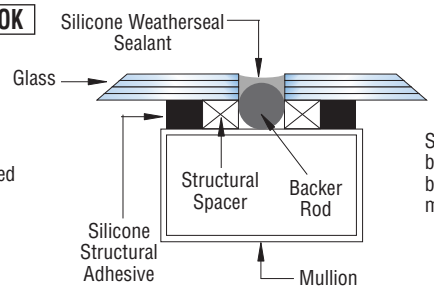
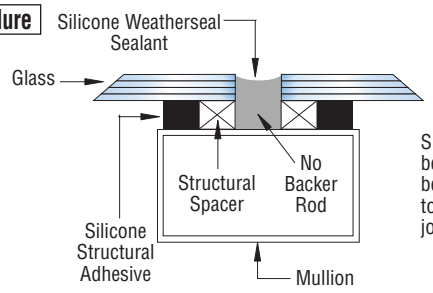


Silicone Weatherseal bead floats over the backer rod, allowing maximum movement.

Failure



Silicone Weatherseal bead can't move because it is glued to the bottom of the joint.

Figure 2
Controls Depth of Sealant Bead

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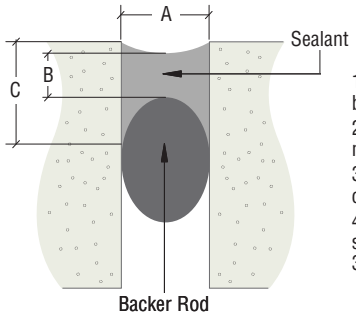
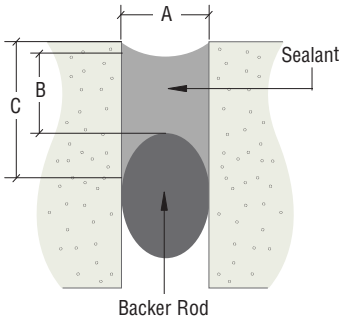


1. Ratio of A:B should be 2:1 minimum.
2. Dimensions C and A must be at least 1/4".
3. Joint surface tooled concave.
4. Dimension B suggested maximum = 3/8" (9.5 mm).

Failure



1. Deep sealant bead will not have same movement capability as properly designed thinner bead.
2. Slower cure time due to excessive sealant depth.
3. Dimension B over the suggested maximum of 3/8" (9.5 mm).

Figure 3
Provides Resistance to Tool Against

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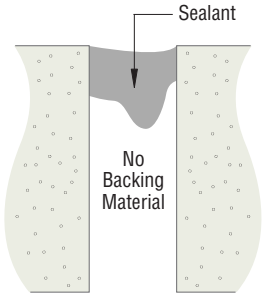
Sealant is pushed deeply and evenly against the side walls for consistent strength and adhesion along the bond line.

Failure



Gaps between sealant and wall leave sealant uneven in the joint, creating weak areas in the bond line which easily fail under stress.

Figure 4
Oversized Rod Holds in Place

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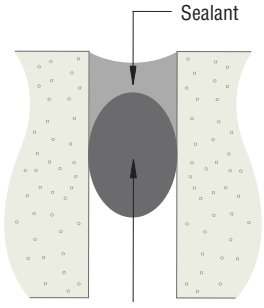

RECOMMENDED BACKER ROD SIZES

JOINT WIDTH	CRL CLOSED CELL BACKER ROD DIAMETER	CRL OPEN CELL BACKER ROD DIAMETER
3/16" (5 mm)	1/4" (6 mm)	---
1/4" (6 mm)	3/8" (10 mm)	---
3/8" (10 mm)	1/2" (12 mm)	5/8" (16 mm)
1/2" (12 mm)	5/8" (16 mm)	7/8" (22 mm)
5/8" (16 mm)	3/4" (19 mm)	1-1/8" (29 mm)
3/4" (19 mm)	1" (25 mm)	1-1/8" (29 mm)
1" (25 mm)	1-1/4" (32 mm)	1-1/2" (38 mm)
1-1/4" (32 mm)	1-1/2" (38 mm)	2" (51 mm)
1-1/2" (38 mm)	2" (51 mm)	---