



**Department Guidance**

The following table lists product types that have been used for a variety of crack and joint sealing applications. Some of the products are not suitable especially if the cracked, jointed concrete is moving. Movement is common in this climate. **The materials in the yellow or shaded part of the table are the only products approved for crack and joint sealing by the department.**

Type	Advantages	Limitations	Uses
Polysulfide	Submergible, chemical resistant, strong bonding, high movement tolerance	Soft, not suited for heavy traffic. Not as resistant to organic solvents as silicone	Non-traffic portions of mix/load pads and dikes
Polyurethane	Elastic, wear resistant, submergible, excellent adhesion, moderate chemical resistance to dilute alkalis, acids and solvents, moderately priced	Not as resistant to organic solvents as silicone.	Mix/load pads and dikes
Silicone	Chemical resistant to organic solvents, elastic, durable	Lower adhesion, lower resistance to alkali solutions (fertilizer), not submergible	Pesticide-only mix/load pads and dikes
Flexible epoxy	High chemical resistance, durable, high adhesion	Limited flexibility	Generally not suitable for joint filling. Very good as mortar on stable joints or as surfaces sealant
Rigid epoxy	Hard, high chemical resistance, high adhesion	Inflexible	Not for cracks with movement. Very good as mortar on stable joints or as surface sealant.
Acrylic/latex caulk	cheap	Inelastic, non-durable	No recommended uses.
Thermoplastics: Pitches, tars, asphalt mixes	cheap	Short life, become inflexible, brittle.	No recommended uses
Mastics:::	cheap	High maintenance	No recommended uses

Criteria for considering a crack or joint sealant:

1. Adequate bonding and tensile strength – product must adhere to the prepared surfaces and withstand anticipated movement.
2. Chemical resistance.
3. Age and weather resistance.
4. Wear resistant, if in traffic area.

Basic Surface Preparation Components: (always follow product specific instructions)

1. Remove failed former sealant, if present.
2. Remove loose material.
3. Widen joint if needed.
4. Sandblast or roughen surfaces
5. Clean and dry. (Some sealants adhere better than others in moist conditions)
6. Follow surface temperature instructions.
7. Install backing rod as needed.

Spending the extra time for proper preparation and the extra money for a quality sealant usually is repaid in savings from a longer lasting repair.