

Coating Chemistries Pros and Cons

Acrylic roof coatings

Acrylic is a water-based, cost-effective solution for a variety of roofs. They are good for most climates and provide the best value.

Strengths: Acrylic coatings offer an excellent balance of cost and performance. They are highly reflective, UV resistant, and easy to work with.

Weaknesses: Acrylics will lose mil thickness with weathering, need to be applied at 50°F or above, and typically do not perform well in ponding-water situations.

Polyurethane Roof Coatings

Polyurethanes are more impact resistant and handle traffic the best of all coatings. There are two main types of polyurethane roof coatings: aromatic and aliphatic. Aromatic coatings are less expensive and not UV stable, so they are usually used as a base coating. Aliphatic coatings are more expensive, but are UV stable, hold color well, and stay cleaner than most other coatings.

Strengths: A urethane roof coating system with an aromatic base and an aliphatic top coat is durable, stays cleaner, and is more resistant to ponding water than an acrylic coating. They also do well as cool roofs because they can be white and stay clean.

Weaknesses: They are more expensive than acrylics and can have a stronger odor compared to most other coatings.

Silicone Roof Coatings

Silicones are moisture cured and humidity can even promote their cure. In some applications, the use of silicone can eliminate the need for a primer.

Strengths: Silicones weather better than other coatings with almost no erosion and they don't get hard or brittle. Silicone is also good in ponding water situations.

Weaknesses: Silicones hold dirt and rain acts as a cleaner; therefore the material loses reflectivity over time. It is also hard to adhere to silicone, so when a roof needs re-coating, you must either remove the coating completely or re-coat with a compatible silicone. Silicones are very slippery when wet.