



GE Silicones vs. Acrylic

A roof coating comparison

Acrylic roof coatings are liquid applied products, used to create a barrier between a roof and the weather, and contain many of the same fillers and pigments found in silicone roof coatings. They look similar, but are actually quite different. There are many fine qualities associated with acrylic roof coatings, but as with any technology, it does have some limitations and this paper will attempt to give it a fair assessment in regards to its properties and uses as opposed to silicone roof coatings.

GE Enduris Silicone Roof Coating	Acrylic Elastomeric Roof Coating
Cures via hydrolysis	Dries via Evaporation
542% Elongation	Average 120%-200% elongation
Skin Over Time 10 minutes/ full cure 30 minutes-will not wash off in rain	Skin over time 4 hours/ Full cure 24 hours-may wash off in rain
Absorbs no water when cured	Absorbs up to 10% water after cure
Does not lose elasticity over time	Loses elasticity over time
Does not loses adhesion over time	Does not lose adhesion under normal circumstances
Does not lose thickness due to weathering.	Loses thickness due to weathering
Inorganic and Inert	Carbon based/subject to UV degradation
Solvent free	Waterborne

Because of some of the differences listed above, silicone tends to be a more functional product as opposed to it acrylic counterpart. GE Enduris Silicone Roof Coating is warranted under ponding conditions, where water stays on the roof at ¼ inch deep for 72 hours. This is due directly to its properties, as it will not absorb water, and as such, will not lose adhesion to the roof substrate. Acrylic coatings generally cannot be used in ponding conditions, as they absorb water, which causes them to disbond, become brittle, and blister, causing failure.



GE Enduris Silicone Coatings can be applied in one coat, due to its solvent free formulation. Acrylic roof coatings, in general, must be applied in multiple coats, or it will mudcrack, blister, or never completely cure. This happens because the water in the acrylic coating must evaporate and if it is applied too thick, it will skin over and the water underneath cannot escape without damaging the surface of the coating.

GE Enduris Silicone Roof Coatings are much more flexible than acrylic coatings. When silicone cures, it forms a rubber polymer matrix, which is permanently flexible, even through hot or cold cycles. GE Silicones has been testing this for more than thirty years, in real time. The samples applied three decades ago are still as flexible as the day they were applied. This provides the roof with a coating that stretches and moves, and does not break. Acrylic roof coatings generally begin to lose their flexibility after only one year in the sun, and become even more brittle as time goes on.

GE Enduris Silicone is non-sacrificial. This product is inorganic, which means it does not break down the way other products do over time. Once applied, silicone will stay the same thickness indefinitely. Acrylic coatings will lose between 1-2 mils every year due to weathering. This means that a much thicker coating is needed to last.

In general, GE Silicones Enduris Roof Coating is a superior product to most acrylic roof coatings. Its longevity, ease of use and physical capabilities make it the coating of choice for many contractors and building owners.

NOTE: This comparison is by no means exhaustive and is in no way comparing GE Enduris Silicone Roof Coating to any single acrylic coating technology. It is a general comparison based on common products sold in the roofing market during the creation of this document.