

# How Often Can You Afford to Renovate?

## *The Lifecycle Savings Case for Silicone Weatherproofing Materials*

Building construction is always an expensive proposition. Renovations to existing structures are costly, disruptive and time-consuming. So it's only logical when building owners and facility managers insist that the materials used in new construction and renovation projects are the highest possible quality. But sometimes budgetary challenges arise, and trade-offs are made. The results can be far more costly in the long term than the savings gained in the short term.

Consider building weatherproofing materials. Sealants may represent as little as a tenth of a percent of total construction costs, yet their failures can cause 10 percent of building problems. But substandard sealants and coatings are often substituted for high-quality weatherproofing materials to cut expenses. The costs of the potential consequences far exceed the original savings, because there is a clear and proven difference in material performance.

### The silicone difference

Silicone construction materials from Dow Corning outperform and last longer than conventional organic alternatives because they provide a significant *material* difference. Unlike organic urethane sealants and epoxy coatings, silicones are *inorganic* materials with unique properties. They are inherently waterproof, remain flexible over a wide temperature range, are virtually unaffected by ultraviolet (UV) light and ozone, and have a life expectancy that's typically *three times longer* than organic materials used in the same applications.

Silicone superiority is proven in independent laboratory and field testing. The test results do not have to be read to be believed. Their conclusions are evident in a comparison of product warranties. For example, *Dow Corning*<sup>®</sup> brand silicone weatherproofing sealants are typically warranted for 20 years of leak-proof protection, while urethane alternatives are rarely warranted for as long as 10 years. *Dow Corning*<sup>®</sup> AllGuard Silicone Elastomeric Coating is available with a 10-year limited warranty, which is generally *twice as long* as most acrylic-based architectural coating warranties.

### The lifecycle savings story

Lifecycle savings are those savings realized over the performance life of a product versus the costs of using another product. They include all the costs of a product, including applied costs and maintenance over time.

Some people assume that silicone weatherproofing materials always cost more than organic alternatives. They can then logically assume that the cost of using silicone sealants is greater than that of using urethane sealants. But the following story illustrates a more important lesson.

When administrators of a municipal building in a southern U.S. city requested bids to recaulk their facility when its urethane sealants failed after only seven years, four contractors bid on the project, and all



Around the world, quality-conscious construction professionals specify silicone weatherproofing materials from Dow Corning for their proven performance, long-life durability and warranted reliability. The confidence with which they use silicones from Dow Corning is based on their remarkable track record of success: *Dow Corning*<sup>®</sup> brand silicone weatherproofing sealants applied on commercial buildings as long as 40 years ago are still performing well.



After 100 days (2500 hours) of UV exposure in accelerated weathering and heat stability tests, the urethane sealant deteriorates, while the silicone sealant remains untouched.

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submitted bids featuring both urethane and *Dow Corning* silicone sealants. The resulting competitive bids (see Fig. 1) are instructive, particularly when initial installation costs are compared with lifecycle savings that assume that replacement urethane sealants will last no longer than the originals.

**Figure 1. Cumulative Cost Savings Comparison of Renovation Project Using Silicone Sealants versus Urethane Caulks**

Contractor	Urethane Bid	Silicone Bid	Initial Urethane Savings	Cumulative Lifecycle Silicone Savings		Silicone Lifecycle Advantage
				Year 7*	Year 14	
A	\$17,962	\$23,695	\$5,733	\$12,229	\$30,191	Urethanes cost 103% more
B	\$21,480	\$23,437	\$1,957	\$19,523	\$41,003	Urethanes cost 166% more
C	\$24,600	\$29,974	\$5,374	\$19,226	\$43,826	Urethanes cost 128% more
D	\$40,918	\$48,208	\$7,290	\$33,628	\$74,546	Urethanes cost 139% more

\*This figure deducts the initial urethane savings (\$5,733) from the estimated cost of the needed urethane rehab project (\$17,962). For Year 14, the total amount of the urethane redo has been added. The figures are not adjusted for inflation or increased material and labor costs.

The *best case* for urethanes saved \$5,733 initially, but would cost taxpayers \$30,191 extra over the next 14 years. In the unlikely event the new urethanes performed *twice as long* as the original sealants, the lifecycle advantage is still with *Dow Corning* silicone sealants, which are warranted to perform a minimum of 20 years.

Over the years, in case after case, silicone weatherproofing sealants from *Dow Corning* perform better and longer than their organic alternatives, providing significant lifecycle savings to building owners and facility managers that insist on the very best.

### A final word about initial cost

Silicone weatherproofing materials from *Dow Corning* may cost more than “economy-priced” products. However, they are typically very competitive with the best-performing organic products. In fact, it should be noted that, in the Figure 1 example, two silicone bids are lower than Contractor C’s urethane bid, and three are lower than Contractor D’s.

Furthermore, the installed cost of *Dow Corning* silicone sealants may be less than that for urethanes simply because less sealant may be required to produce a long-lasting seal – a 2:1 width-to-depth ratio for silicone versus a 1:1 ratio for urethanes.

### Choose the best solution

New construction and building renovation projects are too expensive to repeat prematurely – and unnecessarily – because less than the best materials are used. *Dow Corning* silicone weatherproofing materials provide lifecycle savings for decades to come.

When you work with *Dow Corning*, we offer you total building system solutions. You benefit from our decades of construction industry expertise, our technical service and support resources, and customized construction services tailored to meet your needs.

For more information about *Dow Corning* silicone weatherproofing materials or the name of the *Dow Corning* construction materials sales representative or product distributor in your area, call 1-877-SEALANT (877-732-5268) or 1-989-496-6000. Or visit the *Dow Corning* construction web site at [www.dowcorning.com/construction](http://www.dowcorning.com/construction). This web site offers downloadable information about the materials and support available from *Dow Corning*, a product finder and other useful tools.

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