

## Sealing airport pavement

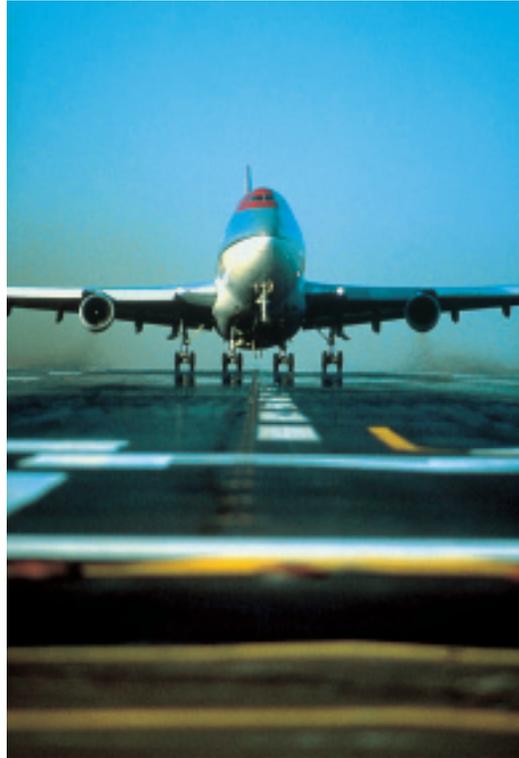
*Dow Corning® 888  
Silicone Joint Sealant*

*Dow Corning® 890-SL  
Self-Leveling Silicone  
Joint Sealant*

“*The Dow Corning® brand silicone sealant installed at Sea-Tac is performing very well, outlasting other types of sealants applied at the same time.*”

— David Van Vleet,  
Senior Airfield Engineer  
Sea-Tac International Airport

## *Dow Corning® 888 Silicone Joint Sealant keeps Sea-Tac pavements in shape*



*Dow Corning® 888 Silicone Joint Sealant applied to the Sea-Tac International Airport's northeast cargo apron in 1987 exhibited excellent bond and elongation properties, and outlasted the hot pour sealant installed at the same time. Photos by Don Wilson, Sea-Tac.*

In 1987, Atlas Supply, Inc., of Seattle, Washington, an authorized distributor of *Dow Corning®* brand silicone products, introduced Sea-Tac International Airport officials to a relatively new product, *Dow Corning® 888 Silicone Joint Sealant*. The sealant was chosen and applied as a test to contraction joints in a portion of the new northeast cargo apron. The remainder of the apron was sealed with a hot pour sealant.

As time passed and the *Dow Corning* product's dependability became evident, the airport began using the silicone sealant in new construction and resealing efforts on Sea-Tac's taxiways and aprons. In 1990, for instance, the port began using 888 Silicone Joint Sealant and *Dow Corning® 890-SL Self-Leveling Silicone Joint Sealant* to seal contraction, construction and expansion joints in taxiway reconstruction projects, and 888 Silicone Joint Sealant to seal similar joints in another new cargo apron.

In 1996, Van Vleet found that the hot pour sealant used on the balance of the northeast cargo apron pavement back in 1987 had

failed. However, the 888 Silicone Joint Sealant installed at the same time was in good shape and still retained its bond and elongation properties at nearly 10 years of age. As a result, Van Vleet requested that the original *Dow Corning* sealant remain so that they could continue to monitor its condition. The failed hot pour sealant was then removed and replaced in 1997 with 888 Silicone Joint Sealant.

Van Vleet believes that quality sealant plays a critical role in protecting the vast investment in airport pavement infrastructure. As of the fall of 1998, there were applications of *Dow Corning* silicone joint sealants at Sea-Tac ranging from two to 11 years. Where properly installed, these silicone sealants are performing up to, and beyond, expectations, allowing Van Vleet to focus his attention on more pressing pavement infrastructure projects.



*Sea-Tac International Airport, Washington state.*

**DOW CORNING**

## Airport changes, but *Dow Corning*<sup>®</sup> brand silicone keeps performing

The history of Roanoke Regional Airport is a story of growth and adaptation to changing traffic requirements. It was during just such a time of expansion that *Dow Corning*<sup>®</sup> 888 Silicone Joint Sealant first came on the scene.

In 1980, a new 10-acre apron was installed to replace one that had too steep a slope for jet aircraft to taxi easily. In selecting a sealant for the expansion joints between the concrete slabs, asphaltic materials were rejected as not durable enough. Instead, the architect recommended silicone or neoprene compression seals.

Engineer H.D. Campbell, now with Campbell and Paris Engineers of Chantilly, Virginia, had seen silicone perform in building construction and thought it offered advantages for this type of application. With permission from the local office of the Federal Aviation Administration, silicone was installed in an airport apron for the first time.

Campbell recommended silicone for several reasons. First, it was easier to install than preformed neoprene and more forgiving of dimensional variations in the sawed joint. Second, it was flexible enough to handle the expansion and contraction cycles of the concrete as well as “slab creep” – a slow migration of the slabs toward the north over the years. Third, it was expected to last several years without replacement or extensive maintenance.

Did it meet those expectations? The sealant has been the one constant amid change. Airport traffic eventually outgrew even the “new” apron, and it has been used for cargo since 1990. But the silicone joint sealant still performs as it always has. After almost 19 years, it shows no sign of needing replacement. Even fuel and oil spills have not impaired performance.



*The first installation of Dow Corning<sup>®</sup> 888 Silicone Joint Sealant in an airport is still performing well after nearly 20 years.*

### *Dow Corning*<sup>®</sup> 888 Silicone Joint Sealant

“*Dow Corning*<sup>®</sup> 888 Silicone Joint Sealant “is a really great product ... I don’t think we’ve gone back and resealed a single project that we’ve sealed with Dow Corning<sup>®</sup> brand silicone.”

— H.D. Campbell,  
Engineer  
Campbell and Paris Engineers

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