

# Joint Sealant

When it comes to joint sealants, questions abound: How do you select one particular sealant over another? Is one manufacturer superior? Do silicones outperform urethanes? This article does not promote one particular product or manufacturer. It provides general product knowledge, which when combined with experience, will allow you to make an educated decision regarding your sealant selection.

## PRODUCTS

Polyurethane and silicone products are the most widely used on architectural precast structures. Due to varying grades of raw material and processes, each sealant reacts differently when subjected to ASTM test methods.

There are four ASTM D412 physical properties that are significant when making comparisons.

100% Modulus - the force required to extend the sealant to 100%

Ultimate Elongation - the percent of extension at break

Tensile Strength at break - the force required to extend sealant to break

Recovery - the sealant's ability to recover its original shape

Consider the application of the sealant and question the need for ultimate elongation in excess of 100% when the precast panels are welded in place.

## INSTALLATION

Consider these points regarding proper installation:

Preparation of the joint face is critical to the long term adhesion of the joint sealant. If necessary, wire brushing or light grinding may be performed without any damage to the precast face.

A selection of backer rods is available. Soft or closed cell backer rods are typically used for architectural precast installations.

A primer may be needed. The manufacturer's product data should indicate those substrates that mandate a primer. This could be critical for obtaining a warranty at the end of the project.

Installation rule of thumb is no less than 1/4-inch deep and no more than 1/2-inch deep, although this may vary slightly among manufacturers. The precast industry tolerances dictate a panel to panel joint width of 3/4- to 1-inch. Remember to perform adhesion tests throughout the installation.



## WARRANTY

Avoid the common mistake of an improperly specified warranty period. The typical warranty period for a polyurethane material is 3 to 5 years and 10 to 20 years for a silicone. This doesn't imply that the sealant will deteriorate during that time frame. Some polyurethane-based products maintain their appearance and integrity for more than 15 years. To specify a sealant you should first obtain a recent sample warranty from the manufacturer, study the contents and question who the warranty actually protects! This can help avoid uncalculated risk.

## PROFESSIONALS

Installation by trained professionals remains the key to the long-term success of a project.

For more information on architectural precast concrete contact MAPA at 800-453-4447.

## Link

■ [www.mapaprecast.org](http://www.mapaprecast.org)