

Joint Sealant Selection Guide

A joint sealant is expected to permanently isolate joints from environmental conditions. In order to ensure permanence, joint sealant must be compatible with joint surfaces and resistant to factors exposed to in the joint such as movement, chemicals, sunlight. Factors such as joint design, location, width, slope, time required for trafficability must be considered while selecting joint sealant. Ambient conditions are also important factors in selection.

The function of the joint sealants used in expansion joints, contraction joints and for crack filling is to compensate pavement movements without causing joint damage and to protect and isolate the joint from foreign materials. Therefore, most important points to be considered in selection are as follows: The sealant must be elastic enough to compensate joint movements, hard enough to prevent foreign materials to enter into the joint and it must adhere to all joint surfaces. Although the adhesion is achieved by proper surface treatment and priming, not exposing the joint sealant to movements beyond its elastic limit is also important for a durable adhesion. In cracks and joints at unsettled new floors, the amount of movement that the material will be exposed to will be higher than the value calculated based on thermal expansion; this point must not be overlooked in joint sealant selection.

Application conditions are also important factors in joint sealant selection. Machine type, rapid curing materials are recommended at places requiring early trafficability. Some of the joint sealants recommended for outdoor are not suitable for indoor applications. Different types of joint sealants are used in vertical, sloped and horizontal joints. Self leveling joint sealants can only be used in horizontal joints. Pourable type is preferred at narrow and straight horizontal joints and pumpable type is preferred at all other horizontal joints. Although non sag materials can also be used in sloped and horizontal joints; they are recommended for vertical, overhead or high slope joints.

Table 1: Joint sealant selection based on the amount of movement

	12,5%	25%	50%	Crack
StenSeal® 2K	3	5	1	2
StenSeal® 2K-NS	3	5	1	1
StenSeal® 2PT110	3	3	5	5
StenSeal® 2PU110	3	3	5	4
StenSeal® 2PU210	3	5	1	2
StenSeal® 2PU211	3	5	1	2
StenSeal® 2PU310	5	1	1	1

Key: 0 – Incompatible. 1 – Improper. 2 – Not preferred. 3 – Proper. 4 – Preferred. 5 – Ideal.

Another important factor in joint sealant selection is the ambient conditions that the material is exposed to. Joints exposed to fuels, solvents, flame, heavy traffic conditions, must be filled with joint sealants that will withstand these conditions. In many applications, the information of whether the joint sealant is compatible with chemicals it will be exposed to or not, is not available. If demanded, **STENKİM®** can test produced joint sealants at customer's conditions and help in determining the safe material.

In case of special applications, it may not be possible to select a joint sealant compatible with expected amount of movement, application conditions and ambient conditions all at once. In that case, you can get support from **STENKİM®** in product selection, or if necessary you can request a special joint sealant to be designed for the application.

Table 2: Joint sealant selection based on the application conditions

	Horizontal	Vertical / Overhead	Outdoor	Indoor
StenSeal® 2K	5	1	5	2
StenSeal® 2K-NS	3	5	5	2
StenSeal® 2PT110	5	1	5	2
StenSeal® 2PU110	5	1	3	5
StenSeal® 2PU210	5	1	5	5
StenSeal® 2PU211	3	5	5	5
StenSeal® 2PU310	5	1	5	5

Table 3: Joint sealant materials selection based on the environmental conditions

	Fuel	Flame	Heavy Traffic
StenSeal® 2K	5	5	5
StenSeal® 2K-NS	5	5	4
StenSeal® 2PT110	5	4	2
StenSeal® 2PU110	4	3	2
StenSeal® 2PU210	5	5	5
StenSeal® 2PU211	5	5	5
StenSeal® 2PU310	5	5	5

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