



Technical bulletin

Influence of temperature in Storage and/or transport

In the technical documentation of all Siroflex product the minimum shelf life after production is given under a temperature between +5°C and +25°C. When products are stored with higher temperatures this will shorten the shelf life. As maximum temperature generally +45°C can be maintained. Above this temperature problems might occur, for instance too high pressure in canisters of PU foam. For neutral silicone sealant the chemical reactions can be changed. Temperatures below +5°C until ca. -5°C do not directly cause problems. Below -5°C dispersion products can freeze. A lot of dispersion-products can be de-frosted after they have been frozen, and be normally used. Within acid-containing silicone sealants crystallization of the cross linker can occur with temperatures below -5°C. By warming this sealant above +5°C this crystallization can be made undone.

Influence of temperature while applying

Influence to the material in the packaging

Generally materials will be thinner with higher temperatures and thicker with low temperatures, making required pressure during application dependant to the temperature. Exceptions to this are silicone based products, which are almost insensitive to temperature. Thinner products normally do not cause any problems during application. With lower temperatures some products can be more difficult to process, for instance 1-component polysulfide sealant or PU-sealant. It is recommended to store these products, if possible in a heated space. Quick heating on the construction site in warm or hot water is not recommended, as the cartridge itself can get 50-60°C while the sealant within is still cold and rigid. Especially the use in air pressured guns can cause problems, as the hot cartridge can deform allowing air to get in the cartridge. This air will leave the cartridge together with the sealant.

Influence of temperature during application

All sealants can be processed from +5°C and up. This temperature is given because with lower temperatures possible condense or ice can occur in the surfaces. Possibly this could make the bonding of the sealant fail. In fact within controlled circumstances some products allow to be applied below +5°C. Possibility needs to be checked per situation.

Higher temperatures up to +30°C to +40°C do not directly bring any problems to application. It has to be taken into account that during warm periods all building materials and constructions are strongly expanded, making the joint small. When the joints broaden later on when temperature goes down this causes constant pressure to the sealant, increasing the chance for de-bonding

For this reason it is recommended to not seal highly operating joints during hot weather, or in full sunlight. Also solvent based sealants should not be used in full sunlight, as this can cause blistering of the sealed joint.

Influence of temperature after application

While the sealant is not cured (with 1-comp. Moisture cured products this might take up to weeks, depending the type and layer-depths) the sealant is sensitive for too much operation in the joint.

Especially periods with high differences in temperature the joints are strongly exposed to the shrinkage and expanding of building materials. When this is the case during the curing of the sealant, in extreme situations the sealant can be deformed, showing cracks or pressed together surfaces in the sealant joint.

When the sealant is totally cured its elasticity can be fully used. Higher temperatures will cause little problems. Lower temperatures as -10°C will make the sealant more rigid, while due to the cold the joints widest. At this moment maximum pressure is executed on the sealed joint.

An exception for this are the silicone based products, being insensitive to temperature being as elastic at -10°C as they are at +20°C.

For this reason mainly neutral silicone sealants with low modulus are used as sealant for dilatation joints in facades.

Also MS-polymer based products maintain elasticity over a broad range of temperatures.

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