



Den Braven

Damage to sealant joints by animals

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General information

Sealants used in construction and industry applications must provide a permanent seal between building materials. In normal conditions, combined with regular inspection and maintenance, joint sealants may function for many years. The durability of sealants in joints may be reduced severely by the impact of animals. In this technical bulletin the most common forms of damage by animals is discussed, including possible solutions to prevent and repair damage.

Damage by birds

Damage occurs frequently to glazing joints. Especially buildings in the cities where pigeons gather at certain points, glazing joints and putties are pick out (eaten) by birds. Fresh sealant materials are extremely sensitive to damage, and also hardened material is picked out in some cases. Nowadays fast curing and elastic putty replacers are often used instead of conventional slow-curing putties. However, even with these products there is a risk of damage. The best option is to try to keep birds and especially pigeons away from these spots by installing "pigeon pins" or "wires".

In addition to the above situation damage to sealants can also be caused by solidarity birds. Typically, this occurs in the springtime when many birds start nesting. Often the male birds show territorial behavior and very likely see their reflection in the glass and react aggressively. The sealant will then be defeated.

Experience has shown that when the reflection effect is removed from the glass the birds almost immediately lose interest. Putting a piece of cardboard or paper behind the glass can be an easy and cheap solution.

Another phenomenon is the damage to sealants caused by chickens, turkeys and poultry. Usually this type of damage to sealant is easy to recognize because it stops at the maximum range in height of the birds. This problem cannot be solved by just applying another type of sealant.

Sealants in joints should be elastic so as to absorb the movement of the building materials. Unfortunately, this problem cannot be solved by applying a different sealant.

A simple solution is covering the joints with an aluminium or plastic strip which is applied over the sealant. These strips should be bonded on one side of the substrate next to the joint to enable the joint underneath to function without restrictions.



Damage by snails

Damage of joint sealants by snails is a well-known phenomenon in glazing joints. In particular, in green-rich environments and in places where plants are placed close to the windows and doors there always is a risk of damage by snails. Testing with various types of glazing sealants have shown that both silicon, hybrid and polyurethane based sealants can be “eaten” by snails. Even the overpainting of sealant joints has no influence. The sealant and the applied paint are eaten by snails. The damage is recognizable by the tracks that look like they have been made with a gouge.

As previously mentioned, a solution cannot be found by application of another type of sealant. Stiffer sealants are certainly less sensitive, but the sealant should be able to absorb the movement caused by wind load and expansion and contraction under the influence of temperature and moisture. So the choice is limited to CE-certified sealants.

To prevent damage by snails there are several solutions.

First, it is wise not to put plants near windows and doors and to keep the vegetation away from the side of the glazing by pruning. The use of slug pellets can be an effective solution but is of course also a risk to other animals and children.

Snails will not move over a copper surface. placing bare copper wires on the route of the snail can be very effective. Fixing bare copper wire with (duct) tape, nails or screws is an easy and cost effective solution. Specialized garden centres often have self-adhering copper tapes available.

Another solution is to use nematodes.

Nematodes are small worms which live in the soil and eat the eggs of snails so that breeding of the snail is restricted. Some garden centres sell nematodes. Suppliers can also be found on the internet.

Damage by rats and mice

Rodents such as rats and mice can cause damage to sealant joints and PU foams. In the past, several tests have been done with specially developed sealants that contain substances that should prevent pest damage.

All these tests, even adding glass beads or other hard materials in sealants were unsuccessful. To prevent damage by vermin, pest's conventional methods like poison and traps are still the most successful.

It is also important to note that interest of pests decreases when there is other food available. In order to avoid damage to sealants and foams a very effective solution is by covering the sealant or foam for with metal strips or sheets over it. Joint sealants must be able to absorb movement of building materials. A metal strip should be applied over the joint by bonding it (or mechanical fastening) to one side of the substrate next to the sealant.

Repairing damaged joints

If a sealant is damaged it will need to be repaired.

Depending on the damage, it is often possible to remove the damaged parts with a sharp knife and apply a new layer of sealant directly over the old. However, it is important to cut the damaged sealants away as deeply as possible in order to avoid a too thin layer of sealant on top of the old. (Applying thin layers will limit the adhesion) After the damaged sealant is cut away from the adhesion surface degreasing with Zwaluw Cleaner is necessary before the new layer sealant can be applied. Using different types of sealants may cause intolerance between the two sealants. Incompatibility can cause discoloration, stickiness and / or adhesion failure.

In case of doubt, please contact den Braven.



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