



Tolerance of Sealants to Paint

Here have two situations:

A) Sealant applied to a layer of paint

B) Paint applied to a sealant joint

A) The sealant applied to the layer of paint

For optimal results it is important that:

- 1 – The paint is cured thoroughly.
- 2 – The paint bonded well to the surface.
- 3 – The painted layer is clean and dry
- 4 – The sealant has bonded well to the paint
- 5 – The sealant and the layer of paint tolerate each other

Remarks:

A1 Insufficiently cured paint layers can be weakened by a applied sealant (e.g.: PU sealant).

A2 The bonding of the paint to the surface must be stronger than the tensile strength of the sealant.

A3 The paint surface must be dry. Remove any loose dirt. Degreasers must not affect the layer of paint. Sand with fine sand paper to obtain a clean surface. Sanding is not required for better bonding, and in some instances can have a negative effect.

A4 Layers of paint and coatings can be seen as plastics with varying compositions and properties. This can affect the bonding of sealant to paint.

Although the behaviour of sealants to paint bonding is well known, in unknown situations a bonding test must be done before application.

A5 Certain sealants and paints are sensitive to plasticizer migration due to their composition, resulting in a sticky layer between both materials. This makes good bonding impossible. In paints this is mainly seen in combinations of acrylate-dispersion paints and Thiokol sealant / polysulfide. These combinations must not be applied together.

B) Paint applied to sealants

In this case the elastic sealant joint is painted over with a paint that is much less elastic.

This can lead to too much pressure on the layer of paint when the joint deforms, creating cracks in the surface. Technically, it is not recommended to paint sealant joints.

This refers to dilatation joints where operation is so heavy that each layer of paint will break. Glazing joints show cracked paint due to this phenomenon.

In building and construction there are two types of joints normally painted due to aesthetics:

- 1 – Interior connection joints
- 2 – Glazing joints

Remarks:

B1 Interior connection joints

These are mostly sealed with an acrylate dispersion sealant. This sealant can be painted with alkyd and acrylate dispersion paints. Within hours after the joint is sealed it can be painted. The sealant is not yet completely cured. While curing water evaporates from the sealant, making it shrink.

A layer of paint could crack, therefore it is recommended to paint only when the sealant is completely cured. Some paints, especially those based on dispersion, are not suitable for application to elastic joints. This is evident by the occurrence of cracks in the paint while curing. (Test before use).

B2 Glazing joints

With glazing joints the goal is to keep glazing windows air- and watertight. Where possible, movement between glass, window frame and glass beads needs to be absorbed by the sealant. These movements can occur due to bending of the glass under wind pressure, or variation of the moisture percentage in the wood. Painting is not required for the sealant to function well. However, for aesthetic reasons these joints are often painted.

This always carries the risk of having a layer of paint unable to absorb movement, resulting in cracked paint.

When painting the sealant joint the following points should be kept in mind, concerning tolerance of materials:



The overview shows products which tolerate each other:

X = Suitable O = Limited suitability - = Not suitable or better alternative		Sil. Sealant (acid)	Sil. Sealant (neutral)	Window Seal Plus	Silstop	Acrylaatkit	Monustop	Hybriseal 2PS
Sealant applied to paint	Alkyd Paint	X	X	X	X	X	X	X
	Acryl dispers. paint	X	X	X	X	X	X	X
Paint applied to sealant	Alkyd Paint	-1	-1	0	0	X	X	X
	Acryl dispers. paint	-1	-1	-	-	X	X	X
	No paint	X	X	X	X	X	X	X

1: Paint flows away from the sealant surface

Warranty

Den Braven Sealants warrant that the product complies, within its shelf life, to its specification. The liability shall in no case exceed the amount fixed in our Condition of Sale.

In no event is Den Braven Sealants liable for any kind of incidental or consequential damages whatsoever.

Liability

All information supplied is the result of our tests and experience and is of general nature.

They do not imply any liability. It is the responsibility of the user to verify by testing if the product is suitable for the application.

Remarks:

- ▶ Zwaluw Hybriseal 2-PS is the most universal of all glazing sealants, supporting both synthetic and water based paints.
- ▶ Window Seal Plus and Silstop have limited paintability. When these silicone sealants are painted, the bonding of the paint can only be judged after 3 to 4 weeks. Pre-testing of tolerance is advised.
- ▶ When using Window Seal Plus and Silstop a clean application is required so no thin layers of sealant are smeared over the glass beads or window frame (On these thin layers paints can be sensitive to cracking).
- ▶ Elastic paints offer better results here. Hard layers of paint cannot cope with the movement of joints, creating cracks. This cracking of paint can also influence the bonding of the sealant itself.
- ▶ Certain paints can be released from the sealant surfaces during (forced) curing. No more bonding will take place.
- ▶ Zwaluw Hybriseal (2PS) is mostly smoothed with soapy water. Soapy residue should be removed with water or spirits if painting afterwards. To create a gooey layer with dispersion paint a minimum temperature of approximately + 7°C is required. At too low temperatures the paint can crack. This can occur in winter, as the surface of the sealants becomes the same temperature as the glass.
- ▶ The information in the technical bulletins is based on lab results and real experiences. Due to the wide variation of composition of paints and the development of different systems, no absolute advice can be given. For unknown paint systems we strongly advise a tolerance test before use. Den Braven Sealants does not take any responsibility for paintability as this is not part of the sealing process.

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