Paint cracking with acrylic sealants

Introduction

In general acrylic sealants can be painted very well both with solvent based paints as well as water based paints (for instance acrylic latex) although it is possible that the paint film on the acrylic joint can crack. This can be caused by several reasons:

Painting over the acrylic joint too early

If acrylic joints are painted over too early, when the acrylic is not fully cured, water will still evaporate from the joint. Consequently the joints will shrink. Because of this shrinkage the paint film will be elongated and start cracking. If the paint film is less elastic this problem will occur sooner.

Deformation of the acrylic joint

The use of sealants is born from the consideration that the sealant is flexible and for that reason can follow movements in the joint. A hard, non-elastic paint, that is applied on the sealant doesn't have the same property and might show cracks through deformation of the joint. Generally this risk is very low on inside joints as movement of these joints is mostly very modest.

Types of paint used

The composition of the paint can also be determinative for the paint cracking on acrylic joints. Mostly it concerns paints for inside use that are highly filled. Exterior paints and semi-gloss interior paints are in general not susceptible for paint cracking. It is mostly apparent in flat paints and some water based undercoats. Paint cracking can be reduced by applying vinyl / acrylic semi gloss or oil based undercoats before applying the finish coats.

Application at a too low temperature of the substrate

Another reason of paint cracking of emulsion based paints can be that the paint has been applied on a substrate with a too low temperature. Emulsion based paints need a minimal temperature for a good film development. This temperature is usually approximately +7°C. If for instance if a joint on the in-side near a glass panel is painted during winter with an emulsion paint, the surface temperature of the sealant can be too low due to the direct contact with the cold outside glass. So even if the inside air-temperature is high enough (above +7°C) the surface temperature of the sealant could be too low and result in cracking of the paint-film.

Soap contamination

It is recommended to remove, before painting the joint, soap contaminations on the joint that stayed behind after tooling the joint. Soap contaminations can disturb a proper film development during drying of the paint.

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