Paint cracking in acrylic paints

Introduction
Acrylic sealants can be painted over very well both with solvent based paints as well as water based paints (i.e. acrylic latex). However, it is possible that the paint film on the acrylic joint can crack.

There are several reasons for this:

Painting over the acrylic joint when still wet
If acrylic joints are painted over when not yet dry, water must still evaporate from the joint. This will cause the joints to shrink and the paint film will be elongated and begin to crack. If the paint film is less elastic this problem will occur sooner.

Deformation of the acrylic joint
Sealants are used as they are flexible enough to absorb movement from adjacent walls. A hard, non-elastic paint applied to the sealant doesn’t have this property and might show cracks through deformation of the joint. This risk is very low in interior joints as movement of these joints is mostly very limited.

Sensitivity of paint for cracking
The composition of the paint can will determine the paint cracking on acrylic joints. The composition of the paint is important to avoid cracking. This is mainly caused by highly filled emulsion based paints for interior use. Exterior and semi-gloss interior paints not as sensitive to paint cracking.

Application at a too low temperature of the substrate
Emulsion based paints must be applied at a minimum temperature of + 7°C. If applied to colder substrates the paint can crack. When painting an interior glazing joint with an emulsion paint during winter, the temperature of the sealant could be very low due to direct contact with the cold, outside glass. So even if the interior temperature is high (above +7°C) the surface temperature of the sealant could be too low, resulting in cracking of the paint-film.

Soap contamination
After tooling the joint and before painting please remove any remaining soapy residue. This can interfere with correct film development during drying of the paint.