



SEALANTS & ADHESIVES FAILURE TYPES

Adhesive and sealant failure may occur for various reasons. As illustrated in the following images, there are different types of adhesive rupture. Please note that in this document we refer to the term adhesive, however this information also applies to sealants.



Thin Layer Cohesive failure

CAUSE:

- Insufficient pressure upon adhesive application
- Presence of air bubbles in the adhesive
- Assembly time too long
- Presence of moisture between the adhesive and surfaces

CAUSE:

This type of rupture demonstrates that the strength of the adhesive is greater than the structural integrity of the substrate.



Substrate failure



Adhesive to adhesion promoter

CAUSE:

- The time between applying the primer and the adhesive was too long or too short. If too long, this allows contaminants to deposit on the surface of the primer. If too short, there may still be solvent in the primer and this will contaminate the adhesive.
- Poor compatibility between the adhesive and the primer.

CAUSE:

- Wrong choice of adhesive
- Poor surface preparation
- Inadequate press time
- Assembly time too lengthy



Adhesive failure



Adhesion promoter to substrate

CAUSE:
- Poor surface preparation
- Incompatibility between the substrate and the primer

CAUSE:
Material weakness. Repeat the test with a different material.



Stock break failure



Cohesive failure

CAUSE:
Forces or movement applied to the adhesive following application exceed its capacity.

CAUSE:
Possible substrate defect or weakness. Repeat the test with a different substrate.



Light substrate failure

We recommend that before any project, laboratory tests be conducted to observe the aforementioned different types of adhesive failure. We can thereby choose the ideal adhesive according to the specific requirements of each project.