

Punched Holes in Powder Coated Steel

Saginaw Control and Engineering is committed to making sure parts and test panels are found to have 100% adhesion to the steel surface and the coating on our products past the stressed point of the steel. Issues, such as what is shown in the image on the bottom of the page, are found by exceeding the stress point caused from the material stretch and displacement caused from the punch process of an already coated part.



Your Enclosure Source[®]

Steel enclosures and accessories are manufactured from commercial grade (CS or CQ.) This steel is ductile enough to be bent flat on itself in any direction in a standard bending process, but also allows considerable amount of material stretch.

In contrast, the applied polyurethane powder coat is much harder than steel and will allow for a degree of bending but does not stretch.

There are some things that can increase the stress failure point:

- The thinner the steel is the easier it is to stretch while punching.
- Variations in steel tensile strength.
- Variations in coating thickness. – The thicker the coating is, the less ability to bend.
- The combination could possibly increase the potential.

There is no way to control or prevent these factors.

When a hole is punched with a tool such as a Green-Lee punch, the material undergoes a transduce amount of stress bending and stretching the material as it is pulled through the material.

