



## TECH TIPS



### BUMPER MISMATCH

**If your collision repair shop is typical of most, you've probably run into the situation more than once where the customer complains that the color of their bumper doesn't match the rest of the vehicle or you have to explain why blending may be required in order to create an invisible repair that'll match even better than the factory original. PPG helps answer your customer's concern as to why the factory original color doesn't always match the rest of the vehicle.**

To overcome the customer's objections, it's essential to have a good grasp of the underlying causes of why OEM bumpers often don't match the rest of the vehicle. Basically, there are four common reasons for an OEM bumper mismatch.

**1.** A color can vary depending on the substrate on which it is painted. For example, the evaporation rate for solvent varies over metal or plastic. A longer rate gives a flake pigment additional time to "float" and can curved and darken the "face" of the color.

**2.** The body was painted on a production line at the factory, while other parts, such as the bumper and trim, were painted at another location using a different application method.

**3.** Slight adjustments can be made during application creating a lighter or darker color, or causing the metallics or mica elements to lay down differently.

**4.** Light reflects differently on flat surfaces causing the appearance of a color shift.

#### OTHER CAUSES OF BUMPER MISMATCH

Not all bumper-to-body color mismatches can be blamed on the factory and the many variables involved in applying OEM finishes. There are occasions when the body and the bumper are painted at the same time, with the same paint, yet the colors turn out differently. The causes are related to some fundamental differences in the properties of the two substrates. First, unless specially treated, plastics are good electrical Insulators, so they can build up a static charge when wiped down during surface

preparation. If the static is not discharged, it can migrate into the paint film. If the color contains a metallic, the charge can force the metallic flakes apart and change their alignment. The result is a shift in the color or darkening on the "face". The best way to tackle this problem is to make sure any static charge is removed with an antistatic wipe before applying the color. The second major cause lies in the thermal conductivity of the substrates. If you have sprayed solvent onto a metal panel on a warm day, you may have noticed how the panel cools down significantly as the solvent evaporates. The solvent is pulling the heat out of the panel as it evaporates and as a result, speeds up the drying process. This doesn't occur as much with plastic since it is a good insulator. As a result, the same paint may evaporate at a different rate on plastic than metal. This increase in the evaporation time gives metallic flakes longer to "float" in the film which can darken the "face" slightly.