

UNDERSTANDING AUTOMOTIVE & AEROSPACE PAINT COATINGS

NOTE: 1K comes from the term Komponent (i.e. component).

1K Coating vs. 2K Coatings

There is often confusion and misuse of terms when it comes to describing paint coatings. Not only do some people not know the difference between 1K and 2K paints, but some people confuse single stage paints and two stage paints with 1K and 2K. Here are some brief definitions that will dispel the confusion.

1K Coatings

This is a term used to describe a coating that does not require a hardener, catalyst or activator. This term can be used to describe "single-component" paints that dry in the air (whether latex house paint, old school lacquer, enamel or water based paints) and nearly all aerosol spray can paints.

2K Coatings

This describes a coating that needs to be mixed with a hardener, catalyst or activator. Once it hardens it is much less susceptible to damage from chemicals, weather, or UV rays. 2K Aero-Spray paints combine the convenience of an aerosol and the durability of a 2K paint (the activator is in a separate compartment). These are a onetime use item and harden once activated.

NOTE: Typically the term "catalyst" (as in epoxy catalyst) is used separately from the terms "activator" and "hardener" because a catalyst does not have isocyanates.

Single Stage Paints

Used to describe a coating that does not require a clear top coat. A single-stage coating can be 1K or 2K, with or without a catalyst, hardener or activator. Plus, a clear top coat may be used in many cases for enhanced durability or depth.

Two Stage Paints

Describes a coating system that requires both base coat and clear coat. This is more commonly referred to as "basecoat/clearcoat" or "BC/CC". Most base coat/clear coat systems are also 2K coatings, but not all of them are. The base coat provides the color and coverage, while the clear coat, provides all the gloss, depth and protection.