

DBNZ Tech Tip of The Week

Thermoplastic Coatings V Thermoset Coatings

In the Automotive Refinish Industry we use many different types of paints depending on the job at hand, however most of the coatings we use fall into two main groups
Thermoplastic or Thermoset.

*Note: most common plastics can also be described as either being Thermoplastic or Thermoset, so one way to look at the paint coatings we use is they're a "liquified form of plastic"
After the curing process the paint dries to a plastic film.*

What's the difference?

Thermoplastic:

- Even when fully cured thermoplastic coatings remain both solvent and heat sensitive, meaning they will soften under hot conditions and will melt back to a liquid state when coming in direct contact with solvents.
- They are generally easy to apply.
- More flexible and impact resistant.
- Cure with linear molecular chains (*a weak structure, flows with heat*)
- They are generally 1K products that cure by solvent evaporation.
- Examples, 1K primers, 1K clearcoats, alkyd enamels, acrylic lacquer, both solvent and waterborne basecoats etc.

Thermoset:

- When fully cured thermoset coatings are both heat and solvent resistant meaning they will not turn back into a liquid state.
- During the curing process thermosets undergo a chemical crosslinking reaction (*with the added catalyst*) forming a hard, heat and solvent resistant permanent finish.
- They have a strong structure, a network of crossed molecular chains, (*between resin and catalyst*)
- Provide outstanding all-round durability.
- Examples, 2K primers, 2K polyurethane colours, 2K clearcoats, etc.

For customized SOP style documents ask DBNZ to do an ELEVATE version for your paint shop.

This incorporates the products and equipment that are used in your shop to create best practice as set by product TDS, Shop Owners and Paint Shop staff.

This will help to bring the understanding of what standards of repair are to be expected by all parties within the repair process, limit down time and speed up process.

elevate
Reach your business potential

