

Considerations for Selecting a Coating

1. **Viscosity.** How thick does the coating need to be? Decorative coatings are clear and usually thin. Dome coatings have curved domes, which optically magnify and enhance the appearance of a label. Higher-viscosity, thicker resins generally produce taller domes.
2. **Substrate Flexibility.** Flexible substrates, like thin polyester labels, paper, or soft plastics, may require careful selection of coating and enhanced curing equipment. Flexible substrates may bow or warp when thick coatings cure. Soft coatings shrink less and are designed to reduce or eliminate warpage during cure. Rigid substrates don't bend when stressed, so they can be coated with all of the products.
3. **Substrate Adhesion.** Individual formulations may have excellent adhesion to some inks (or substrates) and little adhesion to others. The right coating should have good adhesion. Adhesion should be tested after product lifetime testing, as well as after cure. Inks and substrates from second source suppliers may improve or worsen adhesion. Some plastics require surface treatment to enhance adhesion.
4. **Hardness.** Both soft and hard coatings can be scratch resistant. Hard coatings resist scratching because of their hardness. Soft coatings resist scratching because they momentarily dent and then spring back when the scratching object is withdrawn. Hard coatings are measured on the D-hardness scale. Soft coatings are measured on the A-hardness scale. On both scales, higher numbers imply harder coatings.
5. **Environmental Durability.** Coatings should be lifetime tested on your product. Some properties, like UV weatherability, provide a relative guideline to distinguish endurance of clarity and durability among the available products offered.

Product	Applications	Characteristics	Hardness Durometer ⁽¹⁾	Viscosity (cP)	Relative Weatherability
Dome Coatings					
Light-Weld® 4-20508	Doming nameplates, key chains, and pens	Rigid; scratch-resistant surface; clear; moderate dome	D80	735	Excellent indoor
Light-Weld® 4-20564	Coating small polyester labels, metal, and plastics	Very high dome profile; scratch resistant; clear	D80	6,000	Limited outdoor
Light-Weld® 4-20577	Coating small- and medium-size polyester labels	Clear; soft; flexible; springs back when dented	A70	1,500	Excellent indoor
Decorative Coatings					
Ultra Light-Weld® 4-20638	Coating novelty items such as knives and nameplates	Low viscosity for thin coating applications; high gloss; abrasion-resistant surface	D85	65	Limited outdoor

(1) Durometer Hardness (A = soft; D = hard)