DuraTech Industries

4 Questions to consider when choosing

Label or Overlay Materials

1. Should I use a label or an overlay?

What purpose are you looking to achieve? Are you trying to provide branding identification? Are you trying to communicate something to the user?

Label: Labels typically consist of a base material with pressure sensitive adhesive on the back. An over-laminate can be applied to the top surface for more durability.

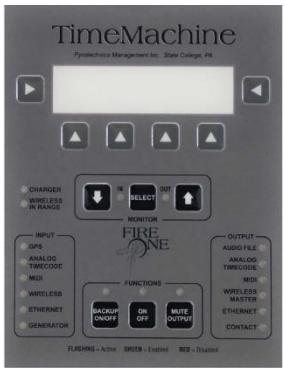
Overlay: A graphic overlay is a part that is produced on a plastic material, typically printed on the back surface to protect the inks, with an adhesive on the backside to affix the part to whatever it will be applied to. It may include the functionality of buttons and a display window. Often times an overlay provides information about your equipment or is part of the human-interface panel.

Label Functions

- Product identification
- Product enhancement
- Brand promotion
- Inform user
- Warn user
- Equipment identification
- Asset ownership/ID

Overlay Functions

- Product identification
- Product enhancement
- Brand promotion
- Inform user
- Equipment control
- Communication



2. How durable of material do I need?

What durability is required of the part? Will it be used indoors or outdoors? Will it be exposed to chemicals or moisture? Will it be exposed to abrasion or impact? What is the temperature range it will experience? What is the surface the part will be applied to?

Benefit by Label Material

Benefits	Polyester	Vinyl	Polycarbonate
Outdoor/UV	With UV over-laminate	With UV over-laminate	UV and weather-able options available
Chemical resistance	Great with over-laminate	Great with over-laminate	Does not require over-laminate
Abrasion resistance	Improved with over-laminate	Improved with over-laminate	
Solvent resistance	Improved with over-laminate	Improved with over-laminate	
Moisture resistance			
Conformability			
High temp range			

Benefit by Overlay Material

Benefits	Polyester	Polycarbonate
Flame retardant		Flame retardant versions available
Outdoor	UV and weather-able options available	UV and weather-able options available
Flex life		
Chemical resistance		
Abrasion resistance		
Solvent resistance		
Moisture resistance		
High temp range		

Vinyl: Excellent choice for curved, uneven, or slightly textured surfaces. Vinyl is less dimensionally stable than polyester, so material can slightly shrink over time or when exposed to heat.

Polyester: One of the most durable of pressure sensitive material. Not as conformable as vinyl, so it is not the best option for curved surfaces.

Polycarbonate: Due to its formability, polycarbonate is the film of choice for many in-mold decoration applications.

Conforming Vinyl

In this example, you can see that the vinyl label conforms very well to the curve, leaving no gap.

Non-Conforming Polyester

In this example, you can see that the polyester label does not conform well to the curve, leaving a gap.

3. What is the desired look of the finished part?

For aesthetics, what is the desired look of the finished part? Materials come in different finishes, and finishes differ by material.

Labels

Vinyl: Available in gloss, semi-gloss and matte versions. Available in white, clear, and a variety of other colors. Vinyl also has excellent printability and can be printed digitally, screen printed, and flexographic printed. It also comes in a rigid or “hard” version that is typically white but also available in limited colors.

Polyester: Available in white, clear and silver(bright, brushed, and matte silver versions). They are supplied with top coated surfaces that allow them to be printable through a variety of methods.

Overlays

Polycarbonate: Materials are available in standard thickness from .005” to .030” and in a variety of finishes. Polycarbonate has excellent color brilliance and remains clear through the range of available thicknesses.

Polyester: Materials are available in thickness from .003” to .010”. Above .010” Polyester becomes less clear. It comes in gloss, anti-glare, and textured finishes and is also available in hard coated options. It has good color brilliance, but not as good as polycarbonate.

4. What about cost and other considerations?

While performance should be the first consideration, if all things are determined to be equal, what is the more cost effective construction? What about over-laminates? Are there any other finishes I need to be aware of?

Label Costs

When it comes to label options, standard vinyl is going to be your least expensive option, then polyester, then premium vinyl.

Overlay Costs

When it comes to overlay options, polycarbonate, though not as durable, is the less expensive option when compared to polyester.

Over-laminates

Over-laminates are applied to the printed surface of the substrate using a lamination process. They provide added durability to parts for chemical, humidity/water, abrasion and/or UV resistance and thickness to the substrate making it easier to handle. Some versions have a writable surface allowing the end user to add information such as serial numbers, bar codes, and variable data. Over-laminates can also change the finish of the part because they come in gloss, matte, and velvet options. Over-laminates are typically polyester, polycarbonate, or vinyl. It is important to consider the substrates being used to make sure the materials are compatible. For example, if a vinyl material is chosen because the label will be applied to a curved surface, applying a polyester over-laminate would reduce the flexibility.

Co-blends

Co-blends are materials that are a blend of two materials used in overlays. One example of this would be a polycarbonate/polyester blend. This would offer the strength and stability of polyester with the cold formability of a polycarbonate. Another example would be an acrylic capped polycarbonate blend. This would offer the printability and processing of polycarbonate with UV resistance and pencil hardness added because of the acrylic. Work with a DuraTech Project Manager when investigating co-blend material options.

Co-polyester

Co-polyester is a specific co-blend polyester material that has been modified by adding other chemicals to it. It has excellent heat and chemical resistance, in addition to excellent clarity and general toughness. It has dimensional stability, is easy to process, and is typically less expensive than polycarbonate material. It is available in thickness from .010” to .060” and comes in gloss and matte finishes.

If you need to discuss any of your overlay or label material needs, click the link below to get a hold of an expert. You can also reach us by phone or any of the other ways listed below.

Ask the experts

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