

Searching for the right materials to ensure your product meets its functional requirements and also catches the attention of consumers? To help you make an informed decision, here are six key questions to consider:

1

What do you want the product to say about your brand?

This question is where every manufacturer must begin. Color choice is a crucial step in branding. Blue tones evoke a feeling of trust and confidence, while orange shades give off a fun and playful vibe. Other enhancements like sparkle and luster catch a consumer's eye. Rich metallic effects contribute to a look of durability and elegance. Beyond these examples of visual aspects, you'll want to factor in how the product's feel and texture will connect with your target audience or end-use application.

2

Does the product need to meet certain specifications or regulatory requirements?

When your product is used in a building and construction application, you likely need to meet certain UL or National Fire Protection Association (NFPA) specifications that address issues like flammability or electrical conductivity. Another common need is controlling for bacteria, mold, and odor in sanitary or wet conditions. The use of antimicrobial products typically require Environmental Protection Agency (EPA) registration, and precautions should be taken when making product claims. Similarly, products used for water handling might require approvals such as NSF 61. Food packaging for meals that are ready to eat would most certainly require that all components are FDA complaint. Most medical devices also require a USP Plastic Class VI designation.

3

In what type of environment will the product live?

Every environment presents its own set of challenges that affect a product's lifespan. Regions in the Southwestern United States are dry and arid, while conditions in Florida and the Southeast are more humid and tropical. In general, outdoor environments are harsh and will quickly degrade most polymers without the proper ultraviolet (UV) stabilization package. If your part is used in an automotive "under-the-hood" application, or perhaps in the oil and gas industry, it is most likely in contact with chemicals. Even products that are used in swimming pools are susceptible to chlorine attack. The impact of these chemicals can be greatly minimized with the proper selection of resin, pigments, and additives.

4

What is your definition of part failure?

Pigments inherently fade, even with the use of a UV stabilization package. Choosing the proper pigment system is critical to your material's initial design if aesthetics are the main concern for the life of a part. Chalking and crazing due to polymer degradation can also change the appearance of the part if it is exposed to UV light without the proper protection. If structural integrity is of paramount concern, then physical properties should be measured. Common physical property tests include Notched Izod Impact and Tensile Testing.

5

What is the expected life of the part?

This is an important consideration when designing materials that meet specifications and deliver desired results. When the lifespan is not clear, there are two potential setbacks manufacturers may experience: (1) Over-engineering the part, wasting valuable money and resources when the applied enhancements are not required; (2) or under-engineering the part, resulting in premature failures that can cause harm to your brand image and customer loyalty. Accelerated weathering or other aging studies might be implemented to help determine how the part will perform over its full life of service.

6

How critical is part-to-part consistency?

A good quality assurance program ensures that parts made today are the same as when they ship in the future. Implementing quality programs to provide the required consistency will help give you a competitive edge.

With these six questions answered, Techmer PM can design the most innovative and cost-effective solution to meet your product's color, texture, appearance, and functional goals.

To learn how Techmer PM can design materials for your application, call 440-385-4300.