Introduction to Nonstick Coatings

Introduction

Nonstick coatings are a dynamic and often confusing category — as much for the consumer as for those who source and buy the merchandise. The explosion of products using nonstick coatings and the number and variety of nonstick coatings now available have made it even more difficult for retailers, whether buying or developing products. There are so many coatings being offered, all claiming various advantages, that it has become overwhelming.

How do you make your selection? How do you know which coating is right for your product? Even if you are not the one who selects the coating, how do you know that you are getting what you are paying for?

In the sections that follow, the Product Knowledge Network provides you with the basic information needed to help you address these questions.

Where are nonstick coatings today?

Over the years, a few manufacturers of nonstick coatings have invested considerably in research and development — and the results have been dramatic. Today 3 out of every 4 pieces of cookware and bakeware sold come with a nonstick coating.

That's right: 3 out of 4.

Nonstick coatings are also used on gadgets and various kitchen utensils as well as on key components of small electrics.

The better, longer-lasting nonstick coatings have proved so superior that they are now used on high-end products. Some manufacturers are offering guarantees on the coatings for as long as the life of the product itself. Nonstick coatings are here to stay. They provide additional features and benefits to a product line as well as enhancing its perceived value.
What are the benefits of nonstick coatings?

Obviously, convenience and ease of cleaning are the key enhancements that housewares products with nonstick coatings bring to the consumer. But there's also the related benefit of saving time in the kitchen for the consumer, meaningful in this day and age where there never seems to be enough time to get everything done.

The health factor is even more important. Before nonsticks, the consumer had to use a lot of oil or butter in a pan to keep food from sticking. With nonsticks, one can use little or no oil, which is of great importance to anyone concerned about diet and health in general.

With all the improvements made to nonstick coatings in recent years, the addition of nonstick to any product can elevate its performance, thus increasing its perceived value.

Are there different kinds of nonstick coatings?

There are two major types of nonstick coatings: fluoropolymer and silicone coatings. They are differentiated by the ingredient used to provide the nonstick characteristic.

**Fluoropolymer Coatings** use any of a number of fluoropolymer resin compounds (principally PTFE) that are solid, non-toxic plastic polymers having inherent nonstick properties. [To learn more about fluoropolymers, make sure to read the PKN course on PFOA.]

*Reasons for use:* Fluoropolymer coatings retain the nonstick quality far longer and, with advances in coating technology, they are far more resistant to wear. Fluoropolymer coatings are primarily used on cookware and small electric appliances.

**Silicone Coatings** use non-toxic synthetic resins that can be applied to specially prepared metal surfaces and bonded to the metal by baking. Unfortunately, they tend to lose their nonstick characteristic sooner than fluoropolymer coatings, and they do not withstand wear very well.

*Reasons for use:* Silicone coatings are cheaper and are primarily used on bakeware and low-end cookware.

Do nonstick coatings have to meet any special government regulations?

There are various regulations around the world with which nonstick coatings must comply. In the US, nonstick coatings must comply with regulations set by the Food and Drug Administration (FDA) and other regulatory bodies. Note: The FDA does not formally "approve" of coatings. Such coatings must comply with the high standards set by the FDA for use with food, making them "FDA-compliant".

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So when you are buying, developing or sourcing your products, make sure the supplier is able to provide you with an FDA compliance letter or other documentation proving the nonstick complies with the FDA, European Union and any other regulations that may apply. In addition, since many brands of nonstick can have several different formulas or series, make sure to confirm the exact one that will be used on your product.

Nonstick coatings have been used by millions of consumers for 60 years. They are totally safe when used as directed.

Summary

- Nonstick coatings have been safely used on products sold at retail since 1960.
- Fluoropolymer and silicone are the two main types of nonstick coatings.
- Convenience, easy clean-up and more healthful cooking are the key benefits of nonstick coatings.