



The new line of improved ceramic nonstick coatings from Whitford

What you should know about new Fusion and the PFOA- & PTFE-free ceramic “nonstick” coating category

Ceramic coatings have been the talk of the cookware market for more than a year. Why has it taken Whitford, supposedly the leader in cookware coatings innovation, so long to bring out a ceramic product?

The answer is simple: Whitford did not want to launch such a product until we had a meaningful product improvement to offer. And now we do with new Fusion.

What Fusion offers over conventional nonsticks

1. It is totally free of any PTFE and PFOA, the two ingredients which, however unfairly, have received negative publicity recently (all ceramic coatings are free of these).
2. Because it is ceramic, Fusion (like others) can be taken to extreme temperatures (850°F/455°C). If for any reason a fry pan, for example, is left on high heat with nothing in it, the coating is far more likely to survive than conventional nonsticks, which begin to decompose slowly at 650°F/345°C.
3. It is entirely waterborne (many conventional nonsticks use some amount of solvents).
4. It cures at a lower temperature, using less energy and saving money.

What Fusion offers over other ceramic nonsticks

There is something not often mentioned by

ceramic-coating suppliers: *most ceramic coatings involve some fairly complicated chemistry that makes them difficult to apply.*

But we have simplified the application process by reducing the number of packs that the applicator must combine. Our two-coat ceramic system needs only two packs for the base- and topcoat, less than the others.

The other ceramics are also two-coat systems. While this is not new and can be handled by most applicators, each coat is made up of several “packs” that must be combined, mixed and “aged” precisely before being sprayed onto cookware. Once mixed, ceramic coatings must be used promptly (they have a short “pot life”).

There can be as many as 3 or 4 packs each for the base- and the topcoat. The cure profile and process-control requirements are more demanding (and therefore subject to error). Improper preparation and application can result in excessive in-process rejects and customer returns.

They require a coater experienced in the application of ceramic coatings.

Ceramics vs conventional nonsticks

In spite of all the positives about Fusion, the fact remains that the nonstick performance of ceramic coatings is still inferior to conventional

nonsticks. And the “green” claims made by some marketers of the ceramic coatings are not entirely honest. So we want to set the record straight on the claims made in the ceramic nonstick category.

The advertising claims

Here are the claims made for ceramic “nonstick” coatings with the facts behind them.

1. Claim: “Contains no PFOA”.

Fact: True, but the implication is that therefore other nonsticks do contain PFOA. Historically, PFOA has been used in small amounts as a wetting agent in making PTFE, the nonstick component of most coatings. However, the PFOA is completely incinerated in the curing (baking) process through which all such coatings pass.

Recently, one extremely rigorous test (which involved scraping all of the nonstick off a coated pan and heating it to extreme temperatures) revealed a trace amount that was one-millionth of the “safe” dose estimated for laboratory animals. That’s the equivalent of one drop of water in an olympic-size swimming pool (the size considered “safe”).

Yet, in all tests conducted under normal cooking conditions of which we’re aware, no PFOA has ever been detected in a PTFE-containing nonstick.

2. Claim: “Ordinary nonsticks contain PFOA”.

Fact: No longer true in many cases. The usage of PFOA has been reduced by 99.5% over the past few years, and will be phased out entirely by 2015. Further, new versions of nonsticks with PTFE have been developed without any use of PFOA. Whitford, for example, offers a full line of PTFE-based nonstick coatings which are made with no PFOA whatsoever. So today there are genuine, proven alternatives to yesterday’s nonsticks — all with the superior nonstick performance compared to the ceramic coatings.

3. Claim: “Contains no PTFE”.

Fact: True, but essentially meaningless. Since its invention in 1938, PTFE has been used extensively in thousands of applications, from medical devices and airplanes to electric cables and cookware, and there has never been a report of adverse, long-term effects on humans.

4. Claim: “Unaffected by temperatures up to 850°F/455°C”.

Fact: Not only false but irrelevant. While the

ceramic part of the coating can withstand this temperature, the silicone fluid (that provides the nonstick characteristic) cannot. It decomposes at around 600°F/ 315°C, leaving the ceramic surface with the nonstick characteristics of a dirty dinner plate. The silicone fluid is also removed by washing in the dishwasher.

The temperature claim is also irrelevant since most cooking instructions recommend cooking on medium heat (no more than 400°F/205°C). Excessive temperatures can destroy food and its nutritional benefits. Even in the extreme case of searing meats, which is usually done at 500-550°F/260-290°C, the meat is seared for only a few minutes.

5. Claim: “The ceramic surface is harder”.

Fact: True, but this can be a disadvantage. The ceramic, which is basically glass, is very hard. However, it wears more rapidly when subjected to industry-standard tests compared with PTFE-based nonstick coatings (Whitford Test Methods 199A and 199D, which include the “Tiger Paw” cooking test, available on request). This is especially true if the surface has been chipped.

Further, all the tests Whitford has performed demonstrate that the “nonstick” property of the best ceramic coatings lasts only about 15% as long as most PTFE-based nonsticks. Put another way, PTFE-based nonsticks provide more than *six times the service life*.

6. Claim: “PTFE can release noxious fumes”.

Fact: True, but only if taken to extreme temperatures (over 650°F/340°C) that would destroy any food being cooked in a pan. Should this happen, the only symptom ever reported is called “polymer-fume fever”, flu-like symptoms that disappear in 12-24 hours with no after effects. Note: There have been only a few reported cases of this in more than 50 years of public use of nonstick coatings.

While new Fusion ceramic coatings are at least the equivalent of any ceramic product on the market today (and superior in the simplified-application sense described above), we will continue our development work to make sure we always offer you the best products possible.

For more information, consult your Whitford representative or contact Whitford directly at sales@whitfordww.com or via the web: whitfordww.com.



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