



Fluoropolymer coating achieves 75 microns/3mils in one cure

General description

Xylan HB (for High Build) answers a problem that has been the nemesis of the liquid fluoropolymer coating applicator since the inception of Teflon® coatings in the middle 1950s. How does one achieve good film integrity at film thickness over 25 microns (1 mil) without having severe problems such as stress cracking, mud cracking, low density, porosity and non-uniformity?

Use new Xylan HB waterborne liquid coatings, which can be applied at films to 75 microns (3 mils) with one cure. Even thicker films (up to 125 microns/5 mils) are possible with longer than normal cure cycles. Depending upon the specific application conditions, the oven ramp-up or flash time should be extended to assure removal of all volatiles.

This product has excellent release characteristics and is a good alternative to PFA powder. Because of its ability to form thick films, Xylan HB is ideal for applications that tend to have rough surfaces such as molds that have been recycled repeatedly, waffle irons or other rough surfaces. Due to its ability to be applied as a thick film, Xylan HB offers extended wear characteristics, simply as a result of the added durability afforded by the thicker film.

Two Xylan HB systems are available to suit different end-use applications. One system is an FDA-compliant, two-coat (primer + topcoat) that is ideal for industrial bakeware applications. The other system is a three-coat system (topcoat applied to wet midcoat) designed to maximize dry-film thickness (DFT) in applications such as reprographic fuser rollers.

Xylan HB is an optimized system. That is, the primer has been specifically formulated for use with the HB topcoats. We strongly suggest that, when Xylan HB is considered for a specific use, it be used in combination with the recommended primer to avoid application problems. The primer requires a brief flash off prior to applying the topcoat.

Substrate information/preparation

Xylan HB can be applied to aluminum, especially cast aluminum. The parts should be grit-blasted thoroughly prior to applying the primer.

All parts should be free of dirt, oil and other soils to achieve good adhesion and defect-free coatings.

Application instructions

Using Whitford's new Xylan HB is different from what you might be accustomed to. Here are a few processing tips that might help.

1) When setting up the guns to give a typical wet film (as is common in the industry), Xylan HB provides twice the usual DFT. Therefore, instead of giving 4 passes of the gun, 2 might be sufficient; however, a test panel should be sprayed first to determine proper gun settings for the desired film thickness.

If using an automatic spray gun, this should be easy to control; however, if using a hand-held spray gun, extra care should be given to the DFT.

2) At a DFT over 3 mils/75 microns, it is necessary to slow down the oven heat-up ramp; exactly how much additional time will need to be determined on line. For industrial bakeware, however, it is likely that this will NOT be an issue.

Please refer to the Whitford Product Data Sheet for application information or contact your Whitford representative for more information.

Typical physical constants

See reverse side.

Other information

Whitford makes the largest most complete line of fluoropolymer coatings in the world. Whatever your problem, Whitford probably has the right product to solve it. If not, we will work closely with you to develop a coating that will.

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Whitford

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Optimal Physical Constants for Xylan High Build

These values are ideal for the materials listed. They will vary slightly depending upon the specific color chosen, but may be used to estimate usage amounts. They are not meant to be used to set specifications.

<u>Constant</u>	<u>Primer</u>	<u>Topcoat</u>
Solids, weight:	23.57	46.66
Solids, volume:	13.98	30.06
Density:		
Pounds/gallon	9.37	10.98
Kilograms/liter	1.13	1.32
Coverage at 25 microns/1 mil:		
Square foot/gallon	224.26	482.09
Square meter/kilogram	4.97	9.12
Viscosity:	20-30 second Zahn #2	20-30 second Zahn #2
VOCs:	2.88 lbs/gallon 345.74 grams/liter	1.50 lbs/gallon 180.07 grams/liter



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