

# New Xylan® XLR Hi-Build

## Better, longer-lasting release for commercial bakeware

The Xylan XLR Hi-Build revolutionary coating system combines two of Whitford's proprietary technologies:

- Eterna Technology (XLR)
- Hi-Build Liquid Technology (HB).

### Advantages

Xylan XLR HB enables processors and end-users to achieve up to 2X the Dry Film Thickness (DFT) achievable with Xylan XLR. On a flat panel, the maximum DFT of XLR HB is about 70 microns. In the field, customers are achieving up to 50-70 microns (roughly 2-3 mils) compared

to around 25-35 microns (1-1.5 mils) with Xylan XLR.

In many industrial bakeware applications, powder coatings are used to achieve DFTs of around 75 microns (3 mils). Whitford is the only supplier that offers a super high-release liquid coating that comes

close to matching the typical DFT of powder coatings in one cure cycle.



*Xylan XLR Hi-Build doubles the film thickness of Xylan XLR as it improves the release.*

### Benefits

The higher DFT of Xylan XLR HB has been shown to improve longevity of release in bakeware applications where it has been tested, thereby providing additional value for the end-user. In some applications, it has replaced two topcoats of Xylan XLR, providing additional value for the processor.

### Primers

The choice of primer is very important. Xylan XLR must be paired with a highly reinforced primer. The Xylan 17-180/D9916 primer works well and is an ideal partner for the Xylan XLR HB topcoat.

### Processing

Xylan XLR HB requires a flash-off, followed by a gradual ramp-up in temperature to remove volatiles prior to baking at the ultimate cure temperature. Of course, the DFT will increase as more liquid is applied; however, in these cases it becomes increasingly important to allow enough time for volatiles to escape during ramp-up.

In some cases when oven temperatures change quite rapidly, a brief holding step at 200°C/390°F proves helpful. Very rapid temperature ramp-up times occasionally result in slight surface roughness and the appearance of small tears and/or cracks that are visible with a sharp eye or magnifying glass. A good cure has been achieved if the part has a smooth appearance and feel.

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## Xylan XLR Hi-Build Application Recommendations

### Pretreatment

- Recommended pretreatment is grit-blast (Ra > 2.5 microns) to give good adhesion.
- Products should be mixed by rolling for 10-15 minutes at 30-40 rpm until any solid material on the bottom has been eliminated. Avoid mixing for prolonged periods.
- Filter material through a 150-micron sieve cloth.

### Application of Primer

- The recommended primer to achieve high dry-film thickness is 17-180/D9916.
- Apply primer to cover just the substrate. Avoid excess wet film to prevent sagging of the primer. The dry-film thickness is 7.5-12.5 microns (.3-.5 mils).
- Primer must be uniformly dry in order to prevent blistering.

### Application of Topcoat

- Spray technique in the laboratory involves the use of a Devilbiss GTi HD spray-gun with an air pressure of 3 bar (44 psi) to atomize the coating.
- The gun is held about 15-20 cm (6-8 inches) away and as close as possible to a right

angle to the surface. The coating is applied wet and even. If the coating goes on dry, it causes a rougher surface finish. Several passes may be required to achieve maximum dry-film thickness.

- Recommended total dry-film thickness is 15-70 microns (0.67-2.75 mils).
- It may be possible to achieve a higher thickness by applying multiple coats with a drying stage in between. This technique has been used to avoid sagging of the wet coating on the sides of deep tins. The intermediate layer is flashed off at 100°C/212°F for 5-10 minutes and cured at 315°C/600°F for 5-10 minutes prior to allowing to cool and application of the final coat.
- Topcoat should be flashed off at 100°C/212°F PMK (Peak Metal Temperature) for 5 minutes.
- Cure schedule is 400°C/750°F PMT for 15 minutes.
- Note that the slower the rate of heat-up and the longer the dwell time, the better for achieving higher film builds and optimum release properties.
- Allow coated parts to cool slowly to room temperature. Do not quench.

*For more information, please contact Whitford at [sales@whitfordww.com](mailto:sales@whitfordww.com) or visit us on the web at [whitfordww.com](http://whitfordww.com)*

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