



*Innovative Tooling Materials for Thermoforming*

**CMT MATERIALS, INC.**

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### **TEFLON COATING of HYTAC® Products**

Some thermoformed plastics, such as laminates with low melting temperature surface layers, are especially difficult for plug assist thermoforming. When plug materials such as HYTAC-WFT still do not release the plastic adequately and material build-up on the plug is a problem, a coated plug assist with XYLAN 1010 from Whitford Corporation is recommended. XYLAN 1010 has the best combination of low temperature cure, release properties and abrasion resistance for coating HYTAC products for thermoforming applications. XYLAN 1010 is available in many different colors with medium green and black most often the most readily available (color does not indicate the type of coating).

For coated plugs, we recommend HYTAC-FLX or HYTAC-WF as the base plug material. These two products will result in the smoothest surface prior to coating and therefore reduce the potential for mechanical attachment. Surface polishing of the plugs prior to coating should be performed to provide a smoothness of less than 3 microns Ra. After polishing, extra care must be used to remove the polishing debris left in the microsphere cavities at the surface. Applying an adhesive backed transparent tape to the surface and pulling it off will show debris on the adhesive if still present.

The XYLAN 1010 must be applied to the clean surface of the plug assist. A coating thickness of 20 microns is recommended and a cure temperature not to exceed 350°F is needed. The 350°F cure temperature is extremely important.

Following cure, the coating must be polished to obtain the best results. Polish by hand with a 2000 grit wet/dry sand paper with soapy water. This will smooth the XYLAN surface the easiest, fastest and best. We looked at the surface after this treatment with a 10X eyepiece and it is much smoother than when we started and much smoother than when buffed with microfinish compound without sanding.

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After the sanding, you can buff with the microfinish compound and lambs wool pad to a high gloss. Polishing to a gloss will result in cold flowing the XYLAN coating and providing an excellent release surface.

There are experienced coaters for XYLAN available throughout the USA. They can be found by calling Whitford Corporation (610-296-3200).