



HolograPEEK® XL Compliant Roll Covers Machining & Mounting Suggestions

FIRST CONSIDERATIONS

HolograPEEK® XL roll covers are mounted on steel mandrels. The mandrels should be machined to their final OD with a tolerance of ± 0.001 ". A smooth finish of 16 microinch AA is suggested for the mandrel.

After the mandrel has been machined and the proper interference determined, the HolograPEEK® XL cover should be bored to its final ID with a tolerance of ± 0.0015 ".

The recommended assembly interference is .006 inches per inch of mandrel diameter. For example, for an 8" mandrel, interference would be .048". The HolograPEEK® XL roll cover would need to have an ID of 7.952".

MOUNTING THE ROLL COVER

Once the cover has been machined, it should be heated up from room temperature in a circulating air oven. We suggest that the oven temperature be raised to 450 F over a 90 minute period, or roughly 5 F/min.

Then the HolograPEEK® XL cover should be held at 450 F temperature for two hours. After this soak, the HolograPEEK® XL cover should be carefully removed from the oven and slipped over the mandrel.

Wrap the assembly completely in insulation and allow it to cool slowly for 16 hours (overnight). Remove insulation and examine the assembly to be sure the mounted cover is firmly on the mandrel.

FINAL MACHINING

The Machining Guidelines previously referenced must not be exceeded during final OD and face machining since the cover now is subjected to assembly stresses. For example, do not take deep cuts on the mounted cover.

To compensate for the cover's axial growth during operation, a gap should be left between the cover ends and the retaining collars. This gap can be calculated using the expansion coefficient of the material.

GENERATING SMOOTH FINISH ON HolograPEEK® XL COMPLIANT SLEEVES

HolograPEEK® XL compliant sleeves can be polished to a 2 micro inch finish. A sequence of progressive steps with finer sand papers is used. Polishing and refinishing can be accomplished using hand sanding techniques, although better results are obtained using a superpolisher similar to a GEM 04150-M Superfinisher available from Grinding Equipment & Machinery Co, Inc., Youngstown, Ohio (www.gem-usa.com). The methods are basically the same as used with other hard polymer covers.

Professional Plastics does not have in-house roll mounting capability or in-house polishing expertise. This information is offered without charge as a part of our service to customers, but we cannot guarantee favorable results from use of this information. It is intended for use by persons having technical skill, at their own discretion and risk. Professional Plastics warrants only that the material itself does not infringe the claims of any United States patent: but no license is implied nor is any further patent warranty made.

For additional assistance, contact Professional Plastics, Inc. at (888) 995-7767