Barnes **Technical Data Sheet**

Product Name

TIPS FOR POLISHING WATER CLEAR POLYURETHANE PARTS

Product Description

To achieve the best finish possible on water clear urethanes, a post-cure is required regardless of the part size. Follow the instructions provided on the data sheets for post-curing operations.

The surface condition or your part will dictate where you are to begin finishing and will determine the grit of sandpaper required. To finish/polish a machined part (milled, saw cut or lathe turned finish), begin with the finest grit sandpaper possible to produce a flat surface free of tool lines or steps. 800 grit wet/dry sandpaper will provide a good place to start. Use a hard, flat acrylic or glass block. Rubber blocks or your hand may cause unevenness and will provide a wavy surface on the final polish. Take extra care to maintain an even surface if you are working with a curved or rounded part or are hand sanding.

Soak sandpaper in water prior to sanding to soften. Add a small amount of detergent to a spray bottle or bucket with water to lubricate while sanding (keep the surface wet). This mixture will avoid loading the sandpaper. Begin sanding in one direction only until surface is flat and uniform in appearance without noticeable tooling step lines or defects. If you find the defects are too deep and are difficult to remove, you should switch to a heavier grit sandpaper. Continue sanding with finer grits, i.e. 600, 800, 1000, 1500, 2000. Rotate 90 degrees each time you change grits. Continue to sand across the last completed grit area. This step will assist you in perceiving the previous lines, and when they are gone you may move to the next grit. When you reach the 2000 grit paper, you should be able to note a slight shine to the surface.

For smaller parts you can continue to work through to the 12,000 grit in our Micro-Mesh range of padsets and sheetsets if desired, prior to polishing compounds. These extremely fine pads are used in the same manner as wet & dry paper, keeping them wet with a small amount of detergent added to the water.

Once all sanding flaws are removed, proceed with the polishing compounds.

There are many commercially available compounds for plastics on the market. Barnes' offers Stonecoat Polishing Compound and Cleaner and Micro-Mesh Polishes.

High-speed buffers tend to work well on metals but will burn plastics quickly. Lower speeds perform better, and the heat build-up can be controlled. Finishing with a foam buff pad tends to provide better results than with the use of traditional wool or cotton.

Care must be taken not to allow the surface to become overly hot, causing tearing of the polyurethane surface. You must also apply any polishes and cleaners with a cloth, pad or brush that will not scratch the surface.

A good tip is to finish with a spray or application of anti-static spray.

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