



Engineer's Guide to Paint Masking Details

There are four important questions to be answered in the application of liquid coatings (including decorative coatings and textures, ESD Coatings, and EMI/RFI coatings):

- Where is the coating **required**?
- Where is the coating absolutely **NOT** allowed?
- What is the tolerance **between** the two areas noted above?
- What are the production volumes?

These answers are critical in designing effective masking for success. Central Coating has multiple options, and years of experience, to help guide you to a positive outcome with your product. These few details will help in your decision-making process:

- Masking **exactly** to an inside or outside corner is difficult; allow for a margin of 0.015" - 0.060" depending on geometry.
- Through holes can be plugged, blown through, or masked with a margin. A mask around through holes should allow for 0.030" - 0.060" larger than the hole diameter.
- Bosses are generally capped 0.030" - 0.060" down from the top surface, alternatively or selectively we can mask threads and coat the top of the boss.
- Narrow flanges, perimeters or ribs should be at least 0.050" wide, and not subject to bowing or flexing; we typically require half of the detail thickness for effective masking; min. 0.030".
- In general, flexible, thin wall parts with delicate features should be reviewed with our engineers for feasibility.
- Deep, narrow spaces are difficult to fully coat with accuracy and even film builds.

Each part is unique, and may require a combination of solutions. Prototype and low volume projects have differing masking solutions. Masking that is effective at the initiation of a project may prove inadequate as volumes increase.

Whether simple masking tape, plotter cut masks, die cut adhesives, standard and/or custom RTV plugs, plastic caps, machined/3D printed lay-on fixtures or rugged electroformed hard tools, we always have a cost-effective solution.

We welcome involvement as early in the design process as possible but can respond effectively at **any** point in your product design cycle.