



In-Mold Decorating



Cost Effective and Durable

Because the in-mold decorating process can eliminate the need for label overlay application, it can be a more cost-effective method of decorating functional parts. Another advantage for using this process is the option of a protective or textured surface that is created when the printed overlay is bonded with the molding resin. A second-surface molded part is not only more durable than a first-surface pad printed or paint and laser etched part, it will remain in place for the life of the part. This application is an excellent choice for decorative parts that contain a lens or viewing window.

With a variety of material textures available and an endless array of colors, to choose from, OEMs, molders and decorators can create the custom look they want while still producing a functional and durable product.



IMD FORMING GUIDELINES

Undercuts are not possible

Draft angles

- 3° minimum, 5° preferred for perimeter of part
- 1.5° minimum, 2° preferred for internal holes

Radii recommendations

- 1x material thickness for inside radii (inside of bend)
- 2x material thickness for outside radii (outside of bend)

Openings (internal holes)

Form film at least half way down opening to improve registration in mold

Trimming Assistance

Form in a flat flange to aid in top down trimming (avoids use of side action tooling which can be more expensive)

Draw Limitations

Varies by type of forming

IMD MOLDING GUIDELINES

Use one gate whenever possible

Gate from thick to thin to avoid race tracking and venting issues

Prevent resin wrap around with gating techniques

- Extend film into gate as a tab
- Have the gate enter below the P-Line

Use correct gate type for application

- Sub, tunnel or hot drop into a rib or other feature when possible
- Fan gates are popular for lenses; make as wide as possible
- Direct hot drop or "puddle" gates can help "pin" film insert in place; may require secondary trim operation

Use indirect runner systems

Direct flow toward vents

Minimize flow restrictions near gate

FILMS FOR IMD

Polycarbonate

- Excellent formability
- Variety of finishes/textures/hardcoats
- Multiple gauges available

Acrylic

- Improved UV resistance over PC
- Up to 2H pencil hardness

Polyester

- Excellent chemical resistance
- Limited formability; n/a in gauges > 10 mil

Blends/Laminates

- PC/PET, textured, limited gauges, minimums
- PC/Acrylic, large minimums, longer leads

Polypropylene/Copolyester/PVC

- Lower cost, lower standard alternatives
- Custom orders most instances

COST CONSIDERATIONS

Thickness of material

Standard matte/pre-textured finishes vs gloss

Chrome or specialty looks/finishes

Preformed vs flat

MAXIMUM FORMING SIZE

Maximum draw depth of 1.38"

Maximum draw area of approximately 14" x 16"

