DuraTech Industries

Forming

Turnkey Product
From a flat applique to a formed and trimmed part, DuraTech Industries has the turnkey graphic product for those who want one source for their complex 3D IMD projects.

Precise Process Control
This high pressure forming process is a hybrid of thermo, vacuum and hydro forming. The equipment has the ability to hold the tightest registration tolerance on graphic placement that is repeatable part to part, run to run.

The dedicated line of registration hole punching, forming and trimming equipment ensures that the most streamlined processes are being used to control costs and expedite production.

DuraTech works closely with product development specialists on all tooling in the prototype stage so when product development is complete you can be assured of a successful production run.

This process is ideal for automotive gauge clusters, consumer electronics and appliances including parts that have transparent windows or graphics, as well as other applications requiring tight graphic registration.

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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

DESIGN CONSIDERATIONS

Avoid graphic placement near high stress areas

Inks and hardcoated materials can suffer failure in high stress areas

3D formed graphics typically require additional manufacturing steps to pre-distort the graphics prior to printing and forming

TOOLING CONSIDERATIONS

Forming tool

Match Metal 2D or 3D trim tool

Trim tool

FILMS FOR FORMING

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

MATERIAL THICKNESS

.007" to .030"

MAXIMUM FORMING SIZE

Maximum draw depth of 1.38"
Maximum draw area of approximately 14" x 16"

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