

# IMD

## The Green Choice

### IMD—The greenest choice

Given industry's heightened awareness of its environmental impacts, many companies are looking for green choices for printing on their molded resin parts and products. Though each labeling method has its advantages, as a sustainable choice, in-mold decorations (IMD) wins—not for what it adds to the project, but for what it eliminates.

In-mold labeling differs from other methods because it adds the label at the front end of the molding cycle instead of afterward. An in-mold-decorated part ejects from the molding machine with its label embedded into its wall. Nothing more is needed to make it ready to use.

All the other labeling methods, such as wet glue applied, heat transfer, pressure-sensitive, and shrink sleeve, apply a label onto the surface in an additional post-mold step. They also use additional equipment, such as flame treaters, post mold printing presses, wet or hot-melt gluing operations, heat tunnels, accumulators, and post-mold label applying and inspection equipment.

Without that secondary step, IMDs let you reduce floor space, labor, materials, and energy used. Furthermore, pressure sensitive labels and thermal transfer labels require a release liner, which adds to the waste stream. An IMD operation typically operates at a scrap rate far below other labeling methods.

In addition, with IMDs you can reduce the amount of resin used because the label displaces resin by an amount equal to the thickness of the film insert. On a part with a wall thickness of 0.080", using a 0.010" film insert, the resin savings would be roughly 13%. Sometimes, the IMD becomes the entire content of a wall section without changing the part's structural integrity.

You apply all other labels onto the outer surface of the container, which adds weight. IMD's lower weight makes transportation costs go down.

In addition, other labeling methods may not permit you to recycle the finished part if the label and substrate are not the same material. Oftentimes, IMD film composition can match what you use for molding resin. Sometimes you can even use biomaterials or recycled content materials for the IMD resins. The use of newer energy-efficient injection molding equipment also increases sustainability.

The same advantages of IMD that reduce costs also improve its greenness:

- Save costs and improve yields with integrated components
- Eliminate post-mold labeling processes
- Minimize waste and spoilage (scrap) costs

Using IMDs has proved to keep energy costs low, use fewer materials and less equipment, and reduce disposal costs compared with other labeling methods for molded resins. DuraTech can guide you through the process of designing an IMD that most meets your needs for a more environmentally sustainable part.



[www.duratech.com](http://www.duratech.com)

Rev. 10/11



## **Guidelines for Creating Computer-Generated Artwork**

1. Convert text to outlines.
2. Do not add lines around dimensioned window or objects. It changes the overall size of the image dimensioned.
3. Do not use type smaller than 5 point as these can cause printing issues. Typestyles with serifs and varying brush strokes can cause copy to print incomplete.
4. Minimum line thickness of .005" (both in positive and negative form). For optimum print quality a minimum of .010" line thickness is preferred .
5. An electronic copy of the type font (printer and screen) should accompany each art file.
6. Use color in the art file for quick reference.
7. If art file is in kit/combo/set format, see "Kit/Set Guidelines" for further information.
8. The following file formats are acceptable:

### **Graphics file format**

Adobe Illustrator (MAC/PC)  
Adobe Photoshop (MAC)  
Macromedia Freehand (MAC/PC)  
AutoCAD (PC)  
CAD (PC)  
CADKEY (PC)  
CorelDRAW (PC)  
Encapsulated PostScript (MAC/PC)  
Micrografx Designer (PC)  
Micrografx Draw Plus (PC)  
Microsoft Excel (PC)  
Tag Image File Format (TIFF) (MAC/PC)  
Windows Bitmap (PC)  
Windows Metafile (PC)  
WordPerfect Graphics (PC)  
Corel Designer  
SolidWorks

### **Filename extension**

.AI  
.PSD  
.FH (illustration), FT (template)  
.DXF, .PLT, .DWG  
.IGES (3D Models only), .PRT  
.PRT  
.CDR  
.EPS  
.DRW  
.DRW  
.XLC  
.TIF  
.BMP  
.WMF  
.WPG  
.DES  
.SLD

### **Text file formats**

ASCII text  
Rich Text Format (RFT)

### **Filename extension**

.TXT  
.RFT

If you do not see your file format listed, please contact the art department.

## DuraTech Art Services

---

like it to be provided on a computer CD or e-mailed to the art department. The program we use most often is Macromedia Freehand. For a complete list of MAC and PC formats supported, please refer to page 2 of this document. If artwork is not available in electronic form, we have high resolution scanning capabilities to accommodate hard copy artwork.

### Prints

DuraTech can create blue prints for customer who do not have access to making prints. These are used for graphics and construction approval and as an engineering reference.

### Proofs

Proofs are generally sent in PDF format via e-mail. Other electronic formats can be provided upon request. Hard copy proofs on film or paper can also be provided upon request.

### Quality Assurance

Artwork is inspected using a .010" graduated steel ruler.

### Design Services

DuraTech also offers full design services for your overlay projects. We have a highly trained professional staff available to work with your engineering or marketing department during the design phase of a project.

### Language Translation

We have a fully-bonded language translation service available to translate (from English) to any language. Typesetting the foreign language is also available.

### ANSI

DuraTech can work with you on your ANSI (American National Standards Institute) needs. We have many symbols already on file. An ANSI catalog is available for purchase at : American National Standards Institute at 212-642-4900.

### Special

Four-color process and gradient patterns are some of the special effects that are used to achieve unique designs. If existing parts use a dot pattern, a printed sample is desirable to match dot pattern.

### File Management / Storage

DuraTech electronically stores all art files of current parts. A copy of your art is available to you upon request.

### Other

If your art-related requirements are not on this list, please contact our art department or your customer service representative for further assistance.

## COMPUTER COMPATIBILITY LIST

### MACINTOSH COMPUTERS

Power Macintosh G4 (11)

### PC COMPUTERS

Gateway 2000 E-3110 (3)

### MACINTOSH SUPPORTED SOFTWARE

Macromedia Freehand –11

Adobe Illustrator—CS3, CS4

Adobe Photoshop—CS3

### WINDOWS 95 SUPPORTED SOFTWARE

Corel Draw—12

Corel Designer

Micrografx Designer Suite 2

Adobe Illustrator—CS3, CS4

AutoCAD Lt 2009

Rhino (CAD)

SolidWorks

### ACCEPTABLE MEDIA

CD

File transfer via e-mail (Preferred method)

Internet mailbox addresses: [artwork@duratech.com](mailto:artwork@duratech.com) or [sarah.gabel@duratech.com](mailto:sarah.gabel@duratech.com)

[www.senditglobal.com](http://www.senditglobal.com) for large files

### OUTPUT DEVICES

Hewlett Packard Laser Jet 5000N

Xerox

Dolev 800V Imagesetter

### SCANNING EQUIPMENT

Microtek Scanmaker i900

For more information or questions contact Sarah Gabel, Art Director at Ext. 299.