



# Tooling Package Requirements

## 1. BLUE PRINT (Paper, Gerber, HPGL, PDF, Film Plot, or Autocad. No Fax)

The blue print and purchase order are the “controlling” documents for the entire tooling package.

*Note: The “blue print” can consist of a “drilling drawing” and detailed “readme” file.*

The blue print should include the following:

- A. Profile dimensions and tolerance for the board.
- B. A hole to board edge dimension in 2 axis
- C. A list of finished hole sizes and hole size tolerance.
- D. Material type, thickness, and FINISHED copper weight.
- E. Any applicable acceptability specifications.
- F. Solder mask color, type, and number of sides.
- G. Surface finish; (SMOBC, White Tine, Electro less Nickel/Gold, etc.)
- H. Silk screen/Legend color and number of sides.

## 2. ARRAY DRAWING (Paper, Gerber, HPGL, PDF, Film Plot, or Autocad. No Fax)

If the board is to be supplied in ARRAY FORM, the blue print or a separate array drawing should have the following ADDITIONAL information.

- A. Profile dimensions and tolerance for the array
- B. Array edge to board edge (or hole) in 2 axis and orientation of pieces in the array.
- C. Dimensional location, size and tolerance of array tooling holes.
- D. Dimensional location and size of array fiducials on copper and mask layer.
- E. Break away slot detail and holding tab locations OR, scoring cross-sectional detail.
- F. Number of “X outs” allowed per array.

## 3. ARTWORK (Gerber RS274X, Gerber, or Film)

Gerber RS274X is the preferred format. Gerber RS274X has the apertures and formatting imbedded within the file, which reduces translation/interpretation errors. Standard gerber files require a separate aperture list. Film plots will be used as received.

## 4. DRILL DATA (Excellon format ASCII data)

Paper coordinate lists and “Bomb Plotting” are to be avoided.

## 5. ARTWORK APPROVAL

Customer Artwork Approval is strongly encouraged to ensure proper interpretation of the data received. It is not intended as an approval of line widths, pad sizes, etc. The intent is to ensure that all layers are present, requested merges are properly interpreted, acceptable LOGO and Date Code location, etc. This approval **DOES NOT** exempt American Standard Circuits from responsibility for properly processing the data.

## 6. EXCEPTIONS

It is our intent to inform our customers as to what is needed in order to produce a quality product as efficiently and cost effectively as possible. ASC is aware that circumstances may dictate that these requirements be flexible in order to meet out customer’s needs. However, we ask that our customers appreciate the need for a complete tooling package. Delivery and pricing may change upon Engineering review of the complete tooling packages.