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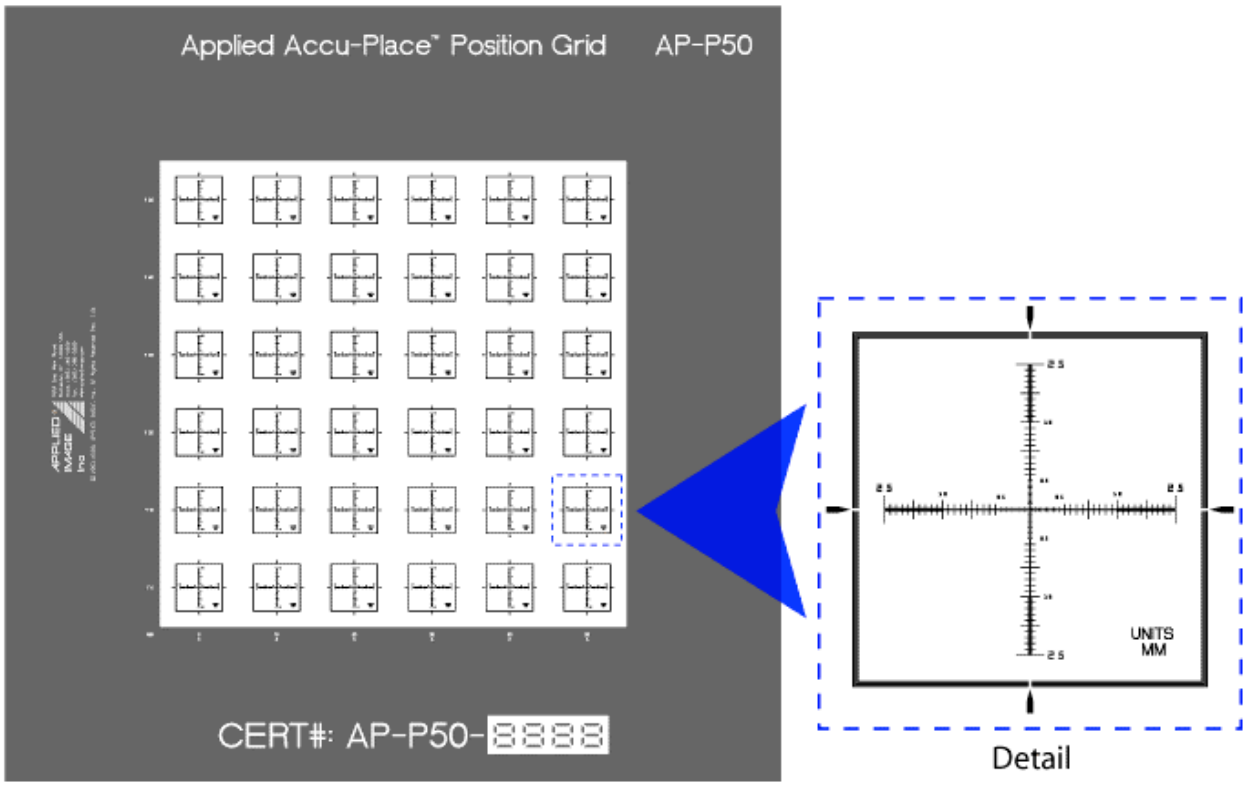
AP-P Accu-Place™ Position Grid Product Specifications

APPLIED IMAGE Inc

Catalog Part No: **AP-P50-P / AP-P100-P / AP-P200-P / AP-P300-P**
Product Name: **Accu-Place™ Position Grid**
Drawing / Photo of Part:



The above image is an approximate representation of the actual product.
Specifications are subject to change without notice.

Description: This family consists of four different size parts:
AP-P50, AP-P100, AP-P200, AP-P300

Substrate Sizes: 100x100mm, 125x125mm, 250x200mm, 350x200mm

Substrate Type: Soda-lime Glass or Opal Glass. Note: White vinyl backing may be applied to back of transparent parts to enhance reflection use. (Extra charge applies.)
Part Number suffix specifies the material:
CG = chrome glass; OP = Opal Glass;
Because this image has very narrow line widths (6µ), this part is not available on photo film or photo paper as a standard item.
NOTE: If you are interested in film or paper versions, please inquire. Material availability varies and we may be able to accommodate you.

Image Forming Material: Chromium
Image Description: Precision crosshair scale patterns placed in a grid format. The scale pattern is 5mm long in both the x and y-axis. The centermost section of the cross hair extends to 1mm with 25micron divisions, and has a base line width of 5microns. The next section extends to 3mm and has 100 micron divisions and a base line width of 25microns. The outer portion of the cross extends to 5mm, has 100micron divisions and has a base line width of 50 microns. The base line width varies so that users with more or less magnification can find the cross pattern more easily and so that an auto-focus system has a clearer initial line to work with.
Image pattern sizes are as follows.

PN: AP-P50-P-xx
Image Centers: 50x50mm, 10mm pitch, 6x6 array, 55x55mm overall image size

PN: AP-P100-P-xx
Image Centers: 100x100mm, 10mm pitch, 11x11 array, 105x105mm overall image size

PN: AP-P200-P-xx
Image Centers: 200x150, 10mm pitch, 21x16 array, 205x155mm overall image size

PN: AP-P300-P-xx
Image Centers: 300x150mm, 10mm pitch, 31x16 array, 305x155mm overall image size

Polarity: Positive (opaque or black crosshairs on clear field)

Reading Direction: Right Read Chrome / Emulsion Up (RRCU / RREU)

History / Typical Use: Checking accuracy of various manual and video measuring instruments for size and position.

Image Contrast / Density: high contrast, optical density 2.0 or higher (chrome);

Image Placement Accuracy: 0.002 mm per 100 mm at 68 degrees F (20C).

Image Placement Linearity (point to adjacent point): 0.001mm distortion max.
Note: Accuracy is affected by plate flatness and temperature.

Typical Soda Lime Glass Flatness:
Standard Plates up to 175mm x 175mm; better than 10µ for any 100mm x 100mm area.
Standard Plates larger than 175mm ; better than 10µ for any 100mm x 100mm area and a maximum bow of 200µ.

Material Notes:
-Thermal expansion coefficient of soda-lime glass is 0.0000045- 0.0000052 inch/inch/ deg. F.
-Flatness of Opal material may vary.
-Specifications reflect standard off the shelf materials.
-Improved materials are available on special order.
-Plates are imaged with the back surface held by a flat vacuum platen. This generally causes the plate flatness to be better than when it is in the free state. The point to point length change from a plate in the flattened state compared to a bowed state is approximately:

Typical length change of glass plate due to plate bowing;

Length	10µ	100µ	200µ	400µ	Bow
100mm	0.002µ	0.2µ	0.8µ	3.2µ	
200mm	0.001µ	0.1µ	0.4µ	1.6µ	Length
300mm	0.0007µ	0.07µ	0.27µ	1.1µ	Change