HOW TO SPECIFY

FIT THE TUBE
Knowing the diagonal and spherical radius dimensions of the tube used, refer to Table 1, which lists all standard Video/Filter dimensions. Select the "Video/Filter Dimension Code" from Column 1.

DETERMINE MATERIALS AVAILABLE
Next, refer to Columns 9 and 10 of Table 1. These columns list the materials which are capable of being thermoformed using standard tooling for the particular Video/Filer Dimension Code selected.

SELECT FILTER COLOR AND THICKNESS
For the colors and thicknesses available in each material and the spectral transmission curves for each color, refer to Product Information 065. Make your selection of color and thickness for the material of your choice. Always specify the lowest thickness for a particular color and material.

ANTI-GLARE TREATMENT
The standard is steel wool abrasion and chemical resistant Vueguard 901® anti-glare treatment.
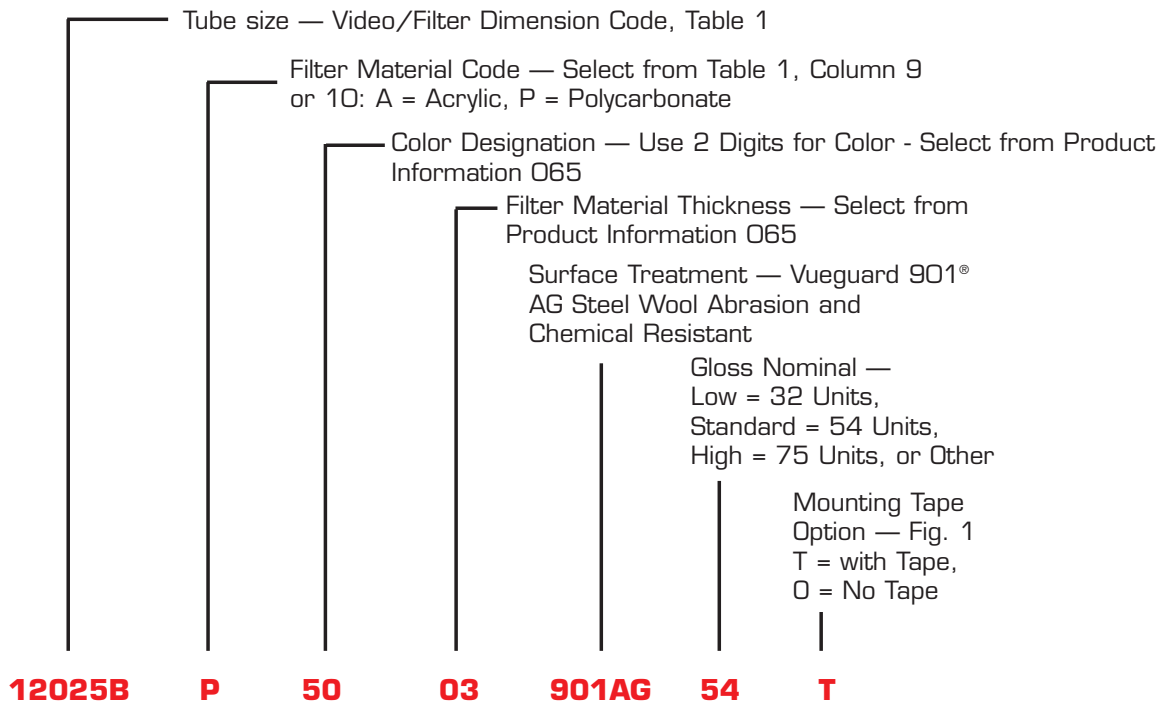
DEGREE OF ANTI-GLARE TREATMENT — GLOSS
The gloss level indicates the degree of the anti-glare finish. The most common or standard gloss is 54 ± 6 units. Low gloss is specified at 32 ± 6 units and high gloss at 75 ± 6 units. Other gloss levels may be specified.

MOUNTING TAPE
If transparent tape is desired, located on the top, bottom and side at the outer edges of the rear surface, it is specified by adding suffix T to the part designation.

Fig. 2 How to specify Video/Filter part number.

Tube size — Video/Filter Dimension Code, Table 1

Filter Material Code — Select from Table 1, Column 9 or 10: A = Acrylic, P = Polycarbonate

Color Designation — Use 2 Digits for Color - Select from Product Information 065

Filter Material Thickness — Select from Product Information 065

Surface Treatment — Vueguard 901® AG Steel Wool Abrasion and Chemical Resistant

Gloss Nominal — Low = 32 Units, Standard = 54 Units, High = 75 Units, or Other

Mounting Tape Option — Fig. 1 T = with Tape, O = No Tape

| 12025B | P | 50 | 03 | 901AG | 54 | T |

The example in Fig. 2 specifies the following Video/Filter:
The filter is for a 12" diagonal CRT with a 25" spherical radius. The material is polycarbonate, Green 50 in color, and 0.30". The anti-glare treatment is Vueguard 901 AG at 54 gloss units. Mounting tape is required.

COSMETIC ACCEPTANCE CRITERIA
The cosmetic acceptance criteria for PCI Video/Filter products are detailed in PCI's Quality Assurance Procedures under ISO-9000:2000 standards.

MOUNTING/INSTALLATION

The most common installation is to use a thin $\frac{1}{4}$" wide, transparent adhesive film applied at the borders at the top, bottom, and sides of the rear of Video/Filter. Thick tapes are not required for mounting Video/Filters, as, unlike other plastic CRT panels, they have been treated on the concave surface to eliminate Newtonian Rings. Use of the thin tape keeps the front surface of the filter close to the phosphor, maintaining resolution. PCI can supply Video/Filters with mounting tape protected by easily removed release paper for ready installation.

Another installation method uses clips which are attached to the monitor frame to retain the filter. Often, a simple pressure fit between the monitor and terminal enclosure is sufficient for retention. Tabs can be included at specific locations on the filter border to facilitate snap-in mounting. These tabs are engaged in slots located in the bezel area of the terminal enclosure.

RECOMMENDED CLEANING INSTRUCTIONS

Video/Filter surface treatments are impervious to most conventional cleaning agents. To clean, a nonabrasive cloth or paperwipe should be employed with any of the following:

Window cleaners, such as Windex®
Mild detergent
Ammonia and water
Propanol alcohol

PCI
PERFORMANCE
COATINGS
INTERNATIONAL
A Division of G&D Technologies, L.L.C.

VIDEO/FILTER FACE PANELS
CUTS GLARE — ENHANCES CONTRAST

OUTSTANDING FEATURES

- Eliminates Annoying Glare
- Enhances Contrast
- Maintains Resolution
- Wide Range of Colors and Neutral Grays
- Exceptional Abrasion Resistance
- Choice of Gloss Levels
- No Newtonian Rings
- Chemical Resistant

- Easily Mounted
- Uniform Quality
- Low Cost
- Wide Angle Viewing
- Thin
- Calibration or Alignment Graticules Available
- Easily Cleaned
- Can Be Used to Shift Display Color

GENERAL DESCRIPTION

These thermoformed CRT filter panels were developed to provide all types of video display terminals with improved viewer readability and comfort.

PCI Video/Filters provide the terminal designer with more options to optimize the ergonomics of his display that any other related products.

First, the anti-glare treatment of the front surface of the filter reduces annoying reflections from overhead and outdoor ambient light. Benefits of glare elimination are improved readability and reduction of user error and fatigue.

Second, by selection of the proper neutral density or colored filter material, the contrast of the display is enhanced. Unwanted background luminance is reduced, making the display more vivid. The availability of colored filters permits terminal manufacturers to optimize the display acceptance from a user human factors standpoint.

Finally, PCI CRT Video/Filters are produced in a range of gloss levels. The user can select the degree of anti-glare treatment which provides the optimum resolution of the displayed characters or graphics. These anti-glare panels are highly chemical and abrasion resistant. They are simple to mount and are easily cleaned.

DESIGN AND APPLICATION

SIZES — DIAGONAL MEASUREMENTS AND SPHERICAL RADII

PCI offers CRT Video/Filters either as stock or standard products to fit virtually every monochromatic or color tube in general use, ranging from 5" to 25" diagonal.

Other sizes and external dimensional configurations are available to suit individual installation or mounting configurations.

MATERIALS

Video/Filters are manufactured from either of two materials: polycarbonate or acrylic. The principal differences in these materials as used for CRT panel applications relate to temperature stability and UL flammability rating.

Polycarbonate filters will withstand temperatures of -65°F to 200°F (-55°C to 94°C) and are UL rated at 94V-2. The acrylic filters may be used in temperatures between -40°F and 150°F (-40°C and 65°C). UL listing for flammability is 94 H.B.

All configurations shown are available in any acrylic color shown in Product Information O65 and in any thickness up to .125".

Polycarbonate Video/Filters are available in any polycarbonate material shown in Product Information O65 for sizes designated in column 9 of Table 1.

Generally, the thinnest material of a given color should always be selected to keep the anti-glare surface as close as possible to the phosphor layer(s) of the tube, thus providing maximum character resolution.

A full range of colors and sizes to fit virtually any CRT display

FILTER COLOR SELECTION - CONTRAST ENHANCEMENT

PCI offers clear, neutral grays and band pass colors for every monochromatic and full color CRT display. The spectral curves and average light transmission values can be found in Product Information O65. For evaluation purposes, samples of these colors may be obtained from any PCI sales office or by contacting the factory directly.

Monochromatic Displays — White Phosphors

White or near-white phosphor tubes can be filtered using any one of the several neutral gray panels which will enhance contrast to the desired degree.

Shifting the display color can be accomplished readily with Video/Filters. Merely changing the filter from gray to green or amber shifts the light output as desired. In many cases this eliminates the need for an inventory of monitors with

several different phosphor CRT's. Changing the filter changes the displayed color.

Monochromatic Displays — Colored Phosphors

Green, blue, white, orange, and yellow phosphors can be filtered with green, blue, aqua, or amber Video/Filters for maximum contrast.

Full Color Displays

For glare reduction only, clear substrate may be employed. Additional contrast enhancement is provided by use of the lighter neutral gray Video/Filters.

ANTI-GLARE TREATMENT — PHYSICAL AND CHEMICAL RESISTANCE

The CRT display must maintain its integrity in use.

All Video/Filters are manufactured with the Vueguard 901® AG (anti-glare) coating on their front surface. It provides the ultimate in both abrasion and chemical resistance.

The Vueguard 901® protects the filter from attack by chemicals and solvents, including benzene, toluene, xylene, acetone, 40% sulfuric acid, 70% nitric acid, gasoline, and nitro-methane.

The abrasion resistance of the Vueguard 901® assures that the Video/Filter will withstand steel wool abrasion tests employing a 0000 pad, loaded at 12 psi and rotated for 50 revolutions.

ANTI-GLARE TREATMENT — GLOSS LEVELS

This feature is critical to the ergonomic performance of the CRT display, and Video/Filters can be "tailored" to suit every application.

Gloss may be described as the degree of glare reduction provided by the surface treatment. Unlike etched bonded face panels, textured tube faces, or laminated, cast, or embossed plastic filters, the Video/Filters are available in a wide range of gloss levels. Thus, the balance between optimum resolution and anti-reflection can be provided for each customer.

The degree of anti-glare surface finish may be defined and measured using gloss meter as specified in ASTM D-523. Gloss options range from very low, at 10 units, to high, at 75 units. The majority of users specify standard gloss at 54 units. Measurements are made using a Gardner Laboratories 60° Gloss Meter.

FRONT-SURFACE GRAPHICS — GRATICULES AND ALIGNMENT MASKS

PCI offers in-house screen printing capability for the application of legends, grids, graticules, calibration marks, and masks to all its thermoformed CRT panels. The graphic printing may be applied in one or more colors. Alignment masks for monitor or terminal manufacturing and inspection operations can also be provided at low cost by front-surface graphic printing. These thermoformed graphic panels may be obtained with or without anti-glare treatment.

VIDEO/FILTER SPECIFICATION AND ORDERING INFORMATION
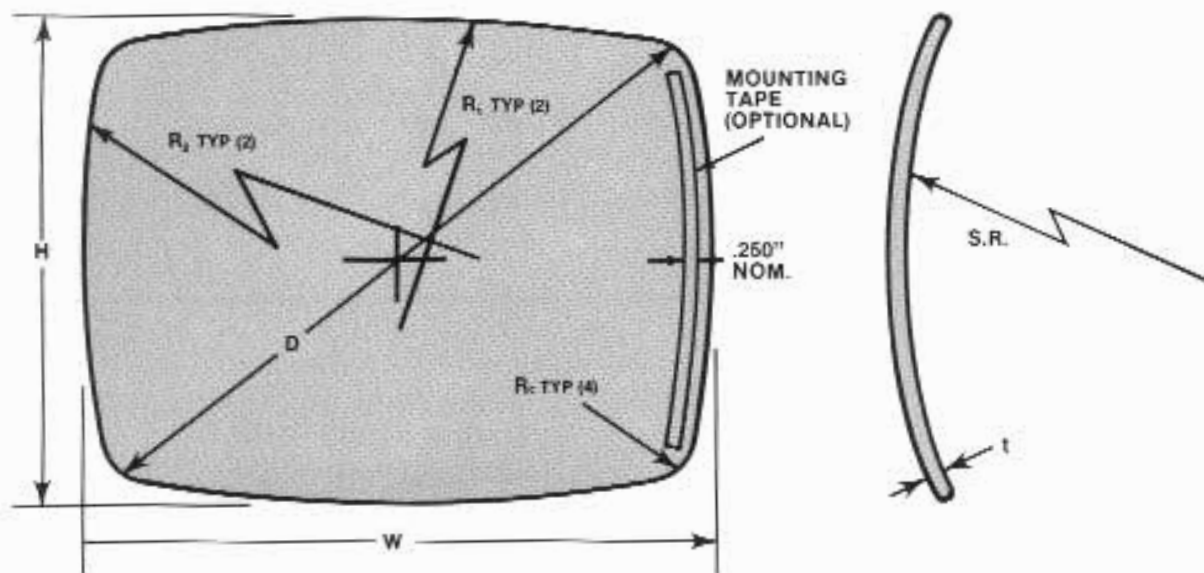
Fig. 1. Video/Filter dimensional designations.

Table 1. Dimension code, dimensions, and material availability.

1	2	3	4	5	6	7	8	9	10
VIDEO/FILTER DIMENSION CODE	D TUBE MFR'S STATED DIAGONAL (IN.)	S.R. SPHERICAL RADIUS (IN.)	W WIDTH (IN.)	H HEIGHT (IN.)	R_1 HEIGHT (IN.)	R_2 RADIUS (IN.)	R_C RADIUS CORNERS (IN.)	AVAIL. IN P (POLYCARB.)	AVAIL. IN A (ACRYLIC)
05014A	5.0	14.0	4.62	3.62	14.18	13.38	0.44	YES	YES
09027A	9.0	27.0	7.97	5.87	22.00	22.00	0.68	YES	YES
12025B	12.0	25.0	10.32	7.88	39.00	18.00	0.75	YES	YES
12020A	12.0	20.08	10.32	7.88	39.00	18.00	0.75	YES	YES
13023A	13.0 (14.0, 90°)	22.6	11.76	9.00	108.86	90.55	0.46	YES	YES
15025A	15.0	25.0	11.83	9.50	60.00	49.00	0.81	YES	YES
16035A	16.0	35.4	13.47	10.25	67.40	42.60	1.31	NO	YES
17027A	17.0	27.0	15.24	12.15	27.38	21.37	3.00	NO	YES
19000A	19.0	COMPOUND 47.5 & 21.0	15.97	12.87	15.00	32.60	1.50	NO	YES
19032A	19.0	32.0	16.50	12.25	0 (FLAT)	0 (FLAT)	1.00	YES	YES
21032A	21.0	32.0	20.15	16.40	27.00	21.00	4.00	NO	YES
23051A	23.0	51.0	20.20	16.03	COMPOUND	COMPOUND	1.75	NO	YES
25000A	25.0	COMPOUND	21.74	16.50	140.00	80.00	1.35	NO	YES
25042A	25.0	42.0	21.95	16.74	33.00	100.00	0.67	NO	YES