

GENERAL INFORMATION

ADVANTEK's Tri-laminate PS+C (polystyrene with carbon) is designed for superior performance as a carrier tape. The specially modified static dissipative polystyrene offers exceptional strength and stability over time and temperature variations, while at the same time maintaining flexibility. Type 'X' material offers superior protection against pocket crushing. The uniform surface texture, combined with a unique carrier tape manufacturing process using machines ADVANTEK designs and builds, gives the user a consistently flat sealing area.

Embossed carrier tape provides protection to integrated circuits and other devices from physical and ESD damage during shipping and storage. It is a universally accepted method of presenting devices to pick and place machines for automatic placement onto printed circuit boards.

ADVANTEK's embossed carrier tape meets EIA standards and can incorporate containment features found in more expensive shipping media. This provides the protection from physical abuse needed by fragile devices such as QFPs, BGAs and Chip Scale Packages (CSPs).

Protection from electro-static discharge (ESD) during shipping and handling is a critical need for many surface mount components. When anti-static cover tape is applied over static-dissipative carrier tape, an ESD safe environment is created, thus protecting the device inside the pocket.

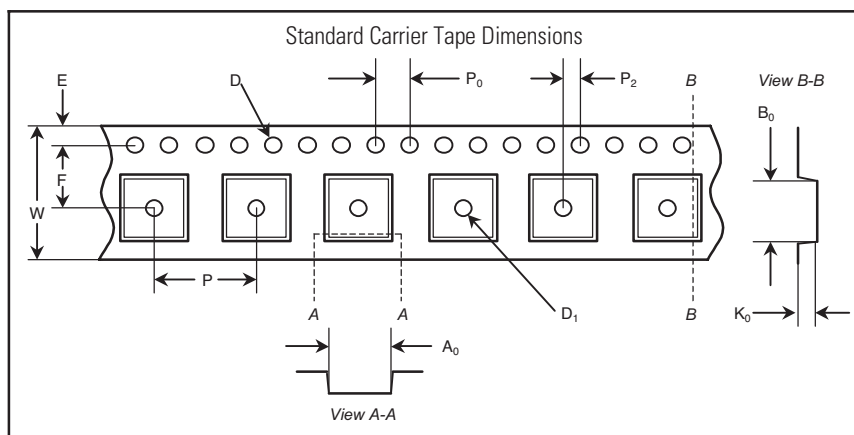
From small bare die to large connectors, embossed carrier tape is an excellent method of protecting surface mount devices prior to placement on a printed circuit board.

Type C, X, V & T Tri-laminate PS+C Carrier Tape Configurations

ADVANTEK Carrier Tape is provided splice-free in any of several reel configurations. The number of meters of carrier tape that will fit on a given reel is conditional upon the pocket pitch, pocket depth, and reel configuration.

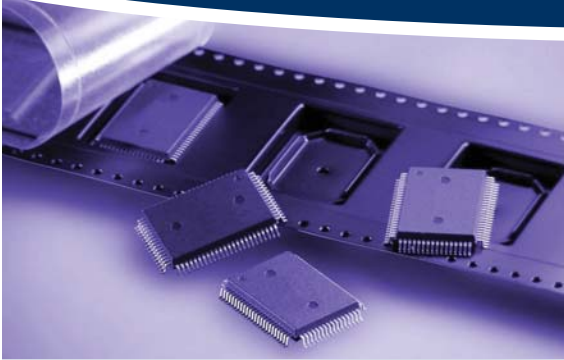
Carrier tape is manufactured in accordance with EIA standards in a range of widths from 8mm to 200mm, depending on the size and orientation of the device being packaged. In addition, carrier tapes are offered in a variety of reel configurations including single-wind and level-wind (cross-wind) format. Standard configuration is single-wind carrier tape on a 22" diameter corrugated paper reel.

Single-wind reel flange diameters available include 13.0", 22.0" (standard) and 30.0". Level-wind reel flange diameters include 14.25" and 22.0". Both corrugated paper and corrugated plastic reel flanges are offered. High impact plastic LOKREEL® packaging reels are available in 13" or 22" diameter formats. Standard hub options include inside diameters of 0.5", 1.12" and 3.0" and outside diameters of 4.0", 6.8" and 9.5".



Shelf Life / Storage Conditions

It is recommended that ADVANTEK polystyrene carrier tapes be used within 5 years from the date of manufacture. Store this product in its original packaging in a climate controlled environment where conditions range from 21°C +/- 17°C (70.0°F +/- 30°F). The product is not affected by humidity. Users are advised to let the product stabilize at room temperature prior to use.



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Material Properties

Property	Typical Value	Test Method/Standard
Specific Gravity	1.06 g/cc	ASTM D 792
Tear Strength	.53 lb, LD .61 lb, TD	ASTM D 1938 [4]
Elongation	65%, LD 14% TD	ASTM D 882 [5]
Tensile Strength	6575 PSI, LD 6445 PSI, TD	ASTM D 882 [5]
Vicat Softening	107°C (225°F)	ASTM D 1525
Surface Resistivity	<10 ¹² ≥ 10 ⁵ ohms/square	ASTM D 257 Static Dissipative per EIA 541
Standard Thickness	0.30 (Type C) 0.21 (Type V) 0.35 (Type X) 0.50 (Type T)	

Note: The values presented for this product are typical laboratory data for material type C.

Material Ionics Data

Species	PS+C Carrier Tape (ug/cm ²)
Fluoride	ND
Chloride	0.0190
Nitrite	<0.0040
Bromide	ND
Nitrate	<0.0040
Phosphate	<0.0040
Sulfate	0.0056
Lithium	0.0002
Sodium	0.0672
Ammonium	0.0048
Potassium	0.0074
Magnesium	0.0065
Calcium	0.0188

Note: The above ionics data was measured by an independent laboratory.