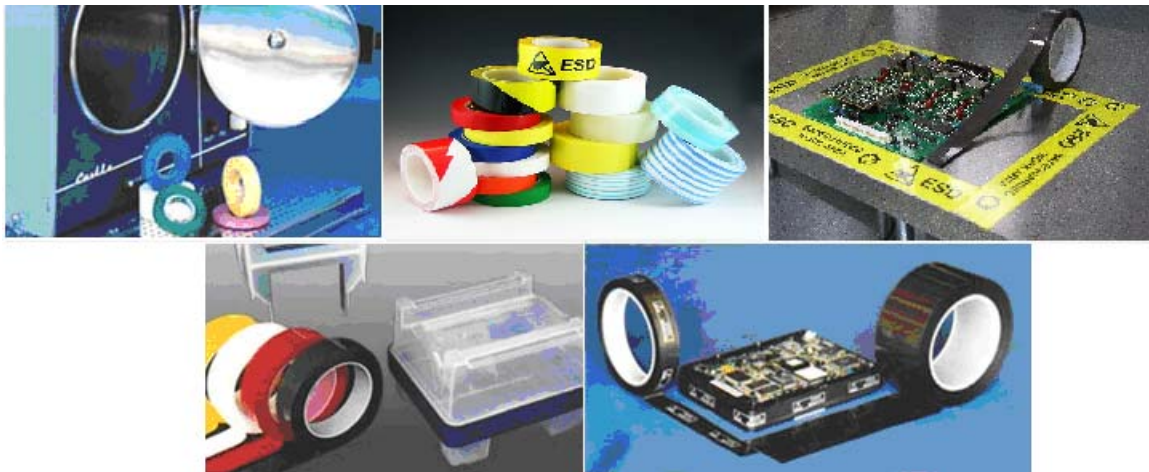


# UltraTape

Adhesive Tape for Critical Environments

## Adhesive Tapes For High Technology Industries



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## Cleanroom Process and Adhesive Technology

The cleanroom facility and certified quality control system require adhesive tape that is particle free and residue free. The processing and adhesive technology must to meet the critical specification of exacting aerospace, medical, and electronics industries. Tape substrates include: polyethylene, polyolefin, polyester, polyvinyl chloride film, and polypropylene along with many other unique materials. Adhesive capabilities should include acrylic, rubber, and polyurethane.

Cleanroom tape features can include:

- No residues
- Stretch and feel of vinyl
- Can be written on
- Tear by hand
- Low metals and outgassing
- Floor tape that withstands foot traffic
- Double sided
- Removable
- Low, medium, and high tack



## Medical and Pharmaceutical Tapes

The best medical grade tapes are required for servicing the medical and pharmaceutical industries. Proper materials (PEEK, polyimide, micro-textured, nylon, acrylic, polycarbonate, polystyrene, ABS, etc.) must be matched for the device application.

Sterilization indicator tapes can be used for sealing packages for sterilization. In addition, they should change color to indicate proper sterilization and leave no residues. Tapes can be autoclaved in the roll and then used for labeling sterile items.

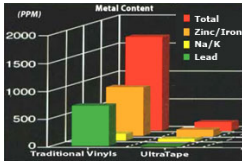


## Semiconductor & Aerospace In-Process Tapes

Electronics and circuit board companies need high quality tapes on polystyrene, polycarbonate, and polypropylene products. Difficult textured and recessed surfaces can be successfully printed when proprietary equipment, and high quality manufacturing processes are in place.

Tape characteristics can include:

- Designed specifically for wafer boxes
- Adhere lightly to plastics
- Low static generation
- Extremely low leachable metals
- No residues after storage



## Technical Information

### Residue Free Tape

- No visual material transfer on glass (over 24 hours at room temperature )
- Acrylic (low and medium tack): Lowest residue over long period of time (years)
- Synthetic Rubber: Low residue over shorter time (month)
- Natural Rubber: Highest residue over long time

### Tape Cleanliness

- Proprietary Manufacturing process
- Cleanroom Certified
  - Particle counts (bag and pull counts)
  - Standard Tape ( avg. >100K 0.3 um )
  - Ultratape CR (range <1 to 100 0.3 um)
  - Double bagged and sealed in a cleanroom to assure cleanroom delivery

### Tape Selection Criteria

- Application surface
- Temperature
- Permanent vs. removable (time applied)
- Chemically resistant
- Cleanliness – particle free
- Residue Free
- Anti-Static or Conductive
- Color

### Tape Applications

- Circuit Board Masking
- Clean Room
  - Box sealing
  - Plastic tenting
  - Pipe wrap
  - Floor marking
  - ESD Tape
- Medical / pharmaceutical
  - Autoclavable
  - Surface Protection
  - Sterilization indicator
- High Temp

## Glossary of Technical Terms

**Adhesion:** (Peel Adhesion) How well the tape sticks to a surface. Usually measured in ounces of pull (force) required to remove a one-inch wide strip of tape from a steel plate (i.e., adhesion to steel). Usually measured in ounces/inches. The same tape usually adheres differently to different surfaces.

**Adhesion to Backing:** The force necessary to peel the tape from its own backing. (i.e. to unwind the tape).

**Adhesive:** The most common type of adhesive is a blend of rubber and resins. Other pressure sensitive adhesives are acrylics and silicone. Acrylics are highly solvent and weather-resistant while silicones have a high resistance to heat.

**Backing:** The material on which the adhesive is carried (i.e., paper, cloth, film, vinyl, etc.).

**Carrier:** Sometimes used to refer to the backing material, particularly in double-faced pressure-sensitive tapes.

**Conformability:** The ability to be applied to irregular surfaces. This property is related to the elongation (stretch) of the backing.

**Creeping:** The ability of certain plastic tapes to shrink back to their original length after being stretched (i.e., vinyl). Also called elastic memory.

**Elongation:** (Ultimate) The percentage of stretch at the breaking point of the tape.

**Liner:** The material used between tape layers to prevent adhesion of the tape to itself—usually used for double-coated tapes.

**Quick-Stick:** The adhesive adheres immediately to the surface when applied. Rubber adhesive have good quick-stick properties.

**Pressure-Sensitive Adhesive:** A sticky substance which adheres by application of pressure alone, and does not require the use of water, heat, or solvents.

**Release Coating:** A thin layer of a waxy substance, which reduces the adhesion to backing (i.e. reduces the unwind strength).

**Residues:** Adhesive transferred from the tape to the surface applied. Heat, moisture, sunlight, reactions to the surface, creeping, tape age, and many other factors influence the potential to residue.

**Tack:** The property of the adhesive, which is defined by the stickiness (i.e., high-tack, medium-tack, low-tack).

**Telescoping:** Deformation of the roll due to the winding force exceeding the adhesion to backing. The tape roll begins looking like a “telescope”. Smaller widths telescope more than larger widths. Heat accelerates.

**Tensile Strength:** Force needed to break the tape, frequently expressed as oz/inch.

# Tape Capabilities Applications Guide

<b>ZERO Residue Tapes</b>						
Primary Use	Wafer Box	Wafer Box	Cleanroom & Construction General Use	Construction Hang Plastic & Tape Wheels	Cleanroom General	Desktop & High Temp
Substrate*	PE	PE	PE	PE	PO	PES
Adhesive	Acrylic	Acrylic	Synthetic	Synthetic	Acrylic	Silicone
Adhesion to Plastics	Low	Low	Med	Very High	Med	Med
Residues	None	None	None	None	None	None
Application Life	Years	Years	Months	Months	Years	Years
Operating Temp	-40° to 190°F	-40° to 250°F	-40° to 190°F	-40° to 190°F	-40° to 200°F	-40° to 375°F
Metal Contents	Very Low	Very Low	Very Low	Very Low	Low	Very Low
Static Properties(Removal from roll -volts)	1000	1000	2500	2500	10,000	17,000
Colors	Multiple	Clear	Multiple	Multiple	White	Clear & Red Tnt
*PE = Polyethylene, PO = Polyolefin, PES = Polyester						

## Vinyl Tapes

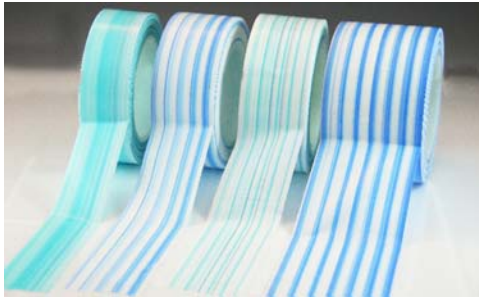
Product #	#1163	#1165
Primary Use	Maintenance & Construction	Floor Marking & Hazard Warning
Substrate**	PVC	PVC
Adhesive	Rubber	Rubber
Adhesion to Plastic	Med	Med
Residues	Trace	Trace
Application Life	Months	Months
Operation Temp	-20° to 200°F	-20° to 176°F
Metal Contents	High	High
Static Properties (Removal from Roll-volts)	15,000	17,000
Colors	Multiple	R/W, G/W, B/Y

\*\*PVC = Polyvinyl Chloride Film

## ESD Tapes

Product #	#2149	#2118
Primary Use	Circuit Board Mfr	Sealing ESD items
Substrate***	PES	PP
Adhesive	Conductive	Synthetic
Adhesion to Plastic	Med	Med
Residues	None	None
Application Life	Months	Months
Operation Temp	-40° to 130°F	-40° to 130°F
Metal Contents	Very Low	Very Low
Static Properties (Removal from Roll-volts)	0	100
Colors	Dark Gray	Clear

\*\*\*PPES = Polyester, PP = Polypropylene



## About UltraTape Industries

UltraTape has been manufacturing high quality Adhesive Tapes for the Semiconductor, Pharmaceutical, Aerospace, Medical and Electronics industries for over 15 years. The company's Clean Room manufacturing facility assures Particle-Free and Residue Free Adhesive tapes in rolls ranging from small engineering lots to large production volumes.

Ultratape's wide variety of tape includes substrates such as Polyester, Polyethylene, PVC, Polypropylene, Kapton, Polyimide and utilizes the optimum adhesive technologies whether Acrylic, Rubber, or Polyurethane for each application.

UltraTape's proprietary process was developed to meet the needs of the high technology industries. Ultratape can uniquely provide Cleanroom Certified tape to meet critical industries requirements. Applications ranging from Cleanroom construction tape, wafer process tape, barrier tapes or sterilization tapes are all stocked for quick delivery.

**UltraTape Industries, Inc.** was created in 1991 to provide a quality product that is Residue Free, Low Outgassing and Low particulating. We continue to strive to meet most any application and stand ready to provide any information and samples that may be required.

For more information go to: [www.cleanroomtape.com](http://www.cleanroomtape.com)