

Catalog and Application Guide



UltraTape

Adhesive Tape & Labels for Critical Environments

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Product Family Chart: 20-23

UltraTape

Adhesive Tape & Labels for Critical Environments

High Purity • Particle-Free • Residue-Free

UltraTape has manufactured high quality Adhesive Tapes and Labels for the Semiconductor, Pharmaceutical, Aerospace, Medical, and Electronics industries for over 15 years. The company's cleanroom manufacturing facility assures particle-free and residue-free adhesive tapes and labels that meet the stringent requirements of critical environments.

UltraTape works closely with these industries to develop tapes for a variety of critical environment applications. By combining unique substrates and adhesives, UltraTape is able to provide custom solutions for its customers.

The company's RoHS and REACH compliant products are manufactured per **ISO 9001 Certification** standards to meet the most stringent anti-static, particle-free, and high purity specifications.



Cleanroom Tapes & Labels



Cleanroom Tapes



Cleanroom Labels

UltraClean Tapes and Labels

Premium cleanroom tapes and labels are made of non-particulating materials on a plastic core, suitable for use in Class 1 (ISO Class 3) cleanrooms. Each roll of tape or labels is processed through UltraTape's proprietary clean manufacturing process, then individually packaged and sealed in polyethylene bags to insure cleanliness upon arrival to the cleanroom.



This logo denotes UltraTape's exclusive UltraClean certification.

Custom Tapes and Labels

UltraTape has a line of specialty tapes and labels that can be customized to meet your specific application. Special packaging, core, backing, and gamma irradiated adhesive materials are available to meet any requirements.

Classic Tapes and Labels

Standard cleanroom tapes and labels are made of non-particulating materials on a plastic core, suitable for Class 100,000 (ISO Class 8) cleanrooms. Each roll is packaged in a sealed plastic bag.

Support Products

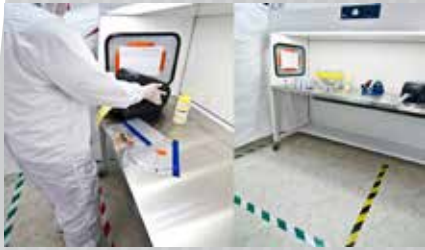
UltraTape has a line of support products to help with any tape and labeling need. These products include tape and label dispenser, thermal label printers, and ribbons.

a division of
DELPHON

Tape and Label Applications



Construction Protocol™ Tapes



Floor Marking Tapes



ESD Tapes



Autoclavable Tapes



Wafer Box Sealing Tapes

Aerospace

UltraTape manufactures tapes and labels that specifically meet the strict requirements of the Aerospace industry. These products are low out-gassing, residue-free, non-particulating and have been qualified by the United Launch Alliance. Available in anti-static, conductive adhesive, and high temperature versions.

Construction

Construction tapes are designed for floor marking, color coding, ductwork, and for hanging heavy plastic sheeting to create temporary walls. Protocol™ tape is ideal for cleanroom construction projects. Available in double-sided for cleanroom mounting/sealing applications.

Environmental Health and Safety

UltraTape's Environmental Health and Safety tapes are designed to keep the employee workplace safe using OSHA colors for caution, boundary, and fire safety.

ESD, Electronic, and High Temperature

UltraTape manufactures a line of tapes, labels, and films for use where electrostatic discharge and high temperatures are a concern. The products have an antistatic surface and are able to withstand high temperature applications. UltraTape's Poly TechCut™ films and labels have a unique combination of properties that can withstand extreme temperature, vibration and other demanding environments.

Medical and Pharmaceutical

UltraTape manufactures a line of tapes for use within the medical and pharmaceutical industries. UltraTape offers autoclavable tapes that can withstand temperatures up to 275° F for short periods of time, gamma irradiated tape as well as autoclave indicating tape and labels which have a stripe that changes color to indicate that the autoclave process is complete.

Semiconductor

UltraTape manufactures a line of tapes and labels that meet the specific needs of the Semiconductor industry. These products come in a variety of colored wafer box sealing tapes that adhere to plastic, are residue-free and are easily removed. Silicone-free products are also available.

Solar

UltraTape has developed highly specialized foam tapes and films for various applications used in the manufacture and installation of solar panels. Adhesive tapes can offer numerous benefits over mechanical fastenings and glue such as improved dimensional stability, a high strength to weight ratio, and smooth surface assembly.

UltraTape Labels



UltraTape critical environment labels are specifically designed for use in Semiconductor, Data Storage, Biotechnology, and Pharmaceutical cleanrooms. UltraTape label products are manufactured from 100% synthetic facestocks, liners, and cores - avoiding particulate contamination issues that arise from coated paper products.

Custom Specifications

When a custom solution is required, UltraTape's team of engineers can tailor a cleanroom product to the specific requirements of the application. Available in UltraClean and Standard.



UltraClean

- Offers the highest level of cleanliness available for today's critical environments
- Suitable for Class 100 to Class 1 cleanrooms
- UltraTape's web cleaning system dissipates the static layer, allowing both sides of the label stock to be cleaned

Classic

- Made from non-particulating materials
- Offers cleanroom packaging
- Suitable for Class 100,000 to Class 1,000 cleanrooms

UltraTape Label Features Include

- 100% synthetic facestock, liners, cores
- Facestocks inert of moisture and most acids, gasses, and salts
- Low out-gassing adhesives in range of peel strengths
- Vacuum packaged
- Service temperature of -40° to +250° F
- Processed in a fully ionized Class 100 cleanroom

Cleanroom Label Options

- Direct thermal and thermal transfer
- Double bagged in certified silicone-free MDPE bags
- Synthetic facestock choices including polypropylene and polyester
- Deadened adhesive zones
- Continuous label stock
- Printable surfaces for thermal transfer, direct thermal, dot matrix, and cleanroom pens
- Preprinted

UltraLabel PRO™ Cleanroom Printer & Ribbons



Complete Print-on-Demand Solutions

UltraTape offers a complete line of UltraLabel PRO™ (ULP) cleanroom printers, software, and label solutions that can be customized to your specific application requirements. The desktop design is capable of printing thermal transfer/direct thermal cleanroom labels.

The unique design of the UltraLabel PRO, combined with the wide variety of custom supplies offered by UltraTape, results in one of the most versatile cleanroom printers on the market.

UltraLabel PRO Advantages

- Direct thermal printing
- Large variety of media sizes and types, three methods of registration allow the ULP to print on most labels
- Continuous stock printing- guillotine style cutters allow for automatically cutting to size
- Quick and easy printing of barcodes, numbering, text, graphics, and logos
- Custom sign and safety marker printing
- 300 dpi high resolution printing
- Small foot print 7.5" x 8.5" x 12.5"
- Easy to use software and reliable technical support

Options Available

- Standard USB connection
- Network ethernet and USB connection
- UltraClean certified and packaged
- Power options for use in multiple countries
- Additional customizable options

Thermal Transfer Printer Ribbons

Enhanced printing solutions with printer ribbons designed for high performance printing on thermal transfer labels.

- All purpose
- Cleanroom compatible
- High temperature
- Chemical resistant

Cleanroom Compatible Thermal Transfer Printer Ribbons

Cleanroom compatible resin ribbons are manufactured on non-particulating, 100% synthetic cores. High resistance to smudging, scratching, and static contributes to reliable and long-lasting, on-demand

Construction



UltraTape Construction tapes are designed for critical environment construction and support applications. They can be used for hanging heavy plastic sheeting to create temporary walls, taping cart wheels and ductwork, floor marking, and color coding. Use the colored, striped hazard warning tapes to designate the OSHA critical areas in cleanrooms.

- **Super-Tack™ construction tape has a strong adhesive bond that leaves no residue upon removal**
- **Protocol™ tapes for immediate recognition that certified cleanroom compatible tape is in use**
- **RoHS certified vinyl tapes with low unwind strength**
- **Available in UltraClean and standard clean**

	1153	1154	1160	1165	4421/4422 0421/0422
Backing	Polyethylene	Polyethylene	Vinyl	Polyester Overlaminated Vinyl	Polyethylene
Adhesive	Rubber	Rubber	Rubber	Rubber	None
Total Thickness	7.0 ± 1.0 mil	7.0 ± 1.0 mil	6.0 ± 0.7 mil	9.0 ± 0.9mil	3.0 ± 0.3 mil
Adhesion to Stainless Steel	60 oz/inch minimum	25 oz/inch minimum	22 oz/inch minimum	12 oz/inch minimum	N/A
Operating Temperature	-20° to +200° F	-20° to +200° F	-20° to +190° F	-10° to +175° F	up to 200° F
Elongation at Break	80%	80%	150%	120%	>200%
Tensile Strength	15 lbs/inch	18 lbs/inch	18 lbs/inch	28 lbs/inch	>10lbs/inch
Length	36 yards	36 yards	36 yards	18 yards	1000 feet

Information above is solely intended as a guideline. Each user should conduct their own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

Construction



UltraTape 1153 Polyethylene Super-Tack™

Super-Tack™ tape is ideal for any application that requires a strong bond. This high adhesion, polyethylene tape is residue-free, easy to tear, and can be written on with a pen. The tape is available in **Protocol™** uniquely striped color pattern which allows immediate recognition of the product as a certified cleanroom tape.

Colors: Black (BK), Blue (BL), Clear (CL), Green (GR), Orange (OR), Red (RE), White (WH), Yellow (YE), Protocol™ : White with Blue stripe.



UltraTape 1160 Vinyl Medium Adhesion

A vinyl tape with medium adhesion. This easy release tape is useful for maintenance and construction. Tape can be written on with pen and provides a strong bond without leaving adhesive residue.

Colors: Black (BK), Blue (BL), Brown (BR), Clear (CL), Gray (GY), Green (GR), Orange (OR), Purple (PR), Red (RE) White (WH), Yellow (YE).



UltraTape 1165 Striped Overlaminated Floor Marking

Vinyl tape overlaminated with durable polyester film to withstand heavy traffic. Adheres well to all surfaces. Available in OSHA hazard color guide for delineating and color-coding needs. This laminated vinyl tape is scuff resistant and holds up well to solvents, humidity, and oil.

Colors: Black/Yellow (BY), Black/White (BW), Green/White (GW), Red/White (RW)



UltraTape 4421 and 4422 Polyethylene Barrier Tapes

Non-adhesive caution barricade tape made with polyethylene film on plastic cores, printed with easy-to-read letters. UltraTape 0421 is a yellow tape printed with "CAUTION" and 4422 is a red tape printed with "DANGER DO NOT ENTER." Use to section off dangerous areas from general access.

Colors: 4421 Yellow with Black print (YE), 4422 Red with Black print (RE).



UltraTape 0151 KWIKrip™ Polyethylene Serrated Super-Tack

High adhesion white polyethylene tape with rubber adhesive and unique serrated edge for easy tear at any length. Ideal for construction and can be written on with a pen.

Colors: White (WH).



UltraTape 1154 Polyethylene Medium Adhesion

A good alternative for vinyl tape in general use and cleanroom construction. It bonds quickly to all surfaces. The adhesive strength is identical to vinyl tapes. The polyethylene backing can be written on with a cleanroom pen, and it can be torn by hand. 1154 is recommended for in-process applications due to its low outgassing and metal properties.

Colors: White (WH).



denotes UltraTape exclusive UltraClean Certification.

ESD and High Temperature



UltraTape ESD cleanroom tapes are designed for use where electrostatic discharge (ESD) and/or exposure to high temperature is a concern. The ESD tapes are naturally anti-static or are treated to produce an anti-static surface to generate very low voltage during unwind and use. Available with conductive adhesive and with conductive grids embedded between strong polypropylene layers.

- **For ESD sensitive environments such as sealing anti-static bags, packing of electronic components, medical instruments, precision mechanical equipment, and splicing of films**
- **High temperature polyimide tape with silicone adhesive can withstand temperatures up to 600° F (315° C) for use during circuit board manufacturing**
- **ESD tape available with electrical resistance of 10⁹ Ohms/square and static charge of 50 volts or less during standard unwind and use**
- **ESD logo identification marking tape available to denote ESD sensitive work area**

	2118	2149	2156	2157	1440
Backing	Polypropylene ESD	Polyester	Polyimide	Polyimide ESD	PVC Vinyl
Adhesive	Rubber	Conductive	Silicone Rubber	Silicone	Acrylic
Total Thickness	3.0 ± 0.3 mil	5.0 ± 0.7mil	2.7 ± 0.5 mil	2.5 ± 0.7 mil	2.0 ± 0.2 mil
Adhesion to Stainless Steel	30 oz/inch	27 oz/inch	22 oz/inch	25 oz/inch	24 oz/inch
Operating Temperature	-40° to +130° F	-10° to +150° F	up to +500° F	up to +500° F	-10° to + 350° F
Elongation at Break	80%	80-120%	60%	60%	90%
Tensile Strength	20 lbs/inch	23 lbs/inch	23 lbs/inch	32 lbs/inch	25 lbs/inch
Length	55 yards	72 yards	36 yards	36 yards	36 yards

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

ESD and High Temperature



UltraTape 2118 Anti-Static Polypropylene Medium Adhesion

High grade anti-static tape for cleanroom use. Contains no silicone and its pure no-stretch polypropylene backing provides low outgassing. No residues remain on circuit boards, plastics, metals, or glass. Charge decay time (5000V to 0V) is less than 1 second.

Colors: Clear (CL).



UltraTape 2149 Anti-Static with Conductive Adhesive

A premium tape for circuit board conformal coatings and other circuit board applications. Surface protection tape is designed to provide maximum protection for all surfaces, whether painted, mill finished, or polished. Use on stainless steel, glass, aluminum, coated metals, and plastics. Excellent outdoor performance.

Colors: Dark Grey (GY).



UltraTape 2156 Polyimide with Silicone Adhesive

A polyimide film backing with pressure sensitive silicone adhesive that provides outstanding tensile strength and thermal endurance at elevated temperatures up to +500° F. Designed to bond to silicone substrates as well as other difficult-to-bond-to surfaces. The silicone adhesive ensures a clean release from most substrates.

Colors: Bronze (BZ).



UltraTape 2157 Anti-Static Polyimide with Silicone Adhesive

This tape combines the qualities of cleanroom, high-temperature, and anti-static behavior in one tape. Used to mask printed circuit boards during wave solder or hot air leveling, especially where high static charge is a concern. The silicone adhesive ensures a clean release from most substrates.

Colors: Bronze (BZ).

UltraTape 1440 Yellow “ESD Caution” Overlaminated Identification Tape

UltraTape’s ESD Caution tape provides floor marking, wall marking, equipment marking, and labeling. This printed PVC film is overlaminated to withstand heavy floor traffic and increase resistance to chemicals. The acrylic adhesive is removable, provides easy repositioning, and leaves no residues.

Colors: Yellow with Black Print (YE). Not available in UltraClean



UltraTape 6570 High Temperature Polyester

A polyester tape with low adhesion, pressure sensitive, silicone adhesive that provides outstanding tensile strength and thermal endurance at elevated temperatures up to 350° F. Designed to bond to silicone substrates as well as other difficult-to-bond-to surfaces. The silicone adhesive ensures a clean release from most substrates. (See page 23 for specifications)

Colors: Clear (CL)



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Semiconductor



UltraTape's Semiconductor cleanroom tapes are designed specifically for use inside Semiconductor and critical environment cleanrooms. Operators will like the easy release from the roll, ease of handling, low static charge on unwind, and excellent conformability.

- **Adhere lightly to plastics for easy removal without residue**
- **Contain extremely low leachable metals, eliminating the concern of contamination**
- **Leaves no residue after storage**
- **Leaves no particulates**
- **Tapes and labels come in a variety of colors for easy part identification**
- **Available in UltraClean and Standard Clean**

	1110	1112	1114	1153	1164
Backing	Polyethylene	Polyethylene	Polyethylene	Polyethylene	Polyolefin
Adhesive	Acrylic	Acrylic	Acrylic	Rubber	Acrylic
Total Thickness	5.5 ± 0.7 mil	5.5 ± 0.7 mil	5.5 ± 0.7 mil	7.0 ± 1.0 mil	4.3 ± 0.5 mil
Adhesion to Stainless Steel	56 oz/inch	30 oz/inch	12 oz/inch	60 oz/inch	36 oz/inch
Operating Temperature	-20° to +190° F	-40° to +250° F	-20° to +190° F	-20° to +200° F	-40° to +190° F
Elongation at Break	450%	550%	450%	80%	650%
Tensile Strength	12 lbs/inch	14 lbs/inch	9 lbs/inch	15 lbs/inch	15 lbs/inch
Length	36 yards	36 yards	36 yards	36 yards	60 yards

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

Semiconductor



UltraTape 1110 Polyethylene Medium-High Adhesion

Designed specifically for cleanroom packaging, wafer shipping boxes and bags. Specially formulated adhesive leaves no residue or ghosting on plastic boxes, even after prolonged storage. Extremely low levels of metals, halogens, and outgassing.

Colors: Glossy White (WH), Red (RE), Yellow (YE), Blue (BL), Orange (OR), Green (GR), Clear (CL).



UltraTape 1112 Polyethylene Medium Adhesion

Designed specifically for cleanroom packaging, wafer shipping boxes and bags. Specially formulated adhesive leaves no residue or ghosting on plastic boxes, even after prolonged storage. Medium adhesion on stainless steel. Extremely low levels of metals, halogens, and outgassing.

Colors: White (WH), Red (RE), Yellow (YE), Green (GR), Clear (CL), Tinted Blue (TB).



UltraTape 1114 Polyethylene Low Adhesion

Low tack version of the 1110 and 1112 cleanroom packaging product. It also works well for other applications in your cleanroom where removability is necessary after short term or long term applications.

Colors: Red (RE), Yellow (YE), Green (GR), White (WH), and Blue (BL).



UltraTape 1153 Polyethylene Super-Tack™

Ideal for any application needing a strong hold. The rubber adhesive bonds quickly to most surfaces and is considered low residue for glass, metal, and plastic.

Colors: White (WH), Blue (BL), Yellow (YE), Green (GR), Black (BK), Orange (OR), Red (RE), and Clear (CL), Protocol™ White with Blue stripe.



UltraTape 1164 Polyolefin High Purity Medium Adhesion

Zero residue cleanroom tape that looks and performs like vinyl tape, yet has much lower metals, is lead-free, and environmentally superior. It has low stretch, adheres to, and is removable from all surfaces. It has a very easy release from the roll and is excellent for sealing bags, taping wafer boxes, sealing garment cuffs, taping signs to walls and equipment, and general cleanroom production and maintenance use. Excellent for long-term applications.

Colors: White (WH).



UltraTape 6573 Green High Temperature Polyester

A polyester film with low adhesion, pressure sensitive, silicone adhesive that provides outstanding tensile strength and thermal endurance at elevated temperatures up to 450° F. Designed to bond to silicone substrates as well as other difficult to-bond-to surfaces. Silicone adhesive ensures a clean release. (See page 21 for specifications)

Colors: Green (GR).



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Medical and Pharmaceutical



UltraTape's unique tapes are designed specifically for Medical and Pharmaceutical applications. All tapes can be irradiated to meet the strict requirements of these industries.

- **Cuff Sealing Tape is perforated to allow the user to apply and tear the tape using one hand**
- **For critical and aseptic processing applications**
- **Irradiated lot traceability and certification**
- **Products available for direct and indirect food contact**
- **Gap sealing tape for use during dry-fog/aerosol disinfection**

	1114P	7155	7160	7512
Backing	Polyethylene	Saturated Crepe	Vinyl	Polyethylene
Adhesive	Acrylic	Rubber	Rubber	Acrylic
Total Thickness	5.5 ± 0.7 mil	6.0 ± 0.7 mil	6.0 ± 1.0mil	5.5 ± 0.7 mil
Adhesion to Stainless Steel	12 oz/inch	36 oz/inch	22 oz/inch	19 oz/inch
Operating Temperature	20° to +190° F	Will indicate at 273° F (134°C) after 5 minutes at steam pressure of 1.02kg/cm2	-20° to +190°F	-40 to ± 250°
Elongation at Break	450%	10%	100%	550%
Tensile Strength	9 lbs/inch*	22 lbs/inch	18lbs/inch	14lbs/inch
Length	36 yards	60 yards	36 yards	36 yards

*Before perforation.

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

Medical and Pharmaceutical



UltraTape 1114P Polyethylene Low Adhesion Perforated

Low adhesion, conformable polyethylene tape used to ensure an effective seal between the glove and garment, protecting the product and worker. The tape is perforated at convenient 4-inch intervals to allow the operator to use one hand to apply the tape. Gamma irradiated version also available.

Colors: White (WH).



UltraTape 7155 Autoclavable Steam Indicator Paper

High tensile, premium grade, saturated crepe paper with a tinted stripe of color changing ink that produces a dramatic color change upon autoclave process completion. Adhesive is designed for high temperature. Adhesion to non-woven and muslin fabric as well as plastics and metals.

Colors: Natural Tan (ST).



UltraTape 7160 Autoclavable Medium Adhesion Vinyl

Medium adhesion tape able to withstand 273° F (134° C) for 30+ minutes. Writable with a ball point pen. Use for product labeling, color coding, and bag sealing during the autoclave process. Also available in gamma irradiated for use in a sterile environment.

Colors: Blue (BL), Brown (BR), Clear (CL), Green (GR), Gray (GY), Orange (OR), Purple (PR), Red (RE), Yellow (YE), White (WH).



UltraTape 7512 Polyethylene Medium Adhesion Gap Sealing

Medium density polyethylene tape is excellent for gap sealing of doorways and pass-throughs. Offers excellent conformability, is removable and residue-free.

Colors: Clear (CL), Green (GR), Red (RE), Yellow (YE), White (WH), Tinted Blue (TB).

UltraTape Irradiated Tapes and Label Products limit particulate and biochemistry counts. The products come double packaged, with full certification of irradiation and lot traceability. All tapes listed on pages 21-23 can be irradiated.



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Aerospace and Solar



UltraTape's specialized Aerospace and Solar tapes are designed for high temperature and flame retardant applications, as well as severe environmental conditions. These tapes address industry standards for maximum insulation and protection. Ideal for tool masking, vacuum sealing, airframe construction, painting and stripping, electrical insulation, and wire wrapping.

- **Fire retardant**
- **Meets MIL standards**
- **Boeing-Airbus listed**
- **Produced in ISO certified facilities**
- **Qualified by United Launch Alliance**
- **Low outgassing and residue-free**

High-performance technical tapes ideal for solar applications.

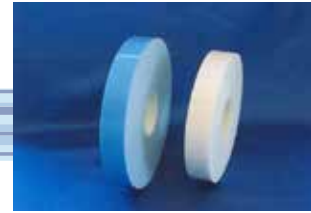
- **Single or double-sided for bonding and sealing aluminum framed modules**
- **Permanent bonding of the junction box**
- **Low outgassing for laminate fabrication**
- **Cell positioning and cable management**
- **Labels for product identification and traceability**
- **Tapes for environmental health and safety and construction**
- **Double-sided foam tape ideal for applications where rivets, spot welds, and liquid adhesives are used**

	1153	1154	1410	1510	2159
Backing	Polyethylene	Polyethylene	Closed Cell Polyethylene Foam	Polyester	Polyimide
Adhesive	Rubber	Rubber	Rubber Double-sided	Acrylic Double-sided	Silicone Double-sided
Total Thickness	7.0 ±1.0 mil	7.0 ±1.0 mil	125 mil	8.0 ± 0.7 mil	4.0 ± 0.5 mil
Adhesion to Stainless Steel	60 oz/inch	25 oz/inch	65 oz/inch	72 oz/inch	25 oz/inch
Operating Temperature	-20° to +200° F	-20° to +200° F	up to 150°F	-10° to +175° F	-55° to + 400° F
Elongation at Break	80%	80%	N/A	100%	60%
Tensile Strength	18 lbs/inch	18 lbs/inch	20 lbs/inch	14 lbs/inch	30 lbs/inch
Length	36 yards	36 yards	18 yards	36 yards	36 yards

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

Aerospace and Solar



UltraTape 1153 Polyethylene Super-Tack™

Super-Tack™ tape is ideal for any application that requires a strong bond. This high adhesion polyethylene tape is residue-free, easy to tear and can be written on with a pen. The tape is available in **Protocol™** uniquely striped color pattern which allows immediate recognition of the product.

Colors: Black (BK), Blue (BL), Clear (CL), Green (GR), Orange (OR), Red (RE), White (WH), Yellow (YE), Protocol™: White with Blue Stripe.



UltraTape 1154 Polyethylene Medium Adhesion

A good alternative for vinyl tape in general use and cleanroom construction. It bonds quickly to all surfaces. The adhesive strength is virtually identical to vinyl tapes. The polyethylene backing can be written on with a cleanroom pen, and it can be torn by hand. The 1154 is also recommended for in-process applications due to its low outgassing and metal properties.

Colors: Blue (BL), White (WH).



UltraTape 1410 Double-Sided Foam Permanent Adhesion

Closed cell polyethylene foam with rubber adhesive, on a blue polyethylene release liner. Ideal for a variety of uses during construction and maintenance projects.

Colors: White (WH).



UltraTape 1510 Double-Sided Polyester Permanent Adhesion

Permanent adhesive on both sides of a polyester carrier with a transparent red Mylar release liner. Ideal for fastening applications or permanent nameplate mounting. 1520 - Removable also available.

Colors: Clear (CL) with red liner.



UltraTape 2159 Double-Sided Polyimide with Silicone Adhesive

Provides outstanding tensile strength and thermal endurance at elevated temperatures. The product is designed to bond to silicone substrates as well as other difficult-to-bond-to surfaces.

Colors: Bronze (BZ).



denotes UltraTape exclusive UltraClean certification

Environmental Health and Safety

UltraTape manufactures a line of tapes designed to keep the employee workplace safe.

- **Striped Overlaminated Floor Marking tape designates OSHA critical areas in the cleanroom**
- **Solid Color Overlaminated Floor Marking tape to designate aisles and areas within the factory or warehouse**
- **Anti-Skid tape prevents slipping in wet areas**
- **Barrier Films available in UltraClean**
- **Available in UltraClean where each role is processed through UltraTape's clean manufacturing process, individually inspected and individually wrapped in cleanroom polyethylene bags.**



OSHA COLOR REFERENCE GUIDE		
Color	Definition	Hazard
Black/Yellow	Caution	Mark hazards that could cause stumbling, falling, tripping, trapping, etc.
Black/White	Boundry	Stairways, traffic aisles, etc.
Red/White	Fire	Fire alarm, extinguisher, fire exit, fire hydrant and pump locations.
Green/White	Safety	Locations of first aid, eye wash, and safety equipment.

	4421/4422	4425	1165	1167	1186
Backing	Polyethylene	Polyester Overlaminated on Vinyl	Polyester Overlaminated on Vinyl	Embossed Vinyl	Calendered Vinyl
Adhesive	None	Acrylic (adhesive on reverse side)	Rubber	Acrylic	Acrylic
Total Thickness	3.0 ± 0.3 mil	11.0 ± 1.1 mil	9.0 ± 0.9 mil	30.0 ± 2.0 mil	5.4 ± 1.1 mil
Adhesion to Stainless Steel	N/A	70 oz/inch	12 oz/inch minimum	40 oz/inch	40 oz/inch minimum
Operating Temperature	up to 200° F	-22° to +175° F	-10° to +175° F	-40° to +200° F	-10° to +200° F
Elongation at Break	>200%	128%	120%	200%	N/A
Tensile Strength	>10 lbs/inch	28 lbs/inch	20 lbs/inch	60 lbs/inch	N/A
Length	1000 feet	36 yards	18 yards	70 feet	36 yards

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

Environmental Health and Safety



UltraTape 4421 and 4422 Cleanroom Barrier Tapes

Non-adhesive caution barricade tape made with polyethylene film on plastic cores, printed with easy-to-read letters. UltraTape 4421 is a yellow tape printed with "CAUTION" and 4422 is a red tape printed with "DANGER DO NOT ENTER."

Colors: 4421 Yellow with Black print (YE), 4422 Red with Black print (RE).



UltraTape 4425 Striped Vinyl with Face Adhesive

Glass marking/hazard warning tape specially created for glass flooring and tiles. Designed with adhesive on the print side so that it can be viewed under glass flooring.

Colors: Black and Yellow stripe (BY).



UltraTape 1165 Striped Overlaminated Floor Marking

Vinyl tape overlaminated with durable polyester film to withstand heavy traffic. Adheres well to all surfaces. Available in OSHA hazard color guide for delineating and color-coding needs.

Colors: OSHA colors: Black/Yellow stripe (BY), Black/White stripe (BW), Green/White stripe (GW), Red/White stripe (RW).



UltraTape 1167 Vinyl Anti-Skid

Embossed vinyl anti-skid tape with acrylic adhesive. Ideal for ramps, cabinets, stairs, and areas where liquids are commonly spilled.

Colors: Black (BK).



UltraTape 1186 Solid Color Overlaminated Floor Marking

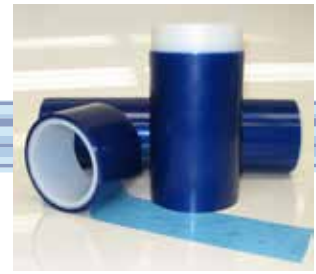
Vinyl film overlaminated with a durable polyester film to withstand heavy traffic. It adheres well to all surfaces.

Colors: Blue (BL), OSHA Blue (OB), Green (GR), Orange (OR), Red (RE), White (WH), and Yellow (YE).



denotes UltraTape exclusive UltraClean certification

In-Process and Surface Protection



UltraTape offers a number of specialty cleanroom tapes that can be customized to meet a wide variety of applications. Special packaging, cores, backing, and adhesive materials are available to meet specific requirements.

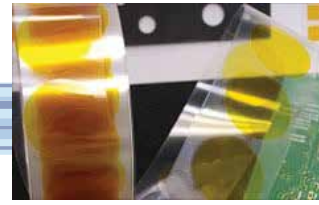
- Available in many substrates and adhesives
- Customized packaging to meet critical environment requirements
- Available in UltraClean or Standard Clean
- Poly TechCut tapes and labels for circuit board mask, wave solder, and other high temperature applications
- High temperature, low adhesive wafer processing tapes

	1310	1410	6570	7245	6573
Backing	Vinyl	Closed Cell Polyethylene Foam	Polyester	Teflon	Polyester
Adhesive	Acrylic	Rubber Double Sided	Silicone	Silicone	Silicone
Total Thickness	3.0 ± 0.5 mil	125 mil	2.0 ± 0.5 mil	6.5 ± 0.6 mil	1.9 mil
Adhesion to Stainless Steel	5 oz/inch	65 oz/inch	35 oz/inch	32 oz/inch	17 oz/inch
Operating Temperature	-40° to +200° F	up to +150° F	-10° to +350° F	Up to +500° F	Up to +425° F
Elongation at Break	200%	N/A	90%	N/A	90%
Tensile Strength	14 lbs/inch	20 lbs/inch	25 lbs/inch	18 lbs/inch	25lbs/inch
Length	55 yards	18 yards	72 yards	36 yards	36 yards

Information above is solely intended as a guideline. Each user should conduct his own tests and analysis to determine the product's suitability for its intended use and shall assume all responsibility and liability.

For additional tapes, refer to the charts on pages 21-23.

In-Process and Surface Protection



UltraTape 1310 Vinyl Surface Protection

Designed to provide maximum protection for all surfaces, whether painted, mill finished, or polished. Use on stainless steel, glass, aluminum, coated metals, and plastics. Excellent outdoor performance.

Colors: Translucent Blue (TB).



UltraTape 1410 Double-Sided Foam Permanent Adhesion

Closed cell polyethylene foam double-sided tape on a blue polyethylene liner. Clean polyethylene foam for a variety of uses during construction and maintenance.

Colors: White (WH).



UltraTape 6570 High Temperature Polyester

Bonds quickly to all surfaces and removes cleanly with no residue. Low metals. High temperature tape for up to 350° F (177°C). The silicone adhesive assures no adhesive residues even at elevated temperatures.

Colors: Clear (CL).



UltraTape 7245 Teflon High Temperature

Adheres readily to heated surfaces, repositionable without residue and is able to tolerate high temperatures up to 500° F.

Colors: Gray (GR).



UltraTape Poly TechCut™ Polyimide Die Cut Tapes

Films and label stock that deliver high performance, reliability and durability, with a unique combination of electrical, thermal, chemical and mechanical properties that can withstand extreme temperature, vibration and other demanding environments.

Colors: Translucent



UltraTape 6573 Green High Temperature Polyester

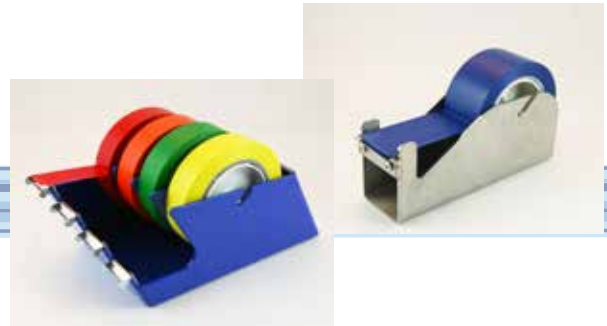
A polyester film with low adhesion, pressure sensitive silicone adhesive that provides outstanding tensile strength and thermal endurance at elevated temperatures up to 450° F. Designed to bond to silicone substrates as well as other difficult-to-bond-to surfaces. Silicone adhesive ensures a clean release.

Colors: Green (GR)



denotes UltraTape exclusive UltraClean certification

Tape Dispensers



UltraTape UT922 Single Roll Dispenser

UT922 is designed to hold one roll up to 2" wide and 220 yards in length on a 3" core. The dispenser is supplied with a 3" plastic core holder.

Colors: Blue (BL).

UltraTape UT924 Multiple Roll Dispenser

The UT924 is designed to hold four rolls up to 1" wide and 220 yards in length on a 3" core. The dispenser is supplied with four 3" plastic core holders.

Colors: Blue (BL).

UltraTape UT962 Stainless Steel Dispenser

Made from industrial 304 grade stainless steel with a mounting bracket on the bottom. It is corrosion resistant and the replaceable serrated blade is electroplated chrome buffed to a dull shine. Designed to hold one roll, with a 3" core, up to 2" wide and 220 yards in length.

Colors: Gray (GY.)

Sample Kits:

UltraTape is pleased to offer online ordering of evaluation sample kits for its Assorted Cleanroom, Construction, ESD, Wafer Box, and Medical tapes. Each sample kit contains an assortment of tapes within the selected product family to enable the customer to determine the optimum tape for their application. Please visit the website www.cleanroomtape.com for more detailed descriptions.

Construction Tape Sample Kit: 1153, 1154, 1160, 1165, 4421/4422

In-Process and Surface Protection Sample Kit : 1310, 1410, 6570, 6573

Medical & Pharmaceutical Tape Sample Kit: 7155, 7160, 1114P, 7512











ESD Tape Sample Kit: 2118, 2149, 2156, 2157, 0440

Semiconductor Tape Sample Kit: 1110, 1112, 1114, 1153, 1164














* All kits are available with UT922 dispenser.
















UltraTape Product Specification Chart

Product	Backing	Adhesive	Thickness	Adhesion to Steel 180° Peel Min	Operating Temp (F)	Elongation at Break	Tensile Strength	Length	Colors	Application
0116	Conductive Grid between Copolymer	Acrylic	1.9 ± 0.3 mil	30 oz/inch	Up to 140°	160%	22 lbs/in	36 yds	Tan with Conductive Grid	ESD/HT
0137	Cellophane	Rubber	2.0 ± 0.3 mil	59 oz/inch	32 to 150°	25%	25 lbs/in	72 yds	Clear with Printing	ESD/HT
0151	Polyethylene	Rubber	7.0 +/- 1.0 mil	50 oz/inch	-20 to +200°	80%	18 lbs/in	36 yds	White with Serrated Edges	Const.
 4421 0421	Polyethylene	No Adhesive	3.0 ± 0.3 mil	NA	Up to 200°	300%	10 lbs/in	1,000 ft	Yellow with Black Print	EH&S
 4422 0422	Polyethylene	No Adhesive	3.0 ± 0.3 mil	NA	Up to 200°	300%	10 lbs/in	1,000 ft	Red with Black Print	EH&S
 4425 0425	Polyester over Laminated on Vinyl	Acrylic (adhesive on reverse side)	11.0 ± 1.1 mil	70 oz/inch	-22 to +175°	120%	20 lbs/in	36 yds	Black/Yellow	EH&S
 1110 0110	Polyethylene	Acrylic	5.5 ± 0.7 mil	56 oz/inch	-20 to +190°	450%	12 lbs/in	36 yds	BL, CL, GR, OR, RE, WH, YE	Semi
 1112 0112	Polyethylene	Acrylic	5.5 ± 0.7 mil	30 oz/inch	-40 to +250°	550%	14 lbs/in	36 yds	CL, GR, OR, RE, WH, YE, Tinted Blue	Semi
 1114 0114	Polyethylene	Acrylic	5.5 ± 0.7 mil	12 oz/inch	-20 to +190°	450%	9 lbs/in	36 yds	BL, WH, RE, YE, GR	Med/Pharm
 1114P 0114P Perforated	Polyethylene	Acrylic	5.5 ± 0.7 mil	12 oz/inch	-20 to +190°	450%	9 lbs/in	36 yds	WH	Med/Semi
 1153 0153	Polyethylene	Rubber	7.0 ± 1.0 mil	60 oz/inch	-20 to +200°	80%	18 lbs/in	36 yds	BK, BL, CL, GR, OR, RE, WH, YE, Blue/White, Teal/White	Semi, Const., Aero/Solar
 1154 0154	Polyethylene	Rubber	7.0 ± 1.0 mil	25 oz/inch	-20 to +200°	80%	18 lbs/in	36 yds	WH, BL	Semi, Const., Aero/Solar
 1160 0160	Vinyl	Rubber	6.0 ± 0.7 mil	22 oz/inch	-20 to +190°	160%	18 lbs/in	36 yds	OSHA Blue, BK, BL, CL, GR, OR, RE, WH, YE	Const.

UltraTape Product Specification Chart

Product	Backing	Adhesive	Thickness	Adhesion to Steel 180° Peel Min	Operating Temp (F)	Elongation at Break	Tensile Strength	Length	Colors	Application
 1164 0164*	Polyolefin	Acrylic	4.3 ± 0.5 mil	36 oz/inch	-40 to +190°	650%	15 lbs/in	60 yds	WH	Semi, Const.
 1165 0165	Polyester Over laminated on Vinyl	Rubber	9.0 ± 0.9 mil	12 oz/inch	-10 to +175°	120%	20 lbs/in	18 yds	BY, BW, RW, GW	EH&S
 1167 0167	Embossed Vinyl with Polyethylene Liner	Acrylic	30.0 ± 0.2 mil	40 oz/inch	-40 to +200°	200%	60 lbs/in	70 ft	BK	EH&S
 1186 0186	Calendered Vinyl	Acrylic	5.4 ± 1.1 mil	40 oz/inch	-20 to +200°	N/A	N/A	36 yds	OSHA Blue, BK, BL, CL, GR, OR, RE, WH, YE	EH&S
 1225 0225	BOPP	Acrylic	2 mil	22 oz/inch	32 to 140°	n/a	20 lbs/in	55 yds	Clear	Semi
 1310 0310	Vinyl	Acrylic	3.0 ± 0.5 mil	5.0 oz/inch	60 to 100°	200%	14 lbs/in	55 yds	Tinted Blue	SP
 1410 0410	Closed Cell Polyethylene Foam	Rubber	125 mils	65 oz/inch	Up to 150°	300%	20 lbs/in	18 Yards	White with Blue Polyethylene Liner	Aero/Solar
 1440 0440	Vinyl with Polypropylene Overlaminates	Acrylic	5.0 mil	NA	-10 to +176°	80%	20 lbs/in	36 yds	Yellow with Black Print	EH&S
 1510 0510	Polyester	Acrylic	8.0 ± 0.7 mil	72 oz/inch	-10 to +175°	100%	18 lbs/in	36 yds	Clear with Red Liner	Aero/Solar
 1520 0520	Polyester	Acrylic	3.2 ± 0.2 mil	20 oz/inch	-10 to +140°	100%	11 lbs/in	36 yds	Clear, Liner on Wrap Only	Aero/Solar
 1530 0530	Polyester	Acrylic	3.2 ± 0.2 mil	20 oz/inch	-10 to +140°	100%	11 lbs/in	36 yds	Clear with Red Liner	Aero/Solar
 2118 0118	Polypropylene	Rubber	3.0 ± 0.3 mil	30 oz/inch	-40 to +130°	80%	20 lbs/in	55 yds	CL	ESD/HT
 2127 0127	Cellophane	Rubber	2.0 mil	28 oz/inch	32 to 150°	20%	25 lbs/in	72 yds	CL	ESD/HT

UltraTape Product Specification Chart

Product	Backing	Adhesive	Thickness	Adhesion to Steel		Operating Temp (F)	Elongation at Break	Tensile Strength	Length	Colors	Application
				180° Peel Min							
 2149 0149	Polyester	Conductive Synthetic Rubber	5.0 ± 0.7 mil	27 oz/inch		10 to 150°	80 - 120%	23 lbs/in	72 yds	Dark Grey	ESD/HT
 2156 0156	Polyimide	Silicone	2.7 mil	22 oz/inch		Up to +500°	60%	30 lbs/in	36 yds	Bronze	ESD/HT
 2157 0157	Polyimide	Silicone	2.5 ± 0.7 mil	25 oz/inch		Up to +500°	60%	32 lbs/in	36 yds	Bronze	ESD/HT
 2158 0158	Polyimide	Acrylic	2.5 mil	30 oz/inch		Up to +400°	60%	30 lbs/in	36 yds	Bronze	ESD/HT
 2159 0159	Polyimide	Doubled-Sided Silicone	4.0 ± 0.5 mil	25 oz/inch		-55 to +400°	60%	25 lbs/in	36 yds	Bronze with Clear Liner	ESD/HT
 6570 0570	Polyester	Silicone	2.0 ± 0.2 mil	35 oz/inch		-10 to +350°	90%	24 lbs/in	72 yds	CL	ESD/HT
 6571 0571	Polyester	Silicone	2.0 mil	30 oz/inch		-10 to +350°	90%	25 lbs/in	36 yds	BL	ESD/HT
 6572	Polyester	Silicone	3.4 mil	15 oz/in		up to 425°	90%	25 lbs/in	36 yds	GR	ESD/HT
 6573	Polyester	Silicone	1.9 mil	30 oz/in		up to 425°	90%	25 lbs/in	36 yds	GR	ESD/HT
 7155	Saturated Crepe Paper	Rubber	6.0 ± 0.7 mil	36 oz/inch		Indicate at 273°	10%	22 lbs/in	60 yds	Natural Tan	Med/Pharm
 7160	Vinyl	Rubber	6.0 ± 1.0 mil	22 oz/inch		-20 to +190°	100%	18 lbs/in	36 yds	BL, CL, GR, OR, RE, WH, YE	Med/Pharm
 7243 0243	Teflon	Silicone	6.0 ± 0.6 mil	32 oz/inch		Up to +500°	125%	18 lbs/in	36 yds	Grey	ESD/HT
 7245 0245	Teflon	Silicone	6.5 ± 0.6 mil	32 oz/inch		Up to +500°	125%	30 lbs/in	36 yds	Grey	ESD/HT

Delphon's goal is to provide materials and services for the handling, processing and packaging of high value technology components and leading-edge medical devices. The company serves a wide range of markets including the Semiconductor, Medical Device, Electronics, Opto-Electronics, MEMS, Solar, and Defense industries. Quality processing along with ISO 9001 certification assures that even the most stringent customer requirements are met. Delphon's companies have been providing unique materials and services for over 25 years and they continue to develop custom solutions for critical applications by merging innovative technologies.

Delphon Divisions



Ultratape Industries produces quality cleanroom adhesive tape and label products. The company specializes in particle-free, non-residue tapes and labels for the Semiconductor, Pharmaceutical, Aerospace, Medical, and Electronics industries.



Gel-Pak manufactures a family of innovative Gel-coated boxes, trays, and films. Gel-Pak's products are designed for applications where maximum protection is required during the shipping, handling and processing of valuable devices. Gel-Pak's manufacturing expertise allows the company to quickly customize existing products or develop new solutions to meet ever changing industry requirements.



Microelectronic Packaging and Assembly Services

Quik-Pak offers semiconductor packaging, assembly and prototype services in 24 hours or less. The company's unique open cavity plastic package technology allows qualification of new devices in a platform that is identical to future production packages. Quik-Pak also offers complete turnkey assembly services, from wafer backgrinding & dicing, die sort and inspection, to wire bonding, encapsulation and marking/branding. The company's services facilitate on-time project completion and faster time to market for its customers, which range from leading Semiconductor IDMs to small Fabless companies and major universities around the world.



TouchMark provides high quality precision pad printing services to the Medical Device, Diagnostics, and eElectronics industries. The company specializes in difficult projects from intricate 360 degree catheters to keyboard pads with recessed areas and compound curves. TouchMark's expertise in medical grade inks and unique substrates along with its cleanroom printing facility and broad range of equipment allows the company to provide customers with the technology necessary to handle prototypes, engineering lots, or full scale production runs.

