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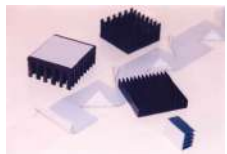
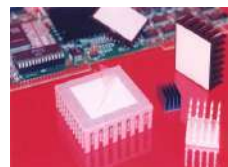
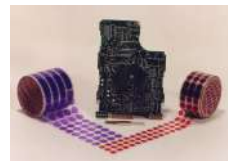
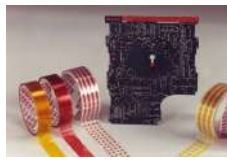


PRESSURE SENSITIVE TAPES

FOR

PRINTED CIRCUIT BOARD

ASSEMBLY



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*A Brand Of
Quality To
Rely On...*



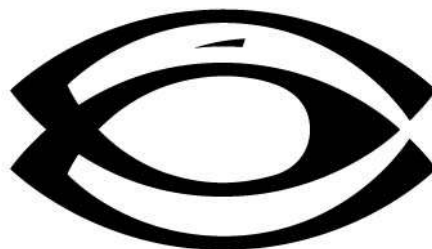
PPI ADHESIVE PRODUCTS LTD was originally established in 1970 and commenced production at Waterford Industrial Estate in 1971. Through our commitment to continuous product improvement and product innovation, **PPI Adhesive Products Ltd.**, has grown to become a world-renowned supplier on a global scale to PCB Assemblers and their associated industries. Our comprehensive range of standard "PCB tape products" has become synonymous with the word "quality" and have been used and approved by an ever-growing number of leading electronic assembly companies.

In recent years, we have been instrumental in introducing to the marketplace a most progressive series of products. These range from tapes for PCB masking applications, to specialty products for both EMI shielding and thermal conductivity, as well as a range of premium quality labelstock and pressure sensitive anti-static cover tapes, which are used to package surface mount devices into blister pack carrier reels. These innovations, like all PPI products, have been to the forefront in terms of offering PCB assemblers improved process productivity, efficiencies and product quality.

Some of our previous original developments have been, the patented PPI 2000 family of novel solvent soluble PCB masking tapes and also our range of water-soluble PCB masking tapes. Likewise, we lead the field in the introduction and patenting of PPI RD-042 D, an anti static high temperature masking tape. This was the first high temperature anti-static solder wave masking tape, which was developed with PPI technology for the PCB industry. PPI RD-042 D represented a revolution in the area of static reduction during PCB assembly, where the negative effects of unwanted electro-static discharges are well known.

We in the PPI group of companies have the experience and the capability to offer products and services to all of our customers, which can fulfill applications ranging from small developing niche areas to highly demanding technical challenges.

PPI - We don't just sell tape ... we sell quality solutions...

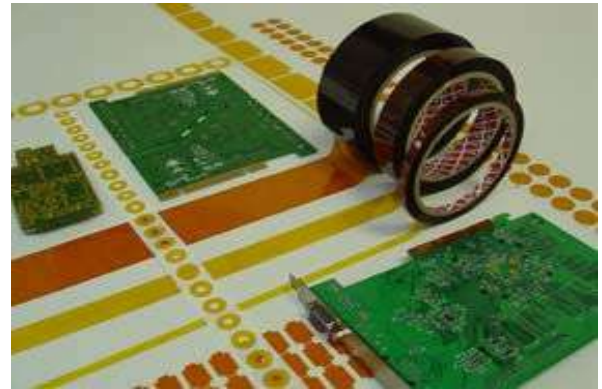



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WAVE SOLDER MASKING TAPES

We produce a series of high temperature resistant solder wave masking tapes that are capable of being used even in the very demanding conditions (ca. 300°C) associated with lead-free soldering processes. These products can be supplied in roll form, standard dot sizes and also special die-cut formats suited to your very own requirements.



PPI TYPE	PPI 701	PPI 702	PPI RD-042D	PPI SP-255
Base Material	Polyimide Film	Polyimide Film	Special Polyimide Film	Crepe Paper
Total Thickness	0.055mm	0.085mm	0.060mm	0.160mm
Adhesive	Silicone	Silicone	Silicone 	Silicone
Adhesive Strength	2.0 N/cm	3.5 N/cm	1.0 N/cm	2.0 N/cm
Temperature Resistance	Short Term Up to 300°C	Short Term Up to 300°C	Short Term Up to 300°C	Short Term Up to 260°C
Colour	Brown Transparent	Brown Transparent	Brown Opaque	Buff

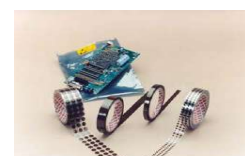
PPI 701: A high temperature resistant masking tape based on polyimide film coated with a silicone adhesive layer that has an optimum balance of tack and adhesion. PPI 701 is readily removable from a PCB surface after the reflow process without causing any adhesive residue making it the ideal choice for gold finger masking applications.

PPI 702: A thicker version of the PPI 701, due to a thicker adhesive layer. This product possesses increased tack and adhesion particularly onto uneven PCB surfaces.

PPI RD-042D: Through its unique and patented construction (*File EP 0 422 919*), PPI RD-042D is the original **anti-static** PCB high temperature masking tape and is widely used in the production of premium quality PCB's where static reduction is critical.



PPI SP-255: A crepe paper based high temperature masking tape, which is flexible and hand tearable.

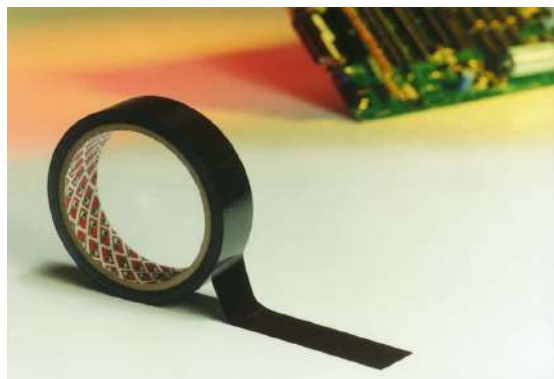


HOT AIR LEVELLING MASKING TAPE

Hot Air Levelling (HAL) is a challenging high-temperature solder process, which involves exposure to high air pressure. Due to these severe demands many lightweight tapes are unsuitable and a more robust tape is required. **RD-487 D** has been specifically developed for the HAL masking process. This tape possesses an excellent balance of high temperature and high mechanical resistance and is residue free upon removal.

ELECTROPLATING TAPES

During the PCB production process, copper contacts are electroplated to produce “gold fingers”. PPI masking tapes for electroplating are used to prevent plating over areas of the PCB where it is not required. Our tapes are conformable, have excellent chemical resistance, and are removable without any trace of adhesive residue.



There is also a non-silicone version available for specific applications.

<i>PPI TYPE</i>	<i>PPI-487D</i>	<i>PPI-289</i>	<i>PPI RD-397B</i>	<i>PPI -105</i>
Base Material	Paper/Polyester	Polyester Film	Polyester Film	Polyester Film
Total Thickness	0.250mm	0.100mm	0.070mm	0.055mm
Adhesive	Silicone	Rubber	Silicone	Silicone
Adhesive Strength	5.0 N/cm	2.6 N/cm	4.0 N/cm	3.0 N/cm
Temperature Resistance	Short Term Up to 300°C	Short Term Up to 100°C	Short Term Up to 200°C	Short Term Up to 200°C
Colour	Grey	Green	Green	Blue

PPI RD-487D: Has been specifically developed for H.A.L masking process. It has a robust construction based on a special paper/polyester laminate that is then coated with a high adhesion silicone adhesive layer. This product has been designed to resist high-pressure air blast associated with the HAL process.

PPI 289: A polyester film based tape with a non-silicone, rubber based adhesive. This tape has a thick adhesive layer and is ideal for masking over contoured surfaces during electroplating. ****Silicone free****

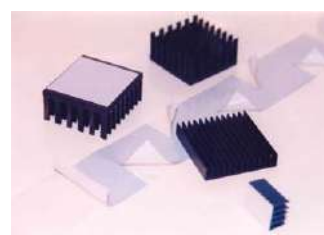
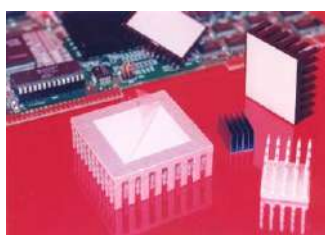
PPI RD-397B: Based on a polyester film with a thick layer of silicone adhesive that also makes it very suitable for masking uneven or contoured surfaces. Because of its superior adhesive stability it is recommended for the more demanding applications involving high temperature processes.

PPI-105: Standard polyester based masking tape for electroplating processes



THERMAL MANAGEMENT TAPES

Because of the constant drive within the global electronics industry to reduce component size, comes the ever-increasing need to protect parts from overheating. PPI has developed a series of pressure sensitive thermal management tapes that combine the benefits of rapid and permanent component positioning with component protection. This is achieved through dissipation of heat from the sensitive components and devices throughout their lifetime. These tapes are used as thermal interfaces for bonding heat sinks onto electronics devices to protect them from damage due to overheating. These products can be die cut into a wide variety of forms that can offer considerable handling and application advantages when compared to the combination of thermally conductive greases and component clip holding techniques.



PPI TYPE	PPI RD-339C	PPI RD- 628	PPI RD-281G	PPI RD-281H
Base Material	Soft Aluminium Foil	Soft Aluminium Foil	Thermally Conductive Polyimide	Thermally Conductive Polyimide
Total Thickness	0.160mm	0.210mm	0.060mm	0.095mm
Adhesive	Thermally Conductive Acrylic	Thermally Conductive Acrylic	Flame Retardant Thermally Conductive Acrylic	Flame Retardant Thermally Conductive Acrylic
Adhesive Strength	5.5 N/cm	6.5 N/cm	3.0 N/cm	3.0 N/cm
Temperature Resistance	Up to 155°C	Up to 155°C	Up to 180°C	Up to 180°
Colour	White	White	White / Orange	White

RD-339C: This tape is based on an aluminium foil, which has been coated on both sides with a thermally conductive permanently bonding acrylic adhesive. Capable of operating up to 155°C.

PPI RD-628: A thicker version of the RD-339 C, the RD-628 possesses higher adhesion and is more suitable for bonding to irregular surfaces.

RD-281 G & H: Specialist thermal management tapes based on thermally conductive polyimide film, specifically designed for high dielectric applications. RD-281G is a single coated version that is normally used in conjunction with mechanical fastening. RD-281H is adhesive coated both sides.

**** Specific Data Sheets Available On Request ****

HIGH TEMPERATURE LABELS FOR PCB IDENTIFICATION

PPI Adhesive Products has been manufacturing and converting high performance label products for PCB identification for many years. Whether the process requires labels for the PCB topside labelling or the more severe PCB bottom side labelling requirements, PPI has the product to suit your needs. From special anti-static versions to surface coated products, PPI Adhesive products can offer the end user versatility in choosing the optimum material to suit their barcode needs and requirements.

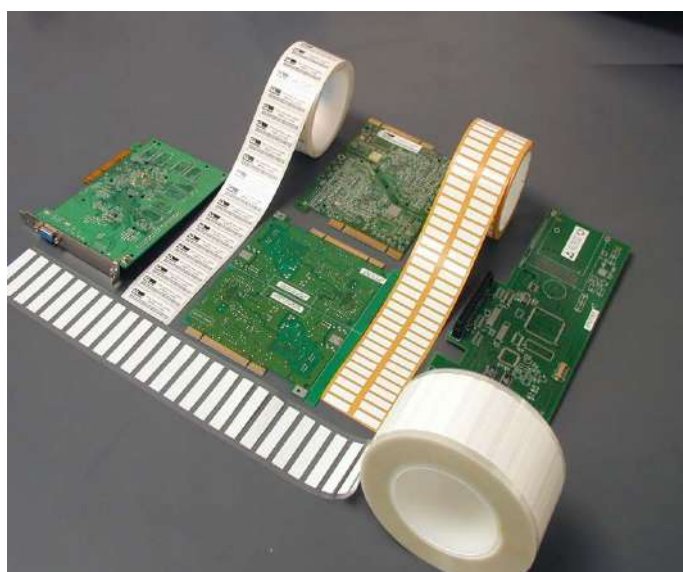
PPI Labelstock products can be supplied in roll format to suit converters needs and can also be offered in precision die-cut format direct to the end user.

PPI L-133

Based on white polyester film PPI L-133 is suitable for barcode printing using a wide range of thermal transfer ribbons and printers. This label product can withstand temperatures up to 155°C and also exposure to a wide range of chemicals / solvents. It is recommended for many label applications, including topside PCB label identification of boards and their components.

PPI L-133 is available as standard in a range of thicknesses depending on particular requirements.

UL PGJ12 LISTED



PPI L-139A

Based on a polyimide film coated with a specially formulated white printable layer. This product is suitable for PCB bottom side labelling conditions that are often too aggressive for polyester based products. Due to its polyimide base film, L-139A is heat resistant up to 300°C short term making it suitable for direct exposure to molten solder and many aqueous based cleaning fluids.

The smooth printable layer ensures PPI L-139A is thermal transfer printable using a wide variety of thermal transfer ribbons and printers.


***** Specific Data Sheets Available On Request *****



PPI RD-514

RD-514 is based on polyimide film coated with a highly resistant printable coating that has been designed for printing with high quality resin based thermal transfer ribbons. Recommended for all labelstock applications in extreme or harsh environments because of its resistance to many organic cleaning solvents and wash solutions. Suitable for similar applications to L-139A, but recommended for those with more aggressive cleaning solvents.



PPI TYPE	PPI L-133	PPI L-139A	PPI RD-514	PPI RD-689
Base Material	Polyester Film	Polyimide Film	Polyimide Film	Special Construction Polyimide Film
Total Thickness	0.050mm 0.075mm	0.065mm 0.090mm	0.075mm 0.100mm	0.100mm
Adhesive	Acrylic	Acrylic	Acrylic	Acrylic 
Adhesive Strength	4.0 N/cm	2.5 N/cm	2.5 N/cm	1.5 N/cm
Temperature Resistance	Short Term Up to 200°C	Short Term Up to 300°C	Short Term Up to 300°C	Short Term Up to 300°C
Colour	White	White	White	White
Interliner	White release coated paper	White release coated paper	White/Brown release coated paper	White release coated paper



PPI RD-689



RD-689 is an anti-static version of the popular RD-514 high-temperature polyimide labelstock. Due to its special adhesive construction RD-689 prevents any static discharge during removal from its interliner or from sensitive components after use. Specifically designed for use in environments where the reduction of electro-static discharge is critical for sensitive component protection.

RD-689 can withstand temperatures up to 300°C short term making it suitable for direct exposure to molten solder.

PRESSURE SENSITIVE COVER TAPE FOR PACKAGING SURFACE MOUNT DEVICES

Pressure sensitive anti-static cover tape is used to tape surface mount components and devices securely into preformed blister pack carrier reels in which they are packaged. These special products ensure secure protection of components during transport and also against ESD damage during the packaged lifetime of the components. The specially formulated adhesives provide an even peel from the various carrier reels and this prevents any interruption of components during pick and place operation when loading PCB's.

FEATURES AND BENEFITS



Application



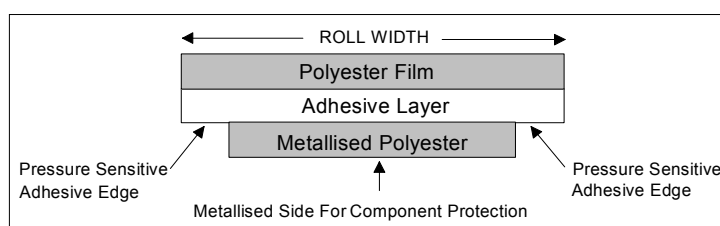
Unlike heat activated cover tapes, pressure sensitive cover tapes only require the application of pressure to form sufficient bonds to the various types of moulded carrier reels, e.g. PVC, polycarbonate, polystyrene.

Adhesive



The specially formulated pressure sensitive adhesives used on this range of products have been specifically designed for compatibility with a range of carrier reels resulting in controlled peel values upon de-taping. The smooth peel characteristic of these adhesives ensures that the packaged components will remain in the correct position during removal of the tapes. Unlike heat activated cover tape, the PSA allows the packaged reel to be opened at any point for component inspection or repair.

Construction: The special laminated construction guarantees **ESD protection** of the packaged components. The transparency of the tape allows visual inspection of components and devices.



STANDARD COVER TAPE WIDTHS (MM)

Cover Tape Width	9.3	13.3	21.3	25.5	37.5	49.5	65.5	81.2	113.4
Adhesive Edge each side	1.15	1.15	1.15	1.45	1.45	1.45	1.45	2.0	3.0
Blister Pack Carrier Width	12	16	24	32	44	56	72	88	120

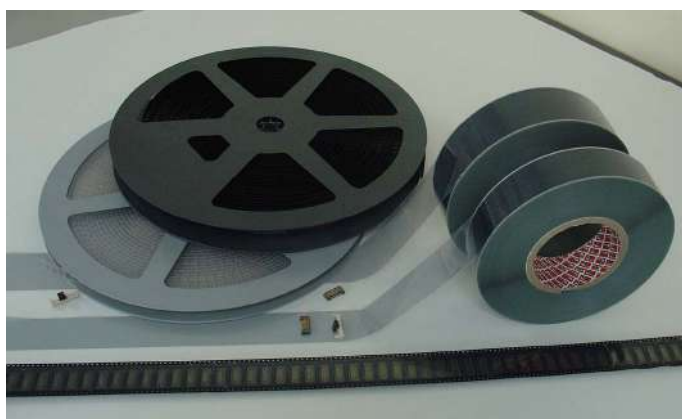
Non standard sizes available on request

Specific data sheets available



PPI LM-860D

Anti static cover tape that provides a smooth **controlled level of adhesion** to a wide selection of blister packs due to its specially formulated acrylic adhesive. The surface of the tape that covers the components in the packaged reel ensures protection against Electro Static Discharge (ESD) preventing any damage to the entire contents of the reel. Available in roll lengths up to 500m.



PPI TYPE	PPI LM-860D	PPI LM-382B	PPI SP-2300C
Base Material	Metallised Polyester Film	Metallised Polyester Film	Polyester Film
Total Thickness	0.055mm	0.052mm	0.060mm
Adhesive	Acrylic	Rubber based	Acrylic
Adhesion/Tape width	30 - 80 cN	20 – 120 cN	30 – 80 cN
Surface Resistivity	$10^5 - 10^{10}$ ohm/cm	$10^5 - 10^{10}$ ohm/cm	N/A
Colour	Grey Transparent	Green Transparent	Transparent Film Black Adhesive
Availability	All standard sizes	All standard sizes	Limited sizes available

***Evaluation for compatibility between cover tape and carrier reel is advised.*

PPI LM-382B

Pressure sensitive cover tape which has good adhesion to difficult-to-adhere-to blister pack materials manufactured from low surface energy plastics. Coated with a specially formulated rubber/resin based adhesive, LM-382B gives added security and protection when packaging heavy or large components into the blister pack.



PPI SP-2300C

This is a non-metallised polyester based cover tape which is specifically used for packaging plastic components and devices that do not require any level of ESD protection. This product is only available in roll widths of 25.5mm upward and unlike our standard cover tape products is based on a single layer polyester film.



As with all cover tape products, PPI can offer our customers technical support and assistance in determining compatibility between cover tape and specific carrier reels.

ANTI-STATIC TAPES

Generation of static in the proximity of static sensitive devices can have a damaging effect on such devices. As a result of this anti-static tapes which do not generate ESD during roll unwind or application to the surface to be bonded or sealed are used in these environs. Applications include masking during conformal coating, reflow solder processes and sealing of PCB's and components into anti-static bags.

- **PPI RD-042D**

Polyimide based anti-static PCB high temperature masking tape for masking gold contacts.

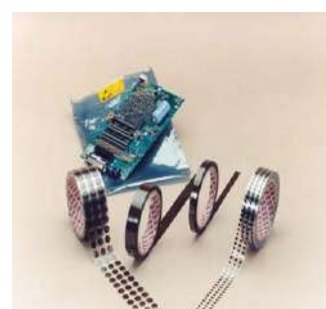


- **PPI SP-249**

Polyester based anti-static tape which can be used for masking during conformal coating processes or for closing anti-static bags.

- **PPI RD-512D**

Translucent polyester based anti static tape used for similar applications as SP-249.



ELECTRICALLY CONDUCTIVE TRANSFER ADHESIVE

PPI RD-073D

Electrically conductive acrylic transfer adhesive that can be used to bond metal connectors or flat ribbon cables to circuit board contacts. PPI RD-073D is electrically conductive through its thickness (Z-axis) ensuring a continuous electrical pathway through the adhesive bond. RD-073D is supplied on a silicone release paper.

PPI TYPE	RD-042D	SP-249	RD-512D	RD-073D
Base Material	Special Polyimide Film	Polyester Film	Polyester Film	Silicone Release Paper
Total Thickness	0.060mm	0.055mm	0.055mm	0.050mm
Adhesive	Silicone	Acrylic	Acrylic	Electrically Conductive Acrylic
Adhesive Strength	1.0 N/cm	3.0 N/cm	3.0 N/cm	5.5 N/cm
Temperature Resistance	Short Term Up to 300°C	Short Term Up to 180°C	Short Term Up to 180°C	Short Term Up to 180°C
Colour	Brown Opaque	Grey	Translucent	Transparent

PPI DELIVERY SPECIFICATION

Standard Widths : 6, 9, 12, 15, 19, 25, 30, 38, 50, 60, 75, 100 mm. ¼" to 4"

Special and intermediates widths can be supplied from 1.0 mm upwards in steps of 0.5 mm depending on PPI type.

Core: 3" Cardboard or Plastic.

All technical data are based on average values.

Test methods are based on international standards e.g. VDE, EN, BSS, IEC, ASTM, UL, MIL, AFERA and CEN.

PPI Self-adhesive tapes are available in printed and die-cut forms, details on request.

Special tapes can be produced to customer's specifications.



Our group of companies also offers you:

PPI ADHESIVE PRODUCTS LTD.



PPI Self-adhesive tapes

- For the electrical and electronic industries
- For the audio/video industries (splicing tapes, cleaning tapes, etc.)
- For use in printed circuit board assembly
- For shielding and winding transformer applications
- For a wide range of industrial and speciality applications (floor covering manufacture, masking tapes, etc.)

TECHNICAL ADHESIVE PRODUCTS LTD. (T.A.P.)



Producer of precision die-cut adhesive components for electrical, electronic and general industrial applications. T.A.P. can offer experienced technical know how on all aspects of product die-cutting and design.

WATERFORD RESEARCH & DEVELOPMENT LTD.



Continuously develops self-adhesive products for our own group and for our interested customers. R&D develops new production techniques and market know-how on all aspects of adhesive products.

VALENTIA INDUSTRIES.



Producer of single and double-sided siliconised polyester films in a range of thicknesses from 0.012mm to 0.190mm. Available from 6mm to 1350mm width. Customised release levels a specialty.

IMPORTANT NOTE TO PURCHASERS

All statements, technical data and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness is not guaranteed, and the following is made in lieu of all warranties, express or implied.

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

No statement or recommendation not contained herein shall have any force or effect unless embodied in a written agreement signed by authorised officers of seller and manufacturer.



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