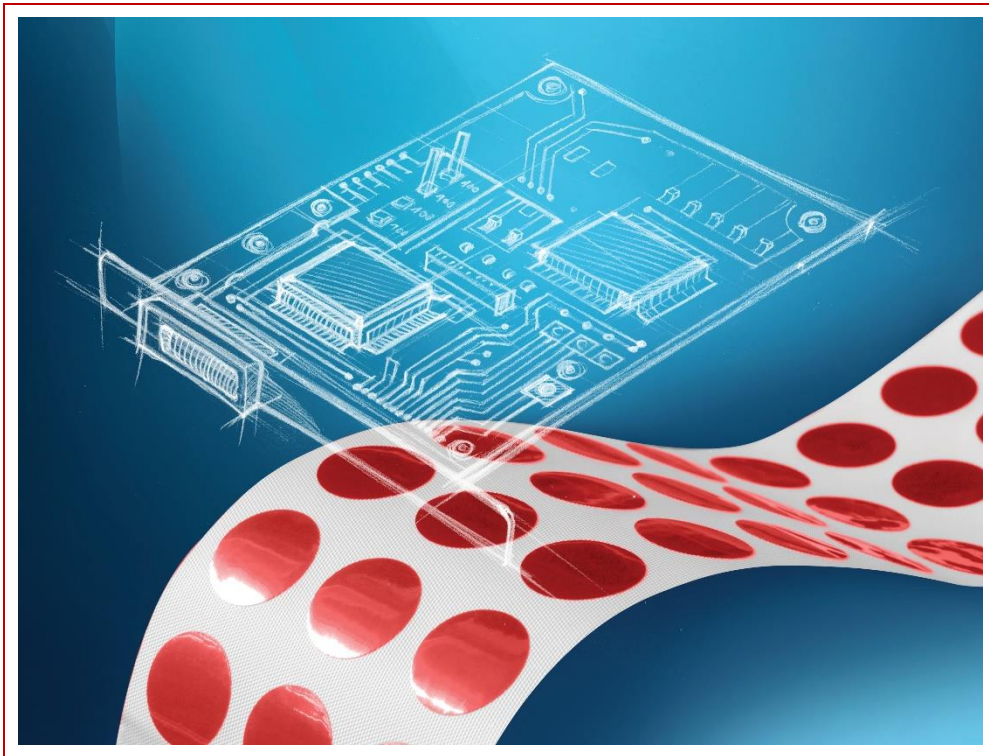




PRESSURE SENSITIVE TAPES FOR PRINTED CIRCUIT BOARD ASSEMBLY



PPI ADHESIVE PRODUCTS LIMITED

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 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.

Throughout the company's history, 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.

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

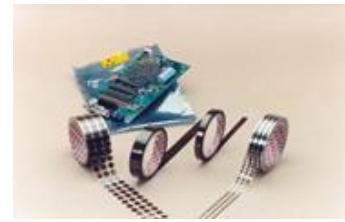
The company, through its own independent **Research & Development Center** also based in Waterford, has excelled in developing **custom made products** tailored to meet specific and special requirements from customers apart from providing quality solutions to engineering and technical problems.

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.



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 701 & PPI 702 high temperature polyimide tapes



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, this product possesses increased tack and adhesion particularly onto uneven PCB surfaces.



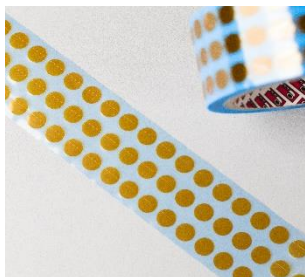
SP-255 & SP-479 crepe paper tapes

SP-255 A crepe paper based high temperature masking tape, which is flexible and hand tearable. Suitable for the protection of various areas of P. C. Boards. Also recommended for masking edge connectors or fingers during hot air levelling.

SP-479 Version of SP-255 with thicker silicone adhesive layer and good adhesion to irregular board surfaces.

PPI TYPE	PPI 701	PPI 702	SP-255	SP-479	RD-042D	RD-624B
Base material	Polyimide film	Polyimide film	Crepe Paper	Crepe Paper	Polyimide Film	Polyimide Film
Base Thickness	0.025 mm	0.025 mm	0.120 mm	0.120 mm	0.025 mm	0.025 mm
Total Thickness	0.055 mm	0.085 mm	0.140 mm	0.160 mm	0.060 mm	0.060 mm
Adhesive	Silicone	Silicone	Silicone	Silicone	Silicone	Acrylic
Adhesive Strength	2.0 N/cm	3.5 N/cm	2.0 N/cm	3.0 N/cm	1.0 N/cm	1.2 N/cm
Temperature Resistance	Short Term Up to 300°C	Short Term Up to 300°C	Short Term Up to 260°C	Short Term Up to 260°C	Short Term Up to 300°C	Short Term Up to 100°C
Colour	Brown Transparent	Brown Transparent	Buff	Buff	Brown Opaque	Brown Opaque

RD-042D & RD-624B polyimide anti-static tapes



RD-042D Polyimide film based tape coated with a special surface conductive adhesive. Through its unique construction, 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.

RD-624B Version of RD-042D with high temperature resistant acrylic adhesive.

HOT AIR LEVELLING/ ELECTROPLATING

HAL Tapes

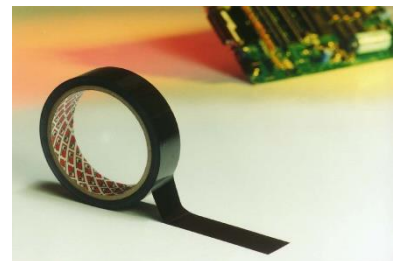
Hot Air Levelling (HAL) is a challenging high-temperature solder process, which involves exposure to high air pressure. Due to these severe demands many lightweight tapes are unsuitable and a more robust tape is required.

RD-487G has been specifically developed for the HAL 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. RD-487G conforms to PCB irregularities and gives a fine masking line. This tape possesses an excellent balance of high temperature and high mechanical resistance and is residue free upon removal.


SP-255 & SP-479 are particularly recommended for masking edge connectors or fingers during hot air levelling.

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.



SP-905 is removable masking tape for electroplating processes. The polyester/silicone combination is resistant to a wide variety of chemicals (e.g. etching, plating solutions) and is therefore ideally suited to masking applications.

PPI TYPE	RD-487G	SP-255	SP-479	SP-905
Base material	Paper/ Polyester	Crepe Paper	Crepe Paper	Polyester Film
Base Thickness	0.095/0.025 mm	0.120 mm	0.120 mm	0.025 mm
Total Thickness	0.190 mm	0.140 mm	0.160 mm	0.035 mm
Adhesive	Silicone	Silicone	Silicone	Silicone 
Adhesive Strength	5.0 N/cm	2.0 N/cm	3.0 N/cm	2.0 N/cm
Temperature Resistance	Short Term Up to 300°C	Short Term Up to 260°C	Short Term Up to 260°C	Short Term Up to 300°C
Colour	Grey	Buff	Buff	Blue

PCB EMI/RFI SHIELDING

As part of TAP’s (our rotary die cutting division) continuing development we have had extensive experience of producing EMI/RFI shields for many different PCB sizes. We have a worldwide reputation for the manufacture of smaller designs used by the light/movement sensor industry and also for large shields recommended for motherboard protection. Having all of the required materials and technologies within our group, we can offer our customers shields based on copper, tin clad copper, aluminium, polyester & polyimide substrates, all available in a multitude of thicknesses and shapes.

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.



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

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

RD-548 Thermally conductive acrylic transfer tape non-woven fleece carrier.

PPI TYPE	RD-339C	RD-628	RD-548	RD-281G	RD-281H
Base material	Soft Aluminium Foil	Soft Aluminium Foil	Non-woven fleece	Thermally Conductive Polyimide	Thermally Conductive Polyimide
Base Thickness	0.060 mm	0.060 mm	(Adhesive th.)	0.025 mm	0.025 mm
Total Thickness	0.160 mm	0.210 mm	0.130 mm	0.060 mm	0.095 mm
Adhesive	Thermally Conductive Acrylic	Thermally Conductive Acrylic	Thermally Conductive Acrylic	Flame Retardant Thermally Conduct. Acrylic	Flame Retardant Thermally Conduct. Acrylic
Adhesive Strength	5.5 N/cm	6.50 N/cm	7.00 N/cm	3.0 N/cm	3.0 N/cm
Temperature Resistance	-20°C to 155°C	-20°C to +155°C	Short Term Up to 200°C	-40°C to 180°C	-40°C to 180°C
Colour	White	White	White	White	White

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. (RD-281G & H are not considered standard products and are available upon request.)



PPI's latest developed **thermally conductive acrylic foam transfer tapes** are designed to provide preferential heat-transfer between heat-generating electronic components and cooling devices such as fans, heat sinks, or heat spreaders. Developed for applications that require a combination of good thermal transfer, dielectric strength, adhesion & conformability.

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.

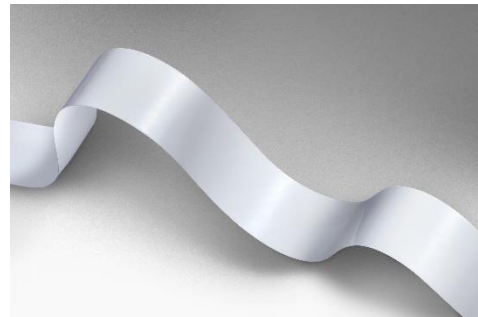


HIGH TEMPERATURE LABELS FOR PCB IDENTIFICATION


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.

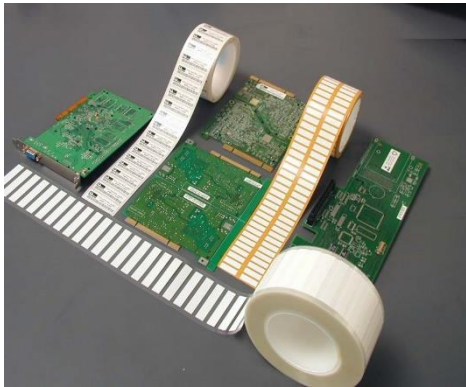
PPI Labelstock products can be supplied in roll format to suit converters needs and can also be offered in **precision die-cut format** direct to the end user.

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 200°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.



L-139A Based on a polyimide film coated with a specially formulated white printable layer, 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.

PPI TYPE	L-133	L-139A	RD-514B	RD-689	RD-943
Base material	Polyester Film	Polyimide Film	Polyimide Film	Special Construction Polyimide Film	Polyimide Film
Base Thickness	0.025 mm 0.050 mm	0.025mm 0.050mm	0.025mm 0.050mm	0.050 mm	0.025 mm 0.050 mm
Total Thickness	0.050mm 0.075mm	0.065mm 0.090mm	0.075mm 0.100mm	0.100mm	0.075 mm 0.100 mm
Adhesive	Acrylic	Acrylic	Acrylic	Acrylic 	Acrylic
Adhesive Strength	4.0 N/cm	2.5 N/cm	2.5 N/cm	1.5 N/cm	2.5 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	Short Term Up to 300°C
Colour	White	White	White	White	White
Interliner	White release coated paper	White release coated paper	White/Brown release coated paper	White release coated paper	White release coated paper



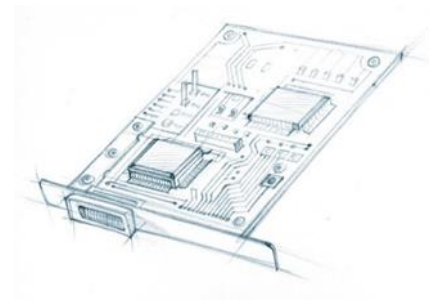
RD-514B is based on polyimide film coated with a highly resistant printable coating that has been designed for printing with high quality resin based thermal transfer ribbons. Recommended for all labelstock applications in extreme or harsh environments because of its resistance to many organic cleaning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

Suitable for similar applications to L-139A, but recommended for those with more aggressive cleaning solvents.

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.



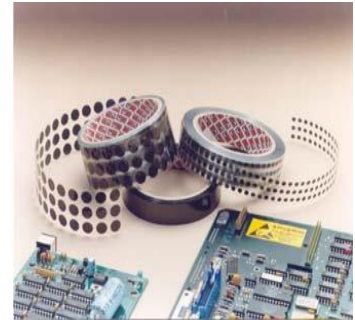
RD-943 High gloss white thermal transfer polyimide labelstock, designed specifically for use with special high-performance resin-based printing ribbons.



OTHER PCB APPLICATIONS

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.



RD-042D Polyimide based anti-static PCB high temperature masking tape for masking gold contacts.

RD-512D Translucent polyester based anti-static tape which can be used for masking during conformal coating processes or for closing anti-static bags.

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. 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.

Pressure Sensitive Cover Tape

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.

LM-860D Metallised polyester film anti-static cover tape coated with acrylic adhesive.



Our group of companies

PPI ADHESIVE PRODUCTS LTD.

Manufacturer of self-adhesive tapes for the electrical and electronic industries, for use in printed circuit board assembly, for shielding and winding transformer applications, for a wide range of industrial and specialty applications.

TECHNICAL ADHESIVE PRODUCTS LTD.

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 LTD.

Producer of single and double-sided siliconised polyester films.

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