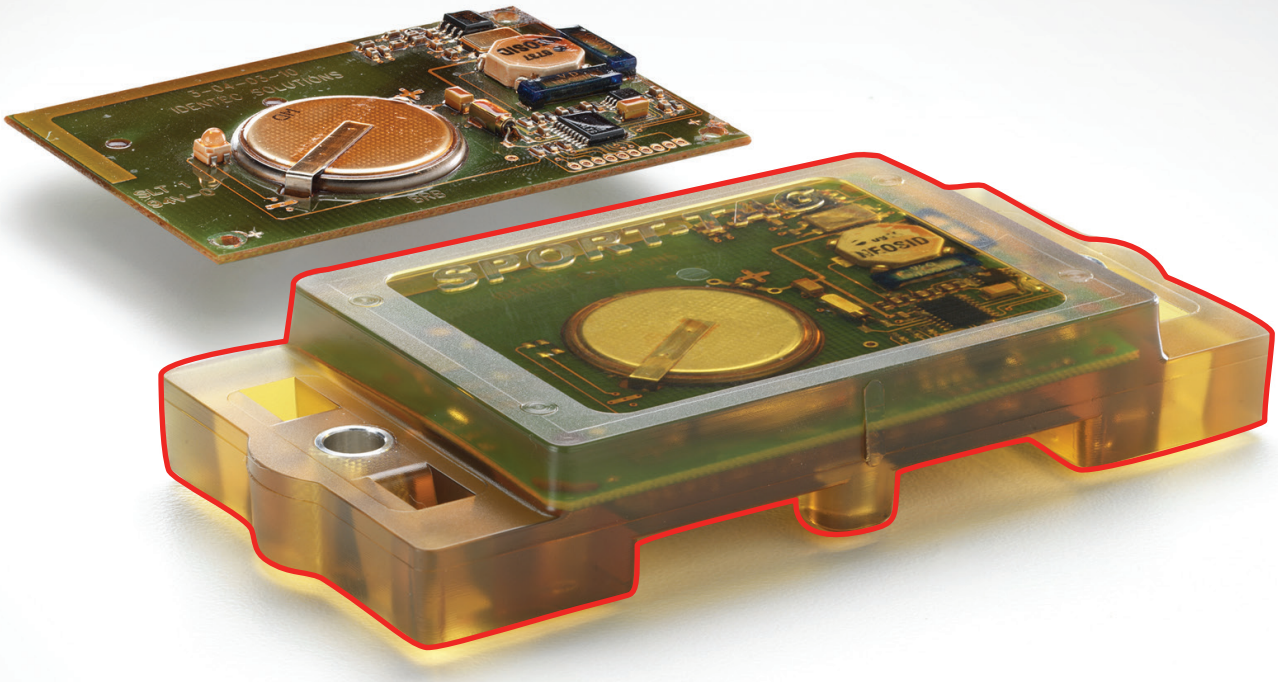
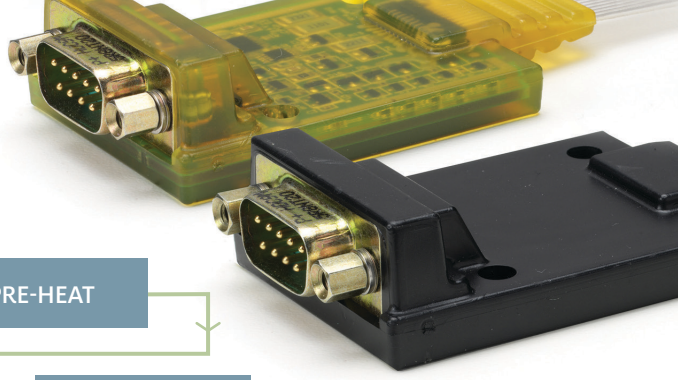
TECHNOMELT®

Low Pressure Molding Solutions



Henkel Excellence is our Passion



PROCESS

TRADITIONAL POTTING PROCESS FLOW

MOLD CASE → PALLETIZE → INSERT ELECTRONICS → PRE-HEAT → ENCAPSULATE → SETTLING OR VACUUM → CURE → TEST

LOW PRESSURE PROCESS FLOW

INSERT ELECTRONICS → OVERMOLD → TEST

KEY BENEFITS

DESIGN

- Additive design allows for alternative solutions (simplified process vs. traditional technologies)
- “Sky Lining” allows use of less material, precise encapsulation and less weight
- Functional design removes process steps
- Improved look and image

PROCESS

- Reduces total cost of ownership (TCOO)
- Increased throughput
- Low capital equipment costs and reduced footprint
- Low viscosity materials allow for low injection pressures

PRODUCTS

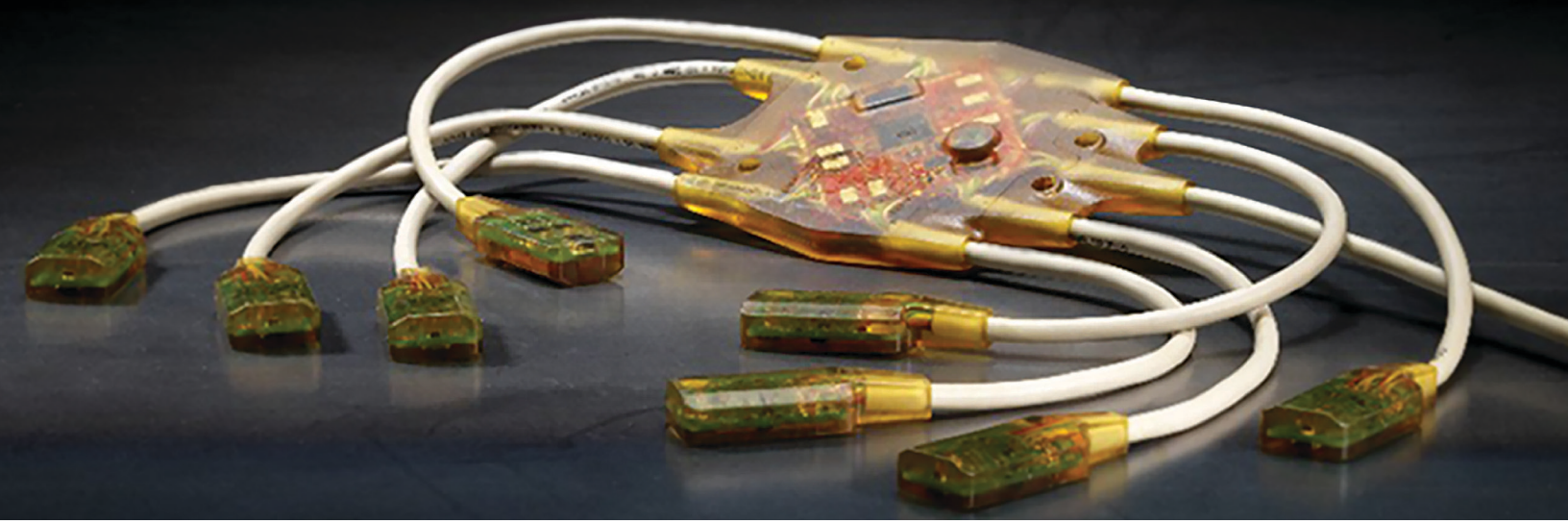
- Adhesion to multiple surfaces
- Complete watertight encapsulation
- Safe, 1-component, UL 94-V0 approved
- High temperature resistance
- Compliant materials suitable for sensitive electronic components
- Less handling and shorter process
- No cure process required

SUSTAINABILITY

- Zero waste
- All excess material and scrap are recyclable
- Natural ingredients



Through the combination of Product, Process and Design, Low Pressure Molding with TECHNOMELT® delivers customers an advanced and environmentally sustainable solution to Circuit Board Protection.



OVERVIEW

LOW PRESSURE MOLDING

Henkel's renowned TECHNOMELT® low pressure molding solution is delivering superior sealing adhesion and excellent temperature and solvent resistance. The simplicity of these materials is their advantage: because the entire TECHNOMELT® operation takes place at low pressure, cycle time is short and fine or fragile circuitry is not damaged, delivering measurable improvements over that of traditional potting or encapsulating processes. PCB and circuitry protection is essential in modern, challenging applications, and Henkel delivers manufacturers proven, reliable solutions and peace of mind.





APPLICATIONS

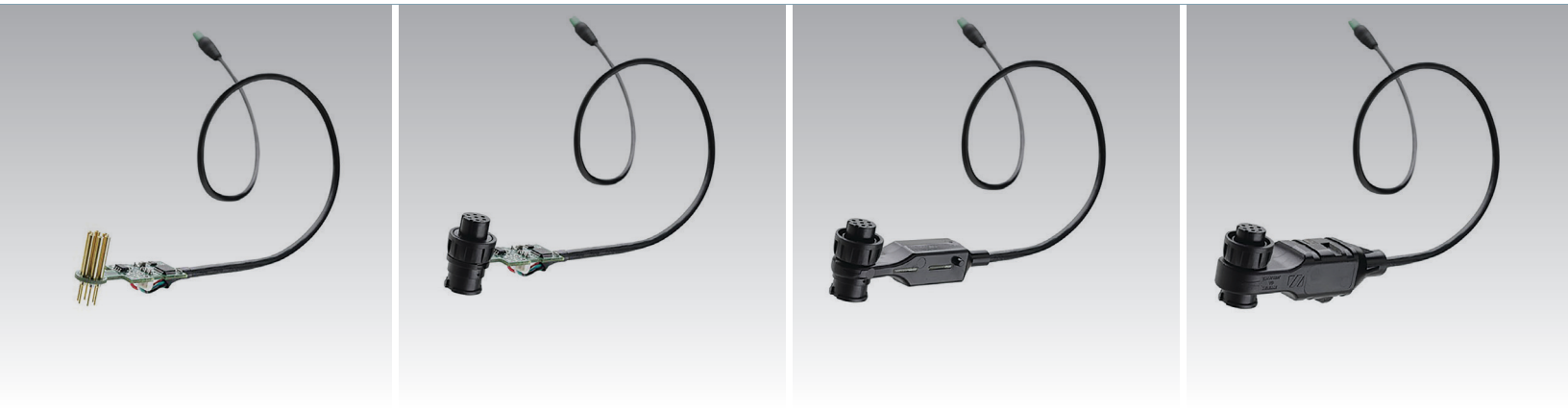
- Automotive Sensors
- Switches
- Engine Control Units
- Lighting Display Boards
- Micro-Inverters
- Power Regulators
- Industrial Sensors
- Medical Sensors

WHAT IS TECHNOMELT®?

An innovative technology to serve the increasing demands for circuit board protection in the electronics market. Its low pressure and high speeds are suitable for sensitive electronic components in manufacturing environments. The technology allows for unique design beyond the form/fit/function of traditional encapsulating materials.



TECHNOMELT® Low Pressure Molding was used to overmold the product below; these photos illustrate the production process from start to finish.



ASSEMBLY MATERIALS

PCB PROTECTION / LOW PRESSURE MOLDING

LOW PRESSURE MOLDING

POLYAMIDE

High Temperature Resistance

- Amber
  - TECHNOMELT® PA 673
  - TECHNOMELT® PA 682
- Black
  - TECHNOMELT® PA 678
  - TECHNOMELT® PA 687

Adhesion to Plastics

- Amber
  - TECHNOMELT® PA 633
  - TECHNOMELT® PA 652
  - TECHNOMELT® PA 6208
- Black
  - TECHNOMELT® PA 638
  - TECHNOMELT® PA 657
  - TECHNOMELT® PA 6208 BLACK

Increased Hardness

- Blaze Orange
  - TECHNOMELT® PA 341
- Amber
  - TECHNOMELT® PA 641
- Black
  - TECHNOMELT® PA 646

Solvent Resistant

- Amber
  - TECHNOMELT® PA 2384

UV Resistant

- White
  - TECHNOMELT® PA 668
- Black
  - TECHNOMELT® PA 6344

POLYOLEFIN

Excellent Adhesion to Metals, Plastics, Tough Surfaces

- Opaque White
  - TECHNOMELT® AS 5375



TECHNOMELT® CIRCUIT BOARD PROTECTION PRODUCTS

Polyamide: High Temperature Resistance

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® PA 673	MACROMELT OM 673	Moldable polyamide with good adhesion for higher temperature applications, such as in an automotive under-hood.	Amber	-40°C TO 140°C	90	187°C ± 5°C
TECHNOMELT® PA 678	MACROMELT OM 678		Black			
TECHNOMELT® PA 682	MACROMELT OM 682	Moldable polyamide for the most demanding high humidity applications, such as on the inside of an automobile tire. Formulated for very low water vapor transmission.	Amber	-40°C TO 140°C	88	188°C ± 5°C
TECHNOMELT® PA 687	MACROMELT OM 687		Black			

Polyamide: Adhesion to Plastics

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® PA 633	MACROMELT OM 633	Moldable polyamide with service temperature up to 130°C, such as in an automotive firewall.	Amber	-40°C TO 130°C	90	175°C ± 5°C
TECHNOMELT® PA 638	MACROMELT OM 638		Black			
TECHNOMELT® PA 652	MACROMELT OM 652	Moldable polyamide, where excellent adhesion and cold temperature flexibility are important, such as in an automotive exterior. Also used extensively in white goods.	Amber	-40°C TO 100°C	77	157°C ± 5°C
TECHNOMELT® PA 657	MACROMELT OM 657		Black			
TECHNOMELT® PA 6208	MACROMELT MM 6208	Moldable polyamide with excellent adhesion to tough substrates. Great flexibility offers incredible strain relief on cables and wires. Ideal for encapsulation of heat-producing components in appliance and consumer electronics, UL RTI 95°C.	Amber	-40°C TO 100°C	78	155°C ± 5°C
TECHNOMELT® PA 6208 BLACK	MACROMELT MM 6208S		Black			

Polyamide: Increased Hardness

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® PA 341	MACROMELT OM 341	High performance thermoplastic polyamide designed to offer safety blaze orange color for easy identification of components. Typically used to encapsulate high voltage modules.	Safety Blaze Orange	-25°C TO 125°C	92	173°C ± 5°C
TECHNOMELT® PA 641	MACROMELT OM 641	Moldable polyamide, where strength and hardness are needed, such as in memory sticks and computer connectors.	Amber	-40°C TO 130°C	92	175°C ± 5°C
TECHNOMELT® PA 646	MACROMELT OM 646		Black			

Polyamide: Solvent Resistant

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® PA 2384	N/A	Thermoplastic hot melt adhesive based on polyamide chemistry. Exhibits good adhesion to filter papers, excellent heat resistance and excellent resistance against gasoline containing 20% alcohol as well as many other solvents or chemicals.	Opaque Light Amber	-20°C TO 175°C	65-75	189°C ± 7°C

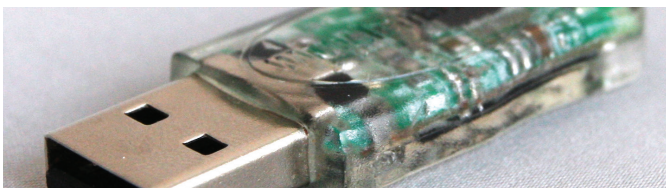
Polyamide: UV Resistant

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® PA 668	N/A	Thermoplastic hot melt adhesive based on polyamide chemistry. Exhibits a crisp bright white color with excellent UV stability and is ideal for outdoor use as well as LED applications. Good adhesion to a range of substrates.	White	-25°C TO 130°C	90	155°C ± 5°C
TECHNOMELT® PA 6344	N/A	High performance UV-resistant thermoplastic hot melt adhesive based on polyamide chemistry. Exhibits good adhesion to a variety of substrates including fabrics, plastic, leather, glass, metals, wood, ABS and flexible vinyl.	Black	20°C TO 100°C	76	147°C ± 9°C

Polyolefin: Excellent Adhesion to Metals, Plastics, Tough Surfaces

PRODUCT	FORMER NAME	DESCRIPTION	COLOR	PERFORMANCE TEMPERATURE	SHORE A HARDNESS	SOFTENING POINT
TECHNOMELT® AS 5375	MACROMELT MM Q-5375	Moldable polyolefin for demanding moisture and solvent resistance. Excellent adhesion to the most difficult substrates. Compatible with a secondary overmold with a harder polyamide.	Opaque White	-30°C TO 100°C	55	139°C ± 5°C

Delivering superior sealing adhesion and excellent temperature and solvent resistance.



TECHNOMELT®

AMERICAS

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Across the Board,
Around the Globe.

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