

BONDABLE THERMOPLASTIC ELASTOMERS

Technology-Driven Solutions from RTP Company

Quick Information

- ▶ Designed to chemically adhere to rigid substrates
- ▶ Compatible with insert and multi-shot molding
- ▶ Diverse combinations of elastomeric and rigid materials yield excellent peel strength

Imagine a thermoplastic elastomer (TPE) specifically designed to bond with rigid substrates during overmolding. One that helps differentiate your products, improves product function, and increases value for customers. At RTP Company, we not only imagined it, we've made it a reality.

Often referred to as "soft-touch", TPE overmolding increases functionality and adds value to many applications. The addition of TPEs delivers better ergonomics, enhances grip performance, improves aesthetics, increases sound/vibration dampening, and provides important impact protection. Typical applications include knobs, handles, grips, switches, gaskets, and seals.

A wide processing window allows RTP Company's bondable TPE materials to be overmolded onto different rigid substrates (see chart on reverse side) using **insert** or **multi-shot** molding techniques. By utilizing these molding techniques in conjunction with bondable TPEs, manufacturers can reduce assembly time and secondary operation expenses, and improve overall speed of production. These manufacturing efficiencies result in lower per part costs.

Optimum chemical bonding between TPE and rigid materials offers improved part integrity and longevity. Designers gain more flexibility and design freedom when they are less dependent on mechanical interlocks to hold TPE materials in place. Additionally, bonding eliminates the need for adhesive or surface pre-treatment operations.

In addition to versatile TPE technologies, RTP Company also has extensive experience developing rigid substrate thermoplastics. This enables RTP Company to create a customized pair of soft and rigid components, improving bonding and overall performance.

RTP Company engineers can further enhance both TPE and rigid compounds by customizing structural, conductive, wear resistant, flame retardant, or color properties to your specific application requirements.

Bondable TPEs from RTP Company... another innovation from the leader in specialty compounding.

BONDABLE TPEs

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The Leader in Specialty Compounding

Manufacturing Facilities:




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South Boston, VA
Fort Worth, TX
Indianapolis, IN
Beaune, France
Singapore
Suzhou, China

BONDABLE THERMOPLASTIC ELASTOMERS

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Thermoplastic Elastomer (TPE) Bondability

		Rigid Substrate Material										
		RTP 600 ABS	RTP 200 A PA 6	RTP 1000 PBT	RTP 300 PC	RTP 2500 PC/ABS	RTP 2000 PBT/PC	RTP 2000 PET/PC	RTP 1800 A PC/PMMA	RTP 100 PP	RTP 400 PS	RTP 2300 RTPU
Overmolding Material	RTP 2700 S											
	RTP 2740 S											
	RTP 2800 B											
	RTP 2800 D											
	RTP 6003											
	RTP 6004											
	RTP 6035											
	RTP 6042			**								

 Indicates combinations exhibiting very good peel strength (15 pli or greater)

** Not tested

- For simplicity, this chart does not incorporate TPE hardnesses. Typical hardness availability ranges from 30 – 85 Shore A, and may be customized to individual application requirements.

Measuring Peel Strength

RTP Company uses a modified version of the ISO 813 testing procedure to measure peel strength of bondable TPE materials. This test measures the force required to separate bonded materials in **pounds per linear inch (pli)** using specimens prepared via insert molding.

RTP Company product data sheets indicate the primary failure method of particular material combinations:

Cohesive Failure – TPE material fails before the TPE/rigid material bond. Following testing, TPE material remains on the rigid substrate and the bond is intact. This result is indicated as “Failure Type R” on product data sheets.

Adhesive Failure – TPE material cleanly peels away from the rigid substrate indicating a failure of the TPE/rigid material bond interface. This result is indicated as “Failure Type D” on product data sheets.

Example: On the data sheet RTP 6003-55A. The TPE Peel Strength to PC/PMMA is 33.0 pli and the failure mode is Type D.

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