



# Polybond<sup>®</sup> 1001 and 1002

## Polymer Modifier

Polybond 1001 and 1002 are chemically modified polyolefins.

### Features

- Chemical coupling agents for glass and mica filled polypropylene systems.
- Offer good adhesion to many substrates including aluminum and stainless steel.
- Adhesives for aluminum to aluminum and steel to steel laminates.

### Typical Physical Properties

Composition:	Acrylic acid modified homopolymer polypropylene		
Physical Form:	Pellets		
Melt Flow Rate (230/2.16):	40 g/10 min for Polybond 1001	(ASTM D-1238)	
Melt Flow Rate (230/2.16):	20 g/10 min for Polybond 1002	(ASTM D-1238)	
Density at 23°C:	0.91 g/cc	(ASTM D-792)	
Acrylic Acid Level:	6 weight %		
Melting Point:	161°C	(DSC)	

### Properties in 30% Glass-filled Polypropylene

#### Increase in Properties Due to Addition of Polybond 1001

PROPERTY	5% PB 1001	7.5% PB 1001	10% PB 1001	15% PB 1001
Tensile Strength	5%	9%	12%	13%
Flexural Strength	8%	11%	15%	16%
Izod Impact				
Unnotched	21%	42%	62%	74%
Notched	14%	31%	30%	42%

Generation of above data was via twin screw extrusion. Polybond addition level is based on total weight of composite. Glass type is OCF 457 3/16".

### Suggested Processing Temperatures

#### Extrusion/Injection Molding

Feed Zone	190°C
Middle Zone	200°C
Front Zone	205°C
Die/Nozzle	210°C
Melt Temp	205-220°C*

\* Melt temperature **MUST** be kept **below 230°C** to prevent polymer degradation and uncontrolled foaming resulting in loss of properties.

### Storage and Handling Precautions

Keep Polybond 1001 and 1002 dry prior to processing since they are hygroscopic in nature. Tie liners of open gaylords when not in use to prevent exposure to moisture. If exposure occurs, Polybond 1001 and 1002 can be dried in a hopper dryer or oven for a few hours at 105°C to remove moisture.

A slight pungent odor is normal during processing of Polybond 1001 and 1002. Purge equipment with polypropylene before and after running Polybond 1001 and 1002.

**For additional handling information, please see the Material Safety Data Sheet.**

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