Technical Data Sheet

PARALOID™ EXL-2330 and EXL-3330 Impact Modifier

Description

PARALOID™ EXL-2330 Impact Modifier is a general-purpose acrylic core-shell impact modifier providing an excellent balance of impact resistance and modulus retention in a variety of engineering resins. Because of the core-shell structure and acrylic composition, the improvement in impact is obtained with only minor effect on other mechanical properties, such as heat distortion temperature, and with no adverse effect on weatherability.

Improved impact properties can be expected in the following engineering resins: Polycarbonate (PC), Polyesters (PET, PBT, PPT), Polyacetal, Styrene-Acrylonitrile (SAN) and blends of these thermoplastics. Glass fiber reinforced nylon is another resin system where PARALOID™ EXL-2330 Impact Modifier provides improved toughness.

PARALOID™ EXL-2330 Impact Modifier has a crosslinked poly (butyl acrylate) core with a grafted polymethyl methacrylate shell. This core-shell structure allows the product to disperse as discrete particles in the matrix. It will not dissolve in solvents or melt.

PARALOID™ EXL-2330 Impact Modifier is supplied in powder form. PARALOID™ EXL-3330 Impact Modifier is supplied as a pellet form of PARALOID™ EXL-2330.

Applications

PARALOID™ EXL-2330 Impact Modifier is especially useful in applications where weatherability is required and low temperature impact strength is not a requirement. The uses include automotive under-the-hood applications, electric and electronic connectors, body panels for lawn mowers and tractors. PARALOID™ EXL-2330 can also be used to upgrade the impact performance of recycled resins.

Regional Product availability

- Asia Pacific
- Latin America
- North America

Typical properties

PARALOID™ EXL-2330 Impact Modifier is supplied as a free-flowing powder

	PARALOID™ EXL-2330
Physical appearance	White powder
Bulk density aerated (g/cm^3)	0.41 – 0.61
Volatiles (% max)	≤ 1.0%
Fines level, through 75 micron (%)	≤ 40%
	PARALOID™ EXL-3330
Physical appearance	White pellets
Water Content	≤ 0.70 %

Key attributes

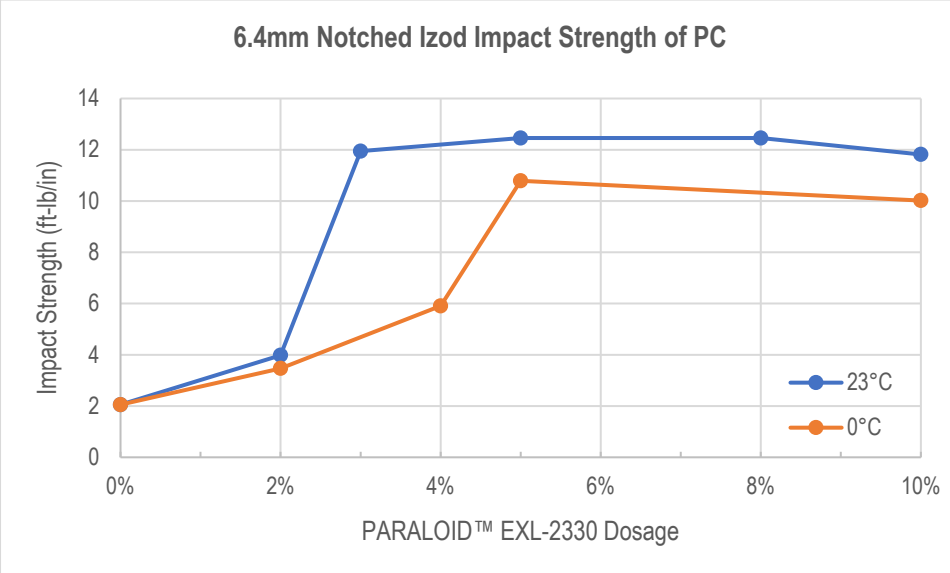
- High impact strength
- Excellent processability
- Weatherability
- Well defined particle size, not influenced by compounding conditions

Product performance

Impact Performance

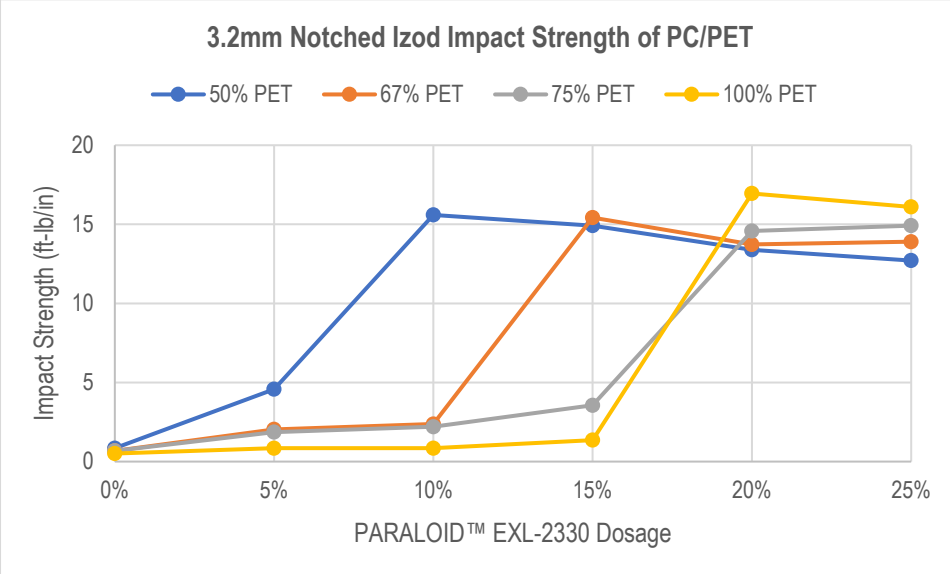
Toughness of Polycarbonate

The toughness of polycarbonate even at low temperatures can be significantly improved by the addition of PARALOID™ EXL-2330 Impact Modifier. Recommended use level is as low as 3%, depending on temperature requirements.



Toughness of Polycarbonate/PET Blends

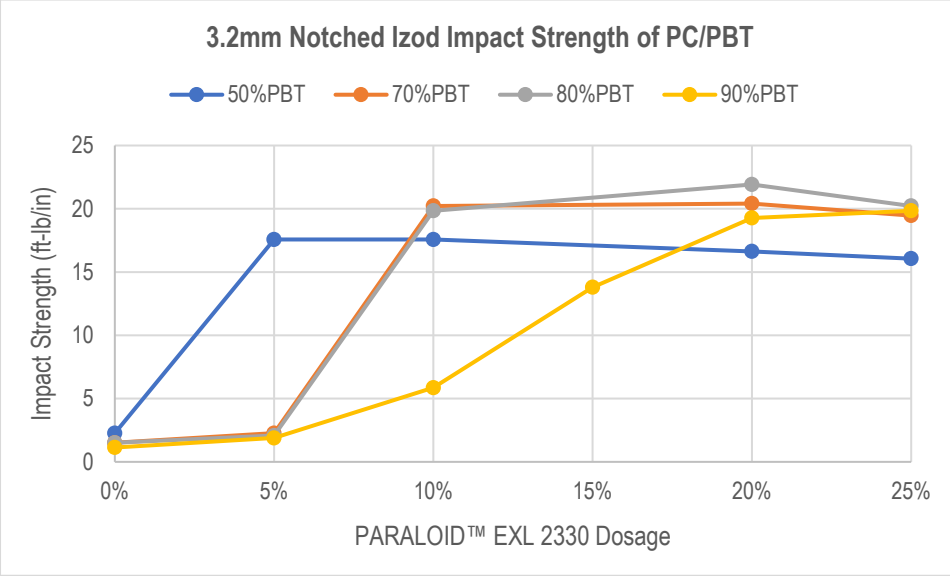
While the toughness of PET can be upgraded by modification with PARALOID™ EXL-2330 Impact Modifier, better impact resistance can also be attained by blending the polyester with polycarbonate in the presence of PARALOID™ EXL-2330. With the increasing availability of mixed streams as recycling efforts increase, this becomes an especially attractive option. These recycle blends can also benefit from the improved toughness provided by PARALOID™ EXL-2330. Typical Izod impact values for 1/8" samples are given in the chart above for blends containing different percentages of PET with polycarbonate.



Product performance (continued)

Toughness of Polycarbonate/PBT Blends

The toughness of PC/PBT can also be upgraded by modification with PARALOID™ EXL-2330 Impact Modifier at levels depending on the blend ratio with polycarbonate. Typical Izod impact values for 1/8" samples are given in the chart for blends containing different percentages of PBT with polycarbonate.



Recommended Use Levels

The use level will depend on the required performance in a particular matrix. Please refer to the preceding charts for guidance or contact The Dow Chemical Company technical service.

Product Packaging

The standard package is either a unitized pallet of 50 lb bags or 500-900 kg super sacks/big bags/FIBC bags/gaylord boxes.

Please consult a Dow representative for specific package availability for this product.

Quality management system

The Dow Chemical Company (Dow) and its subsidiaries have implemented a comprehensive quality management system pursuant to Good Manufacturing Practices (GMP) and various quality management standards including ISO 9001. An overview of **The Dow Quality Management System Manual** can be obtained at the following Internet web site – http://www.dow.com/en-us/about-dow/our-company/beliefs-and-culture/quality-culture. As part of that system, the Dow Plastics Additives business maintain ISO 9001 registration for most of our manufacturing plants. A copy of these certificates available upon request.

Storage and handling precautions

Store unopened in original packaging at ambient temperature. If material is opened, it should not be left exposed and should be used within one month. When stored correctly in the original packaging, the shelf life is 3 years from date of manufacture.

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage. Contact Dow for copies of the SDS and for more information on this product. Information contained in a TDS document cannot substitute a SDS.

Disposal considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

Medical Applications Restrictions

Dow prohibits sale into certain medical applications. Please check with Dow if you believe your application could be in violation of this policy.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. The customer is solely responsible for determining the suitability of the Dow product for the uses contemplated by customer. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow and available online at www.dow.com.

Regulatory Information

If your application includes a sensitive application such as food contact or drinking water requirements or if you need other regulatory information, please contact your local Dow representative.

Contact information:

If you should have any questions regarding this notice, please contact your local Dow Representative or www.dow.com/contact