

**PARALOID™ EXL 2335 Acrylic Impact Modifier**

For Polycarbonate, Polyesters, PC/Polyester Blends and SAN Applications

Regional Product Availability

- Europe
- North America
- Latin America
- Asia Pacific

Description

PARALOID™ EXL 2335 additive is a core-shell impact modifier providing both good colorability and thermal stability along with excellent impact performance in a variety of engineering resins.

Impact Performance

Improved impact properties can be expected in the following engineering resins: Polycarbonate (PC), Polyesters (PET and PBT), POM (Polyacetal), Styrene-acrylonitrile (SAN) and blends of these thermoplastics. Glass fiber reinforced Nylon is another resin system where PARALOID™ EXL 2335 modifier provides improved toughness. When dispersed properly, PARALOID EXL 2335 modifier can also improve impact properties of thermoset resins such as epoxies. Additionally, PARALOID EXL 2335 modifier can be used to upgrade the impact performance of recycled resins.

Excellent Dispersion

PARALOID™ EXL 2335 modifier has a cross-linked poly (butyl acrylate) core with a grafted polymethyl methacrylate shell. The core-shell structure allows the product to disperse as discrete particles in the matrix and it will not dissolve in solvents or melt.

Conversion Processes

PARALOID™ EXL 2335 modifier finds utility in a variety of conversion processes typically encountered for engineering resins, including extrusion, injection molding, blow molding and thermoforming.

Typical Properties

(These properties are typical but do not constitute specifications).

Property	Typical Values
Chemical Description	Acrylic Polymer
Appearance	Free-flowing white powder
Powder Bulk Density	0.41–0.53 g/cc
Total Residual Volatiles	≤ 1%
Tg	< –43°C

Applications/Uses

PARALOID™ EXL 2335 modifier is especially useful in applications where weatherable deep colored parts are required. The uses include automotive applications, electric and electronic connectors, body panels for lawn mowers and tractors and thermoset molding compounds and adhesives.

Depth of Color and Thermal Stability

The chart below briefly summarizes the features of PARALOID™ EXL 2335 modifier in a comparison with two other PARALOID EXL weatherable acrylic impact modifiers offered by Dow Plastics Additives.

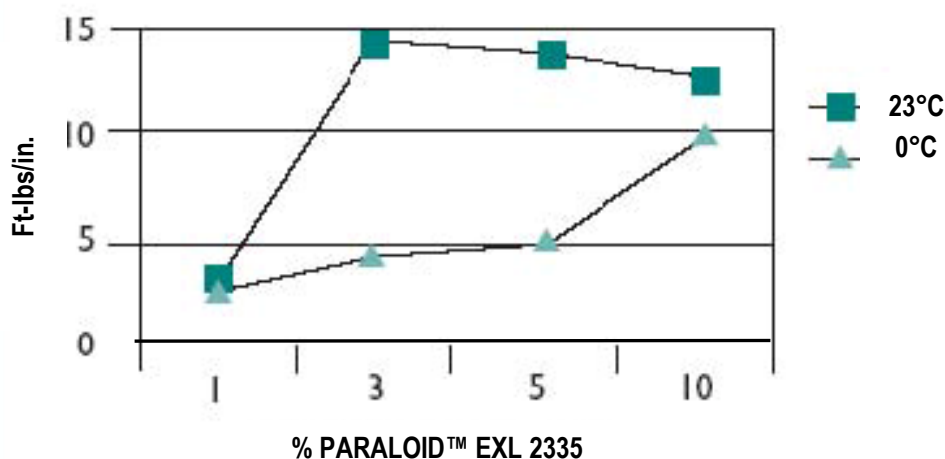
Depth of Color and Thermal Stability

Feature	PARALOID™ EXL 2330	PARALOID EXL 2335	PARALOID EXL 3361
Thermal Stability	Good	Good	Excellent
Colorability	Fair	Good	Good

Impact Performance

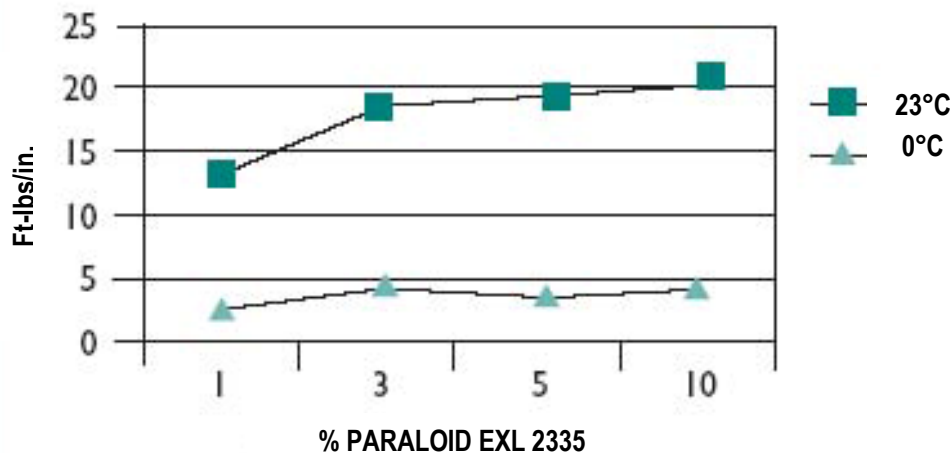
The toughness of PC can be significantly improved at room and low temperatures.

1/4" Notched Izod of Impact-Modified Polycarbonate



At room temperature, PARALOID EXL 2335 modifier improves the impact of PBT.

1/8" Notched Izod of Impact-Modified PBT



Colorability

PARALOID™ EXL 2335 modifier exhibits greater depth of color than standard acrylic tougheners for engineering resins such as PARALOID EXL-2330 modifier. The chart below compares HunterLab data for black PC plaques containing each of the modifiers.

Colorability

Modifier	Delta L
PARALOID™ EXL 2330	-2.4
PARALOID EXL 2335	-3.1

Recommended Use Levels

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

Standard Packaging

The standard package is either a unitized pallet of 50 x 50 lb. bags (2500 lb. net) or a unitized pallet of 2 x 1000 lb. bags (2000 lb. net). Please check with your account representative for specific package availability as some packages are dependent upon density and demand of material.

Dow Plastics Additives Solutions Provider Product Range

ACRYLIGARD™	Weatherable Acrylic Capstock Resins
ADVALUBE™	Specialty Lubricants
ADVAWAX™	Specialty Waxes
ADVASTAB™	Thermal Stabilizers
ADVAPAK™	Stabilizer/Lubricant One-Packs
PARALOID™	Impact Modifiers
PARALOID	Processing Aids
PARALOID	Acrylic Multi-functionals and Specialties
PARALOID™ EXL	Additives for Engineering Resins
SURECEL™	All Acrylic Foam Cell Stabilizers

Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

CAUTION! Failure to maintain proper volume level when using immersion heaters can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal

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.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Plastics Additives Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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