

Durastrength® 4000

Multifunctional Acrylic Impact Modifier

PRODUCT DESCRIPTION

Durastrength® 4000 acrylic impact modifier represents the newest technology that imparts excellent impact properties to rigid PVC products and provides outstanding processability. Durastrength® 4000 impact modifier can be used in place of CPE impact modifiers while maintaining the processing advantages of traditional acrylic impact modifiers.

TYPICAL PHYSICAL PROPERTIES*

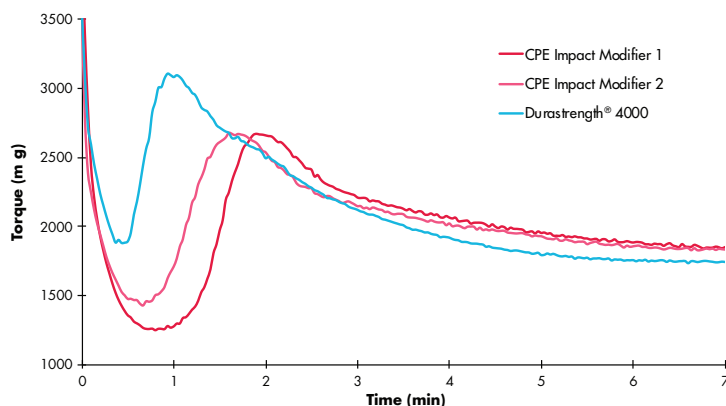
Physical Form	White Powder
Specific Gravity	1.47
Bulk Density	0.55 g/cc
Particle Size	15% Max on 50 Mesh
Percent Volatiles	1.2% Max

PRODUCT BENEFITS**

1. Excellent impact resistance that is equivalent to or better than alternative non-acrylic impact modifiers.

2. Faster fusion than alternative non-acrylic impact modifiers without the need for additional processing aids.

Typical Torque Rheometer Fusion

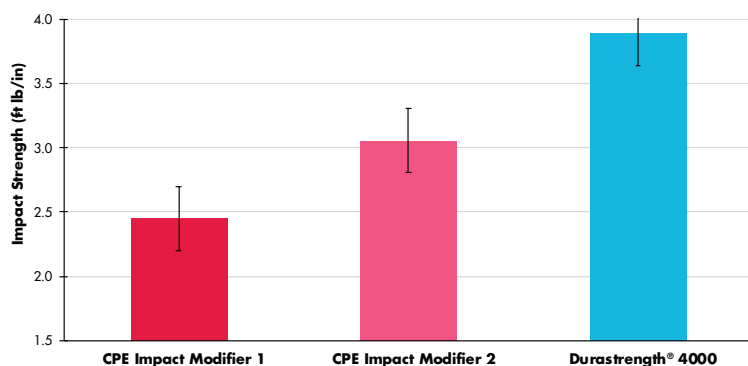


Torque Rheometer Curves

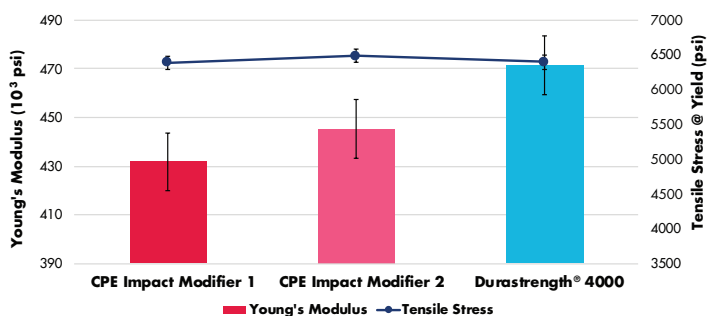
Settings: 175°C, 75 RPM and 100 cc sample size
Impact modifiers evaluated at 4.5 phr

3. Substrate applications utilizing Durastrength® 4000 impact modifier maintain important mechanical properties for final PVC product performance.

Typical Impact Resistance [Izod Impact Performance (Siding Substrate Formulation @ 4.5phr Modifier)]



Typical Mechanical Property Performance (Tensile Evaluation)



Evaluation followed ASTM D-638
Impact modifiers tested at 4.5 phr

4. Durastrength® 4000 impact modifier has traditional acrylic characteristics such as a low melt viscosity which when employed in a vinyl formulation results in good stability, smooth processing, and high output rates.

*The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications.

**The mechanical property and rheology property data listed are considered to be typical properties, not specifications.

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SUGGESTIONS FOR USE

Durastrength® 4000 impact modifier is recommended for applications requiring impact properties in addition to ease of processing such as siding, fence and deck substrate. As with all impact modifiers for PVC, proper formulation is required to develop the necessary shear and mixing during extrusion so that impact properties are optimized. Prospective

clients should evaluate Durastrength® 4000 impact modifier in their own laboratories to establish optimum conditions for use in their processes and applications. Arkema's Technical Service Team is available to discuss your application requirements, provide formulation guidance, and laboratory testing as needed.

TYPICAL STARTING FORMULATION RECOMMENDATIONS

Rigid Siding Substrate	Use Level (phr)
PVC Resin (K-65 to K-67)	100.0
Butyl Organotin Stabilizer	0.8 – 1.2
Calcium Stearate	1.0 – 1.5
Paraffin Wax (165 m.p.)	1.0 – 1.5
Oxidized Polyethylene Wax	0.1 – 0.2
Durastrength® 4000 Impact Modifier	4.0 – 5.0
Calcium Carbonate (0.7µm)	10.0 – 20.0
Titanium Dioxide	0.5 – 1.5

Ribbed Pipe	Use Level (phr)
PVC Resin (K-65 to K-67)	100.0
Butyl Organotin Stabilizer	0.6 – 0.8
Calcium Stearate	0.6 – 0.8
Paraffin Wax (165 m.p.)	1.0 – 1.2
Oxidized Polyethylene Wax	0.1 – 0.2
Durastrength® 4000 Impact Modifier	3.5 – 4.5
Plastistrength® Process Aid	0.0 – 0.6
Calcium Carbonate (0.7µm)	4.0 – 6.0
Titanium Dioxide	1.0 – 2.0

PACKAGING

Durastrength® 4000 impact modifier is packaged in 25 kg bags and 1800 lb. bulk bags.

ENVIRONMENTAL AND SAFETY INFORMATION

BEFORE HANDLING THIS MATERIAL, READ AND UNDERSTAND THE SDS (SAFETY DATA SHEET) FOR ADDITIONAL INFORMATION ON SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION.

The SDS are available on our Website www.arkema.com or upon request at our Customer Service Department. Arkema believes strongly in Responsible Care® as a public commitment.

MORE TECHNICAL INFORMATION AVAILABLE

Ask your Arkema account manager for further information on high quality Arkema additives for use in PVC, PC, PBT, ABS, PLA and other polymer systems. Arkema produces a full line of impact modifiers and processing aids. In addition, Arkema's Technical Service staff is also available to assist compounders and processors with formulation and processing advice.

Durastrength® Impact Modifiers

Durastrength® acrylic impact modifiers deliver outstanding impact characteristics for outdoor durable applications in PVC and Engineering Resins.

Plastistrength® Process Aids

Plastistrength® process aids offer producers a complete line of melt strengtheners and metal release agents for PVC and Engineering Resins. Plastistrength® process aids can improve fusion, surging, and aesthetics.

Clearstrength® Impact Modifiers

Clearstrength® MBS impact modifiers are designed for extreme impact or impact/clarity combination in PVC and Engineering Resins.

Biostrength® Additives

The Biostrength® product line of impact modifiers, melt strengtheners and metal release agents are designed to improve properties and enhance processability of polylactic acid (PLA) and other biopolymers compounds.

FOR MORE INFORMATION CONTACT

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