

**PARALOID™ KM-334 Impact Modifier****Description**

PARALOID™ KM-334 Impact Modifier is a general purpose, weatherable, acrylic polymer, with a core-shell structure, that functions as an Impact Modifier or toughener for all rigid PVC applications.

**Applications**

PARALOID™ KM-334 Impact Modifier is designed to improve the impact and meet industry impact specifications in building products applications, such as siding, profiles, sheet, and small diameter conduit. It can be used in foam core pipe, in the inner and outer skin layers to provide impact. It can also be used to improve impact for injection molded pipe fittings and other injection molded parts.

When formulated with PARALOID™ Processing Aids it provides superior processing behavior.

**Regional Product Availability**

- North America
- Latin America

**Product Description**

Chemical Description	Acrylic polymer
Physical Appearance	White, free-flowing powder
Specific Gravity (g/cm <sup>3</sup> )	1.10

**Key Attributes**

- Excellent impact performance
- Excellent weatherability
- Superior extrusion processing behavior in terms of fusion, melt homogeneity and smooth extrudate surface
- Listed product in TR-2 PPI Range Composition Listing of Qualified Ingredients, Table 8, approved range of 0.00 – 3.00 phr

**Rheology\*****Capillary Rheology****Extrusion Die Swell**

Table 1. Brabender Rheology – 185°C, 60 RPM, 60 Gram Charge, 7 Minute Test Time

	PARALOID™ KM-334 Impact Modifier (4.2 phr)	Competitive Impact Modifier (4.2 phr)
Fusion Time (seconds)	52	58
Fusion Torque (m-g)	2755	2930
Equilibrium Torque (m-g)	1775	1785
Viscosity @ 500/sec, 190°C (P)	11045	11070
% Die Swell, 0.19 inch rod die	39	48



## Impact Strength

### Drop Dart

#### Izod

Table 2. Drop Dart (H.250) Impact (Proc. B): Single screw extruded sheet.

	PARALOID™ KM-334 Impact Modifier (4.2 phr)	Competitive Impact Modifier (4.2 phr)
Impact at 23°C (in-lbs/mil) 175 / 175 / 180 // die-185°C, 40 RPM	>5.8	>5.8
Impact at 23°C (in-lbs/mil) 170 / 170 / 175 // die-185°C, 40 RPM	>5.8	>5.8
Impact at 0°C (in-lbs/mil) 175 / 175 / 180 // die-185°C, 40 RPM	3.92	3.55
Impact at 0°C (in-lbs/mil) 170 / 170 / 175 // die-185°C, 40 RPM	1.93	1.97
Izod Impact, 0.125 inch plaque (ft-lb/in)	3.24	3.28

## Extrusion Processing

Table 3. CM-55 Twin Screw Extruder\* with Profile Die

	PARALOID™ KM-334 Impact Modifier (4.2 phr)	Competitive Impact Modifier (4.2 phr)
Amps	21	22
Melt Pressure – Die (psi)	3740	3670
Output Rate (lbs/hr)	170	171
Drop Dart Impact at 23°C Procedure B, C.125 Dart	>5.5	>5.5
60° Gloss	51	57

\*Conditions: Screw – 171°C // 185 / 179 / 174 / 174 // Die – 182°C, 20 RPM

## Test Formulation

Table 4. PVC Profile Formulations

	Laboratory Testing	Weathering Testing
PVC	100	100
ADVASTAB® TM-181-FS <sup>1</sup>	1.2	1.3
Lubricant One Pack	2.7	-
CaSt	-	1.3
Paraffin Wax	-	1
TiO <sub>2</sub> , Chalking Grade	9	10
CaCO <sub>3</sub> , 0.7 um	3	-
PARALOID™ K-120ND Processing Aid	0.8	0.75
PARALOID™ K-175 Lubricating Processing Aid	0.5	0.5
IMPACT MODIFIER	4.2	5

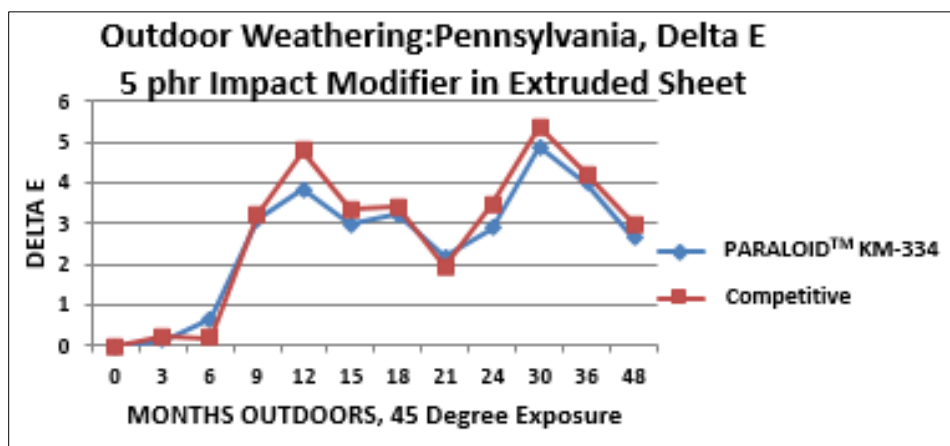
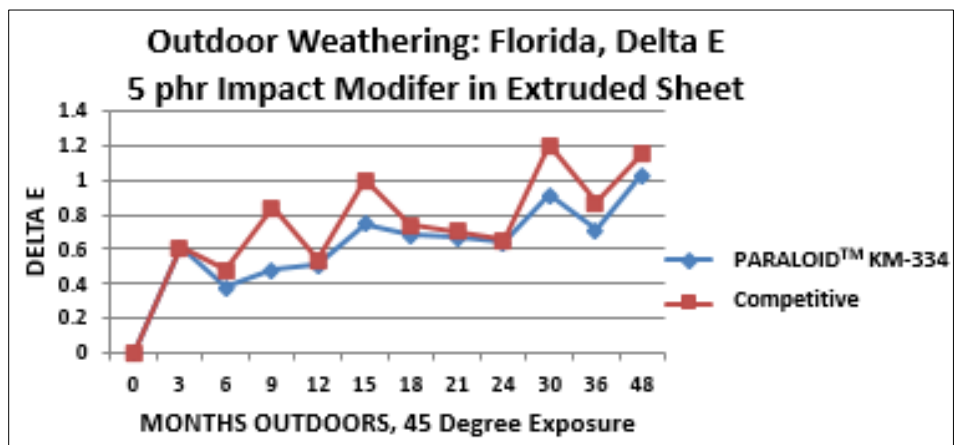
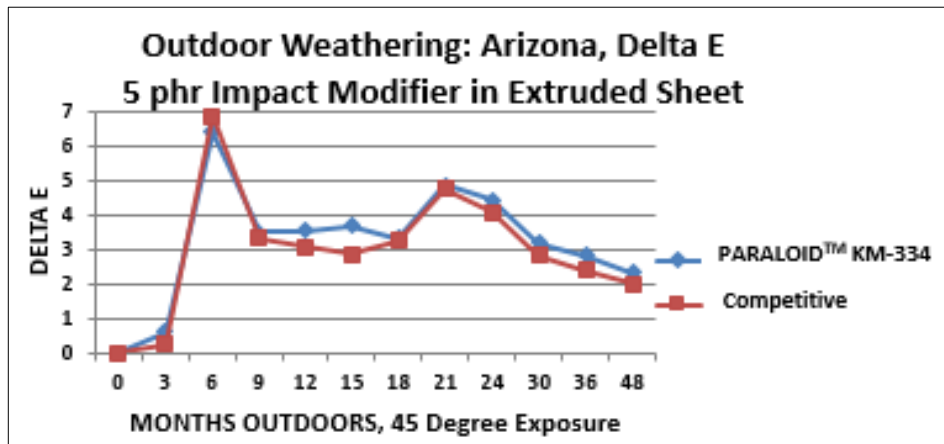
<sup>1</sup> ADVASTAB® is a registered trademark of PMC Cincinnati, Inc.



## Technical Data Sheet

### Weathering Color Retention

PARALOID™ KM-334 Impact Modifier has comparable or better color retention upon outdoor exposure compared to its primary competitive product.



### Product Packaging

The standard package is either a unitized pallet of 20-25 kg bags or 500-900 kg super sacks/big bags/FIBC bags.

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



## Technical Data Sheet

### 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](http://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](http://www.dow.com/contact)

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