PARALOID™ KM-355P

Acrylic Impact Modifier

Description

PARALOID™ KM-355P additive is an impact modifier for PVC used in outdoor applications such as window frames, panels, siding, fences, pipes, fittings and injection-molded parts.

PARALOID KM-355P impact modifier is based upon proven Dow Chemical weatherable impact modifier technology.

PARALOID KM-355P impact modifier is manufactured in the Dow Chemical Singapore Plant to cater to the growing demand in the Asia-Pacific region.

PARALOID KM-355P impact modifier offers the following benefits:

- Excellent impact strength
- Proven weatherability
- High fusion promotion efficiency
- Low post-extrusion shrinkage or reversion

The PARALOID KM-355P impact modifier production process has obtained the ISO9002 quality assurance certification.

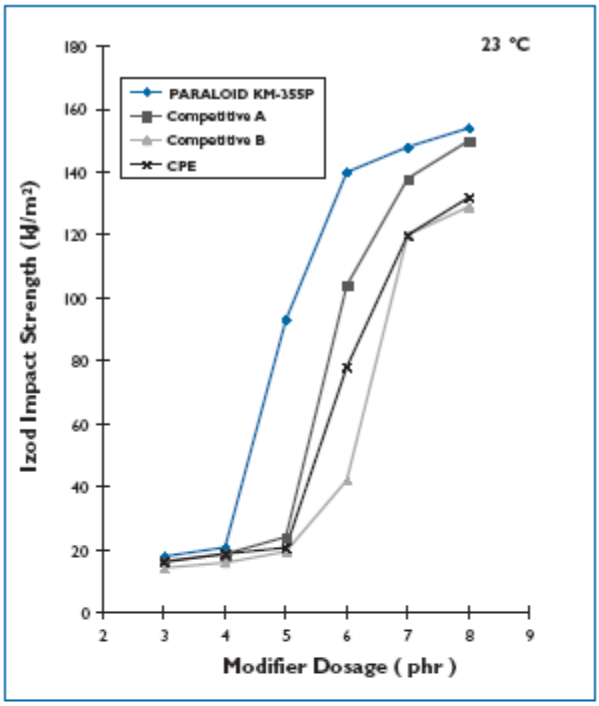
Impact Efficiency

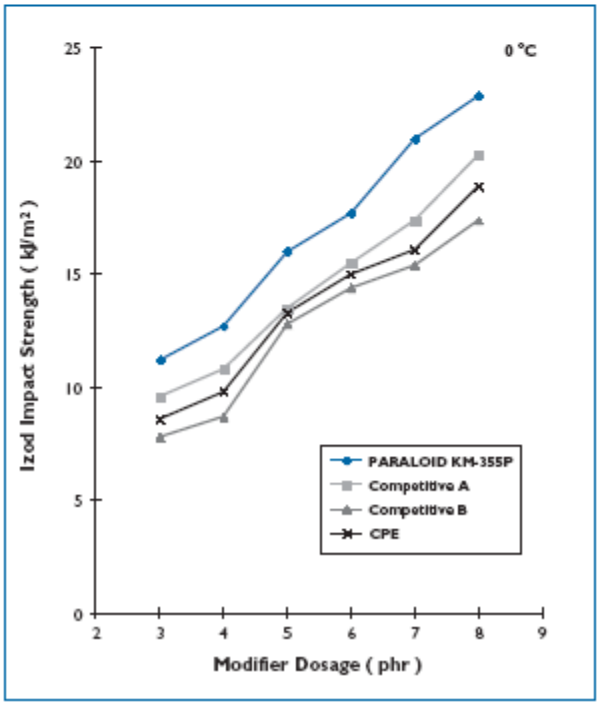
PARALOID™ KM-355P impact modifier imparts excellent impact improvement both at room temperature and 0°C. The efficiency of PARALOID KM-355P is much higher than that of competitive products.

Typical Physical Properties

These properties are typical but do not constitute specifications.

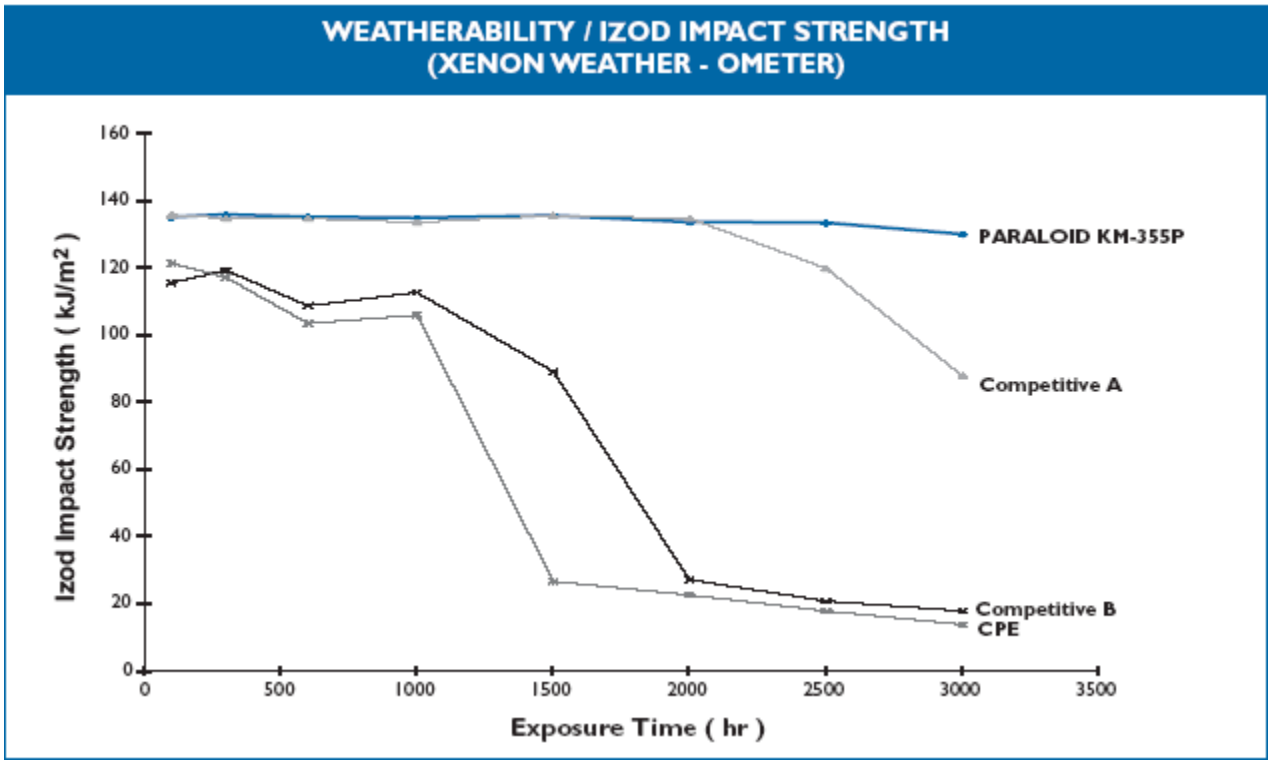
No.	Analysis Item	Unit	Value
1	Volatile Matter	wt %	max. 1.0
2	Impact Strength (Izod)	kJ/m^2	min. 80
3	Sieve Analysis		
	850 µm on	%	max. 0.5
	45 µm pass	%	max. 7.0
4	Bulk Density (aerated)	g/cm^3	0.40~0.60





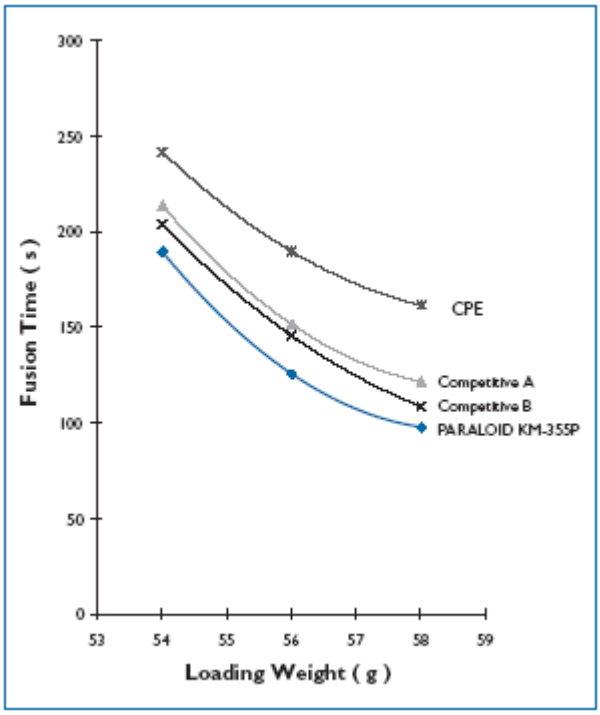
Retention of Impact Efficiency

Retaining impact resistance is very important in building applications. The superior performance of PARALOID™ KM-355P impact modifier over competitive products is demonstrated clearly.



Fusion Promotion

PARALOID™ KM-355P impact modifier exhibits faster fusion characteristics than is seen with competitors. This allows economical benefits by the reduction of the dosage level of processing aid and internal lubricants in the formulation.



Window Frames

One of the most advantageous applications for PARALOID™ KM-355P impact modifier is window frames. The benefits of PARALOID KM-355P are shown in the application below.

Window Frames				
Items	**Extrustion Torque**	**Post-Extrusion Shrinkage**	**Weld Corner Strength at Break**	**Vicat Softening Temperature**
Modifier	**51 mm ø Twin (%)**	**100°C, 1h (%)**	**In-house (N)**	**Load 5 kg (°C)**
PARALOID KM-355P/6 phr	73	1.40	5920	81.5
CPE/8 phr	70	1.70	4100	80.3

K=68 sPVC Lead-stabilized formulation.

Experimental		
Izod Impact Test	**Weatherability Test**	**Fusion Promotion Test**
Formulation	**Formulation**	**Formulation**
sPVC K65 = 100 weight parts	Same as Izod Impact Test (Impact Modifier = 7.0 phr)	Same as Izod Impact Test (Impact Modifier = 6.0 phr)
Dibasic lead phosphite = 3.5		
Neutral lead stearate = 0.5	**Equipment**	**Equipment**
Calcium stearate = 0.5	Atlas Ci35A Weather-Ometer	Brabender Plasticorder PL-2000
Dicarboxylic acid ester = 0.6	Xenon Type	Bowl Type: W50
Paraffin wax (Tm 92°C) = 0.2	Water Spray: 18 min/120 min	Bowl Temp: 165°C
Titanium dioxide = 4.0	Black Panel Temp.: 63 ± 5°C	Rotor Speed: 35 min^{-1}
Calcium carbonate = 4.0		
PARALOID K-125P = 0.8		
PARALOID K-175P = 0.5		
PARALOID impact modifier = As indicated		
Method		
ASTM D256		
3.2 mm thickness, 0.25R V-notch		

FDA Conformance

PARALOID Acrylic Impact Modifiers conform with U.S. Food and Drug Administration (FDA) Regulation 21CFR178.3790 governing their use in semirigid and rigid PVC plastics for food packaging and food contact applications. The finished composition must meet the extractive limits stipulated by the regulation. The Dow Chemical Company recommends that the manufacturer consult with our technical service team about proper formulating procedure.

Safe Handling Recommendations

PARALOID plastics additives should be kept away from flames, hot pipes, heaters or other sources of heat. Adequate precautions should be taken to keep all dust levels below values that are hazardous to health and safety. In case of eye or skin contact, eyes should be flushed with water to remove dust particles and affected skin areas washed with soap and water.

Material Safety Data Sheets (MSDS)

Material Safety Data Sheets are available outlining hazards and safe handling methods. Contact The Dow Chemical Company for copies of the MSDS for this product and for other handling information.

The Dow Chemical Company is a raw materials supplier, not an end-use manufacturer of product. Development of a final formulation, testing, application, and ultimate performance of the end-use product is fully the responsibility of the formulator.

These suggestions and data are based on information we believe to be reliable. They are offered in good faith but, as conditions and methods of use of our products are beyond our control, The Dow Chemical Company makes no warranties, either express or implied, concerning the final end-use product. The Dow Chemical Company expressly disclaims any implied warranty of fitness for a particular purpose. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

Suggestions for uses of our product or the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent, or as permission or license to use any patents of the The Dow Chemical Company.

PARALOID, PARALOID EXL, ADVASTAB, ADVAWAX, ADVALUBE, ADVAPAK, and ACRYLIGARD, are trademarks of The Dow Chemical Company or of its subsidiaries or affiliates.

Notice: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.