

# Kane Ace<sup>®</sup> M-300

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Impact Modifier for PET-G

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## Introduction

Kane Ace M-300 is an impact modifier for PET-G developed by KANEKA Corporation. Kane Ace M-300 improves impact strength , while keeping high transparency of PET-G. The Sheet containing M-300 shows very low crease whitening.

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# 1. Powder Properties

Table-1. Powder Properties

Items		M-300	B-31	B-22	M-511
ASG (g/cm <sup>3</sup> )		0.44	0.44	0.46	0.39
Powder Size Distribution (%)	30 Mesh on	0	0	0	0
	60 Mesh on	7.8	15.6	18.4	36.0
	100 Mesh on	40.1	46.1	40.2	37.8
	280 Mesh on	45.2	34.8	36.5	23.9
	280 Mesh pass	6.9	3.5	4.9	2.3
Average Powder Size D50(um)		149	173	173	209

Table-2 Powder Blocking

Item	M-300	B-31
Collapse Rate (%)	84	82

Condition to make sample : 0.35kg/cm<sup>2</sup>\*60°C\*2Hr

## 2. Physical Properties

Table-3 Optical and Physical Properties

Molding/ thickness		Units	Estar 6763	M-300			B-31	M-511
	Modifier Dosage		0	10	12.5	15	15	15
Extrusion/ 0.3mm	Haze Transparency	%	0.5 90.9	1.3 90.7	1.5 90.7	1.9 90.7	70.4 88.3	87.5 70.7
	Tensile MD Impact TD	kJ/m2	599 535	771 628	785 653	815 683	811 769	946 882
	Crease Whitening		5	4	4	4	3	1
	Tensile MD Elongation MD	MPa %	48.8 264	44.1 300 <	42.2 300 <	41.2 300 <	37.8 300 <	33.9 300 <
	MFR	g/10min	15.5	8.8	7.0	6.0	7.2	8.4
Roll/Press 3mm	Haze Transparency	%	5.0 79.8	3.0 84.3	3.2 84.0	3.5 83.8	47.9 48.4	92.0 23.6
	Izod Impact	kJ/m2	7	15	31	60	95	96

Crease whitening: Excellent 5 > 4 > 3 > 2 > 1 Fair

### 3. Optical Properties

#### 3.1 0.3mm Extruded Sheet

Formulation PET-G(Easter6763): 100 phr / Impact Modifier: Variable

Processing

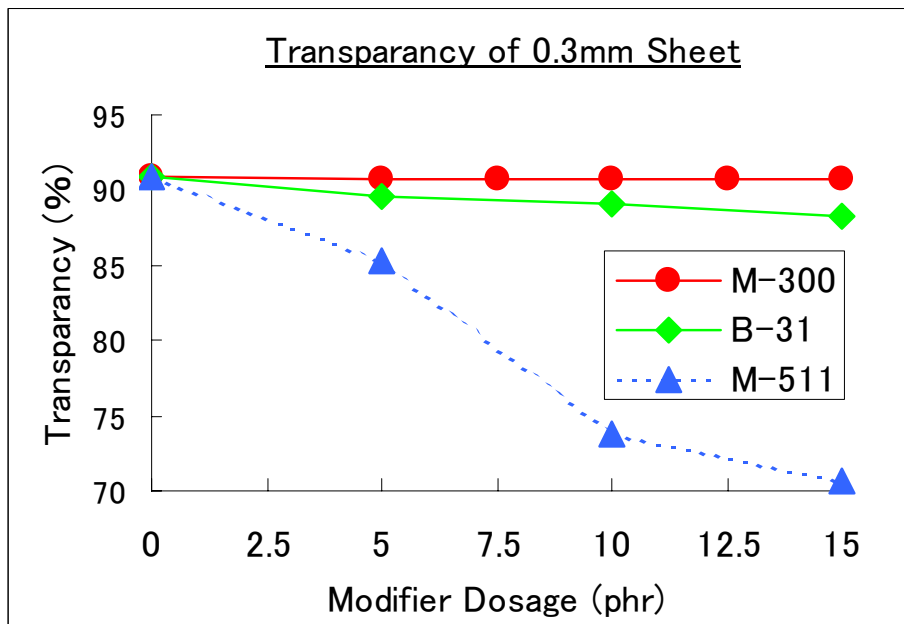
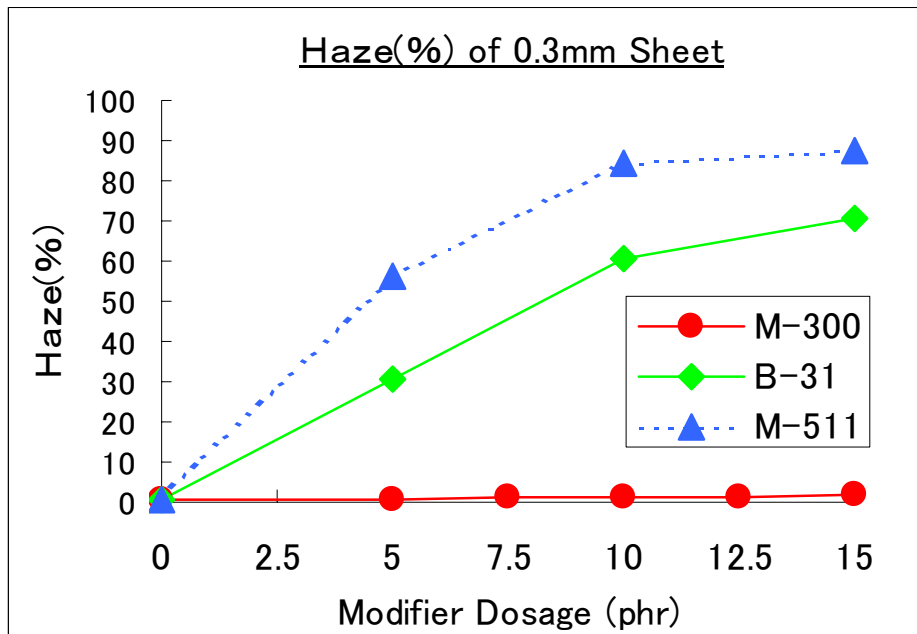
Pelletization 44mm Twin Screw Extruder

C2 - 3/ C4/ C5/ C6 - 7/ C8/ C9/D=170/180/180/190/230/230/240 deg C

Sheeting 20mm Single Screw Extruder + T-Die attachment

C1/ C2/ C3/D=200/210/220/230 deg C

Test Condition 0.3mm Sheet,23 deg C

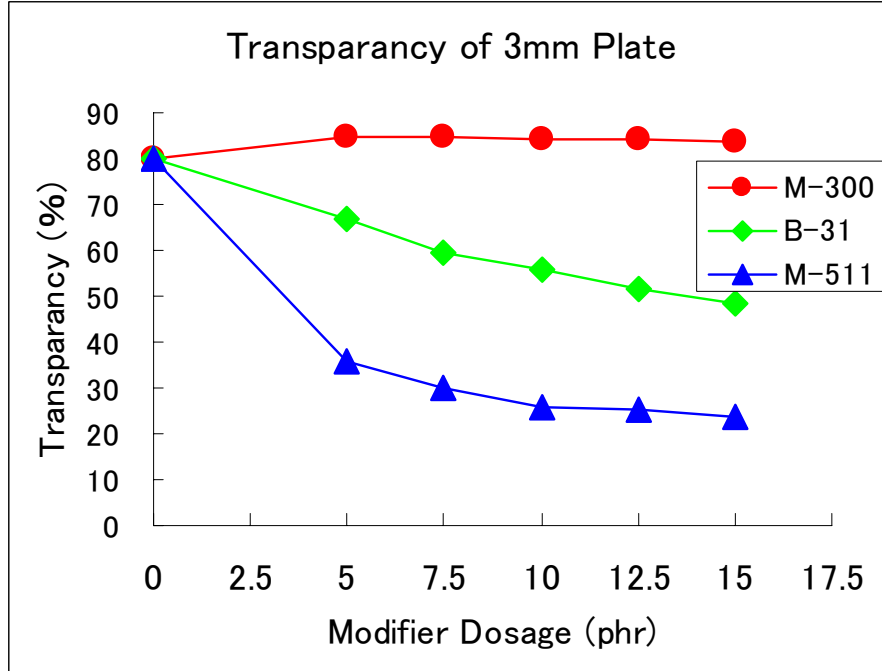
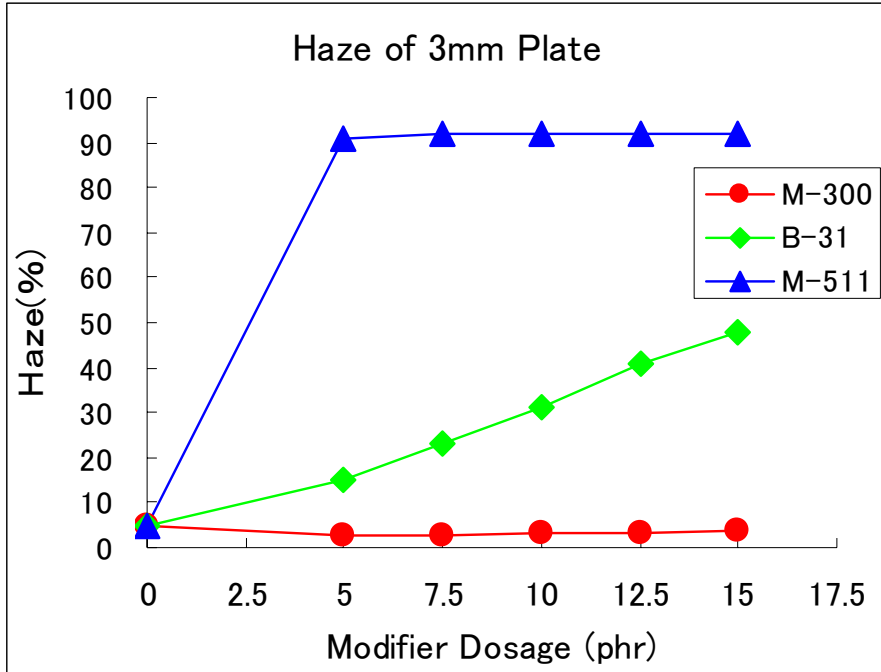


### 3.2 3mm Pressed Plate

Formulation PET-G(Easter6763): 100 phr / Lubricant: 1 phr / Impact Modifier: Variable

Processing Two-Roll Mill : 165deg C\*5min /Press : 120deg C\*15min

Test Condition 3mmPlate,23deg C



## 4. Impact Strength

### 4.1 Tensile Impact of 0.3mm Extruded Sheet

Formulation PET-G(Easter6763): 100 phr / Impact Modifier: Variable

Processing

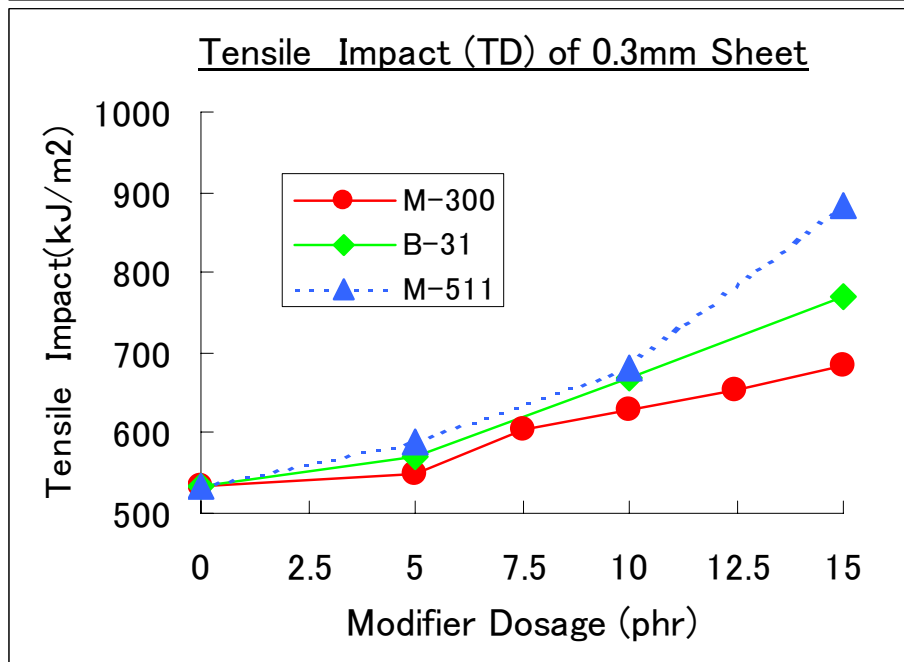
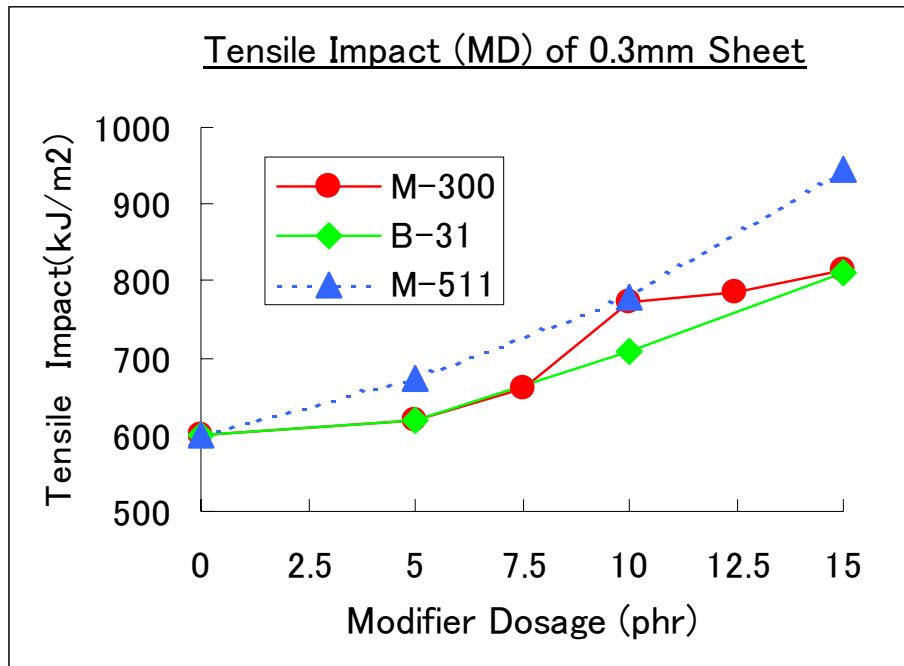
Pelletization 44mm Twin Screw Extruder

C2 - 3/ C4/ C5/ C6 - 7/ C8/ C9/D=170/180/180/190/230/230/240deg C

Sheeting 20mm Single Screw Extruder + T-Die attachment

C1/ C2/ C3/D=200/210/220/230deg C

Test Condition 0.3mm Sheet, DIN53448•Sample type A, Hammer energy=7.5J ,23deg C

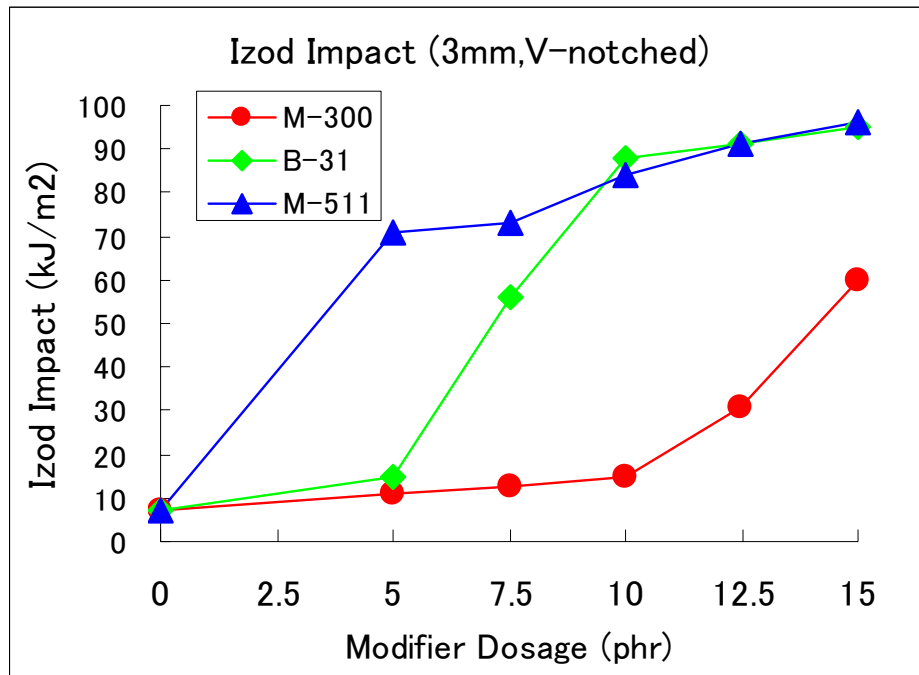


## 4.2 IZOD Impact of 3mm Pressed Plate

Formulation PET-G(Easter6763): 100 phr / Lubricant: 1 phr / Impact Modifier: Variable

Processing Two-Roll Mill : 165 deg C\*5min /Press : 120 deg C\*10min

Test Condition 3mm V-notched, 23 deg C



## 5. Tensile Properties

Formulation PET-G(Easter6763): 100 phr / Impact Modifier: Variable

Processing

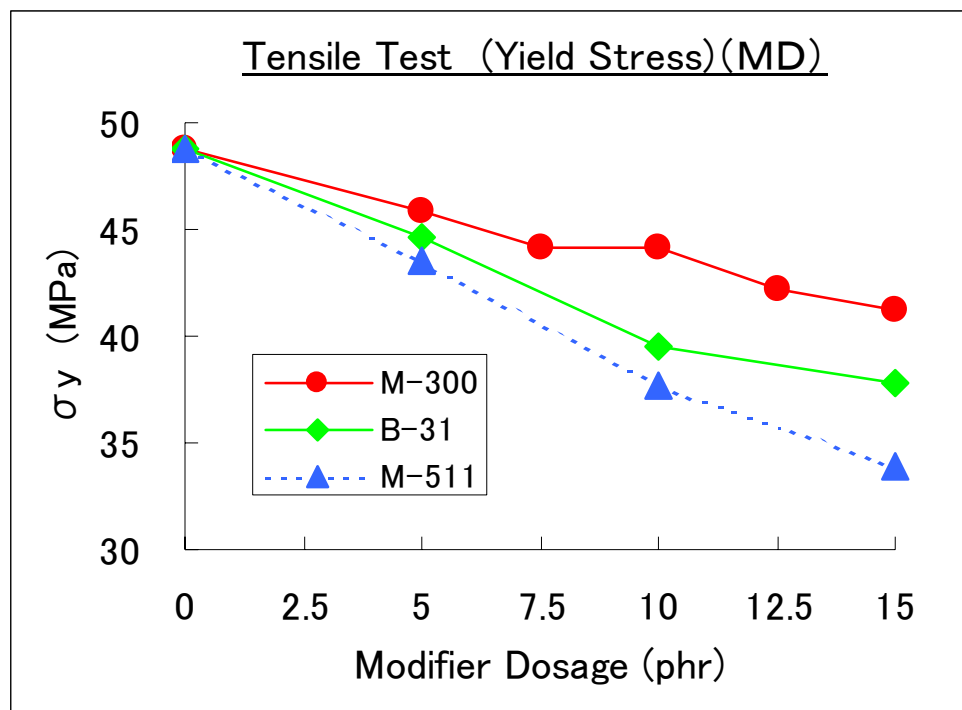
Pelletization 44mm Twin Screw Extruder

C2 - 3/ C4/ C5/ C6 - 7/ C8/ C9/D=170/180/180/190/230/230/240 deg C

Sheeting 20mm Single Screw Extruder + T-Die attachment

C1/ C2/ C3/D=200/210/220/230 deg C

Test Condition 0.3mm Sheet, JIS · Sample type 1, Test Speed = 50mm/min, MD, 23 deg C



## 6. Melt Flow Rate

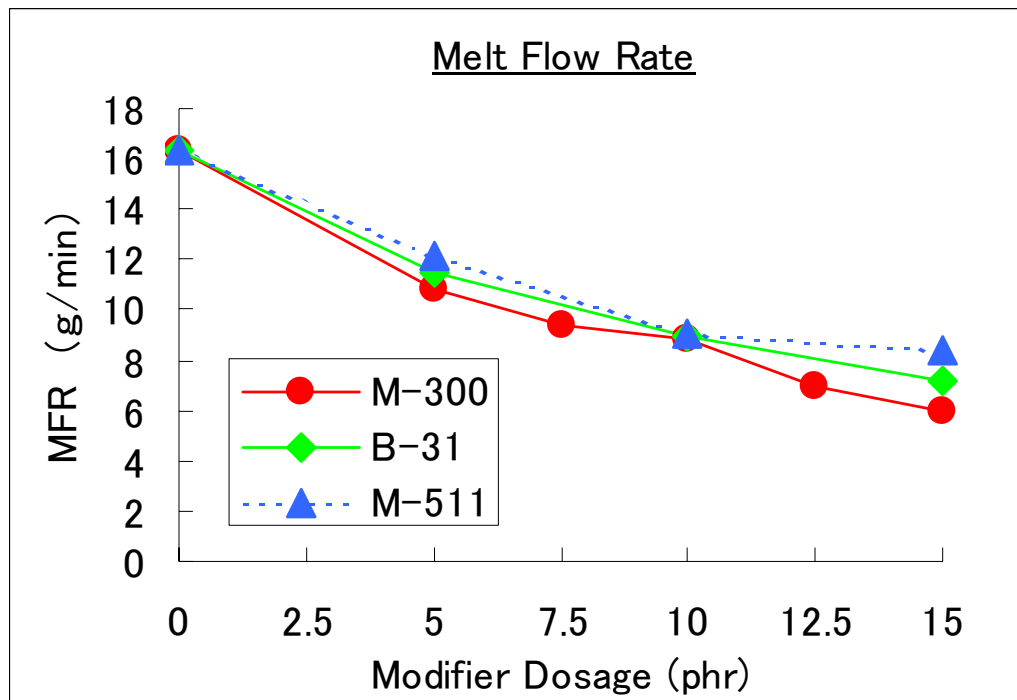
Formulation PET-G(Easter6763): 100 phr / Impact Modifier: Variable

Processing

Pelletization 44mm Twin Screw Extruder

C2 - 3/ C4/ C5/ C6 - 7/ C8/ C9/D= 170/180/180/190/230/230/240 deg C

Test Condition 230 deg C\*3.8kg



### Important Notice

All technical statements, information and recommendation in this TECHNICAL DATA are based on tests and data which are believed to be reliable.

Due to possible variations of conditions and processing methods beyond our control, no guarantees or warranties are expressed or implied as to the use, handling or processing of the materials involved.

Nor do we guarantee product marketability or suitability to specific purposes.

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We expressly disclaim liabilities for any damage resulting from the use, handling or processing of KANE ACE M-300, and for the results arising therefrom regardless of whether or not the material has been used, or is alleged to have been used, in accordance with the instructions given in this technical data.

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