

# Chimei ABS Polylac Properties

Typical Properties	ISO	Condition	Units	General Purpose						High Flow								Electroplating	
				PA-707	PA-757	PA-717C	PA-726	PA-747	PA-709	PA-737	PA-716	PA-757H	PA-746	PA-746H	PA-756	PA-756H	PA-756S	PA-726M	PA-727
MVR	1133	220°C x 10kg	ml/10min	20	18	16	17	13	5.0	29	33	30	28	40	40	80	62	23	19
Mass Density	1183	23°C	g/cm <sup>3</sup>	1.06	1.05	1.04	1.04	1.03	1.03	1.04	1.04	1.04	1.03	1.03	1.05	1.05	1.05	1.04	1.05
Tensile Strength	527	50mm/min, yield	MPa	50	47	44	44	40	40	39	42	40	40	37	45	44	41	42	46
		50mm/min, break	MPa	36	34	33	33	30	31	32	31	31	29	27	32	33	31	32	34
Tensile Elongation	527	50mm/min	%	30	30	30	40	35	35	20	25	40	30	25	30	35	35	20	25
Flexural Strength	178	2mm/min	MPa	79	76	69	64	58	58	60	65	61	60	54	72	65	61	63	71
Flexural Modulus	178	2mm/min	GPa	2.3	2.2	1.9	2.1	1.8	1.8	1.9	1.9	2.0	1.8	1.7	2.1	2.2	2.0	2.1	2.0
Izod Impact	180/1 A	23°C, Notched	KJ/m <sup>2</sup>	14	19	25	24	34	40	24	25	27	28	27	16	9	15	20	24
		-30°C, Notched	KJ/m <sup>2</sup>	7	9	12	11	23	27	10	11	-	12	12	8	5	7	9	11
Charpy Impact	179	23°C, Notched	KJ/m <sup>2</sup>	15	21	27	26	36	42	25	26	29	30	29	17	10	16	22	25
		-30°C, Notched	KJ/m <sup>2</sup>	8	10	13	12	25	29	11	12	-	14	14	9	5	8	10	12
Vicat Softening Temperature	306	50°C/hr; 5kg	°C	104	104	103	104	104	105	103	104	105	103	102	104	102	102	103	105
		50°C/hr; 5kg	°C	100	100	98	96	96	97	96	96	96	101	94	94	96	95	95	95
Heat Deflection Temperature	75/A	1.8MPa, unannealed	°C	83	83	82	83	82	82	81	83	83	82	81	83	82	82	81	83
		1.8MPa, annealed	°C	98	98	97	98	97	98	96	97	98	96	96	96	98	97	97	96
CTE	11359	-	-	8.4 × 10 <sup>-5</sup>	8.6 × 10 <sup>-5</sup>	8.8 × 10 <sup>-5</sup>	9.1 × 10 <sup>-5</sup>	9.3 × 10 <sup>-5</sup>	9.3 × 10 <sup>-5</sup>	9.0 × 10 <sup>-5</sup>	9.1 × 10 <sup>-5</sup>	8.6 × 10 <sup>-5</sup>	9.2 × 10 <sup>-5</sup>	9.2 × 10 <sup>-5</sup>	8.9 × 10 <sup>-5</sup>	8.9 × 10 <sup>-5</sup>	8.8 × 10 <sup>-5</sup>	8.7 × 10 <sup>-5</sup>	8.8 × 10 <sup>-5</sup>
Flammability	-	UL-94	-	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB
Mold Shrinkage	294-4	-	%	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7
Symbol	1043	-	-	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<
Product Description				High gloss, High rigidity	High gloss, Medium impact	Medium impact	Medium flow, Medium impact	High impact	Super impact	High flow, Medium impact	High flow, Medium impact	High flow, Medium impact	High flow, Medium impact	Super high flow, High impact	High rigidity, High flow	Super high flow	Super high flow, Medium impact	Auto-motive parts, electro-plating	Medium flow, Medium impact

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# Chimei ABS Polylac Properties

Typical Properties	ISO	Condition	Units	Extrusion						Flame Retardant						High Heat				
				PA-747R	PA-747F	PA-747H	PA-747S	PA-709S	PA-77SD	PA-763	PA-764	PA-764B	PA-765	PA-765A	PA-765B	PA-777B	PA-777C	PA-777D	PA-777E	PA-77NB
MVR	1133	220°C x 10kg	ml/10min	2.5	3.5	3.0	6.0	4.0	0.5	27	30	28	50	46	38	8.5	7.0	5.5	4.5	10
Mass Density	1183	23°C	g/cm³	1.04	1.05	1.05	1.03	1.03	1.06	1.19	1.19	1.16	1.19	1.17	1.16	1.03	1.06	1.06	1.07	1.06
Tensile Strength	527	50mm/min, yield	MPa	41	46	46	40	37	45	38	37	38	37	38	38	44	44	45	45	45
		50mm/min, break	MPa	30	33	35	30	29	-	29	28	29	28	29	29	34	35	33	32	-
Tensile Elongation	527	50mm/min	%	25	25	25	40	30	30	15	10	10	10	10	10	40	44	34	29	50
Flexural Strength	178	2mm/min	MPa	61	66	63	57	51	70	58	55	57	55	56	57	67	69	73	74	70
Flexural Modulus	178	2mm/min	GPa	1.7	1.9	1.8	1.7	1.5	2.2	2.0	1.7	1.8	1.8	1.8	1.8	2.2	2.2	2.3	2.3	2.2
Izod Impact	180/1A	23°C, Notched	KJ/m²	37	30	33	34	40	22	21	13	14	22	23	24	21	18	13	12	23
		-30°C, Notched	KJ/m²	26	20	22	23	28	-	11	7	7	9	10	11	11	9	7	6	-
Charpy Impact	179	23°C, Notched	KJ/m²	39	32	35	36	42	20	22	13	13	23	24	26	22	17	14	13	21
		-30°C, Notched	KJ/m²	28	21	24	25	30	-	12	7	7	10	10	11	11	9	7	6	-
Vicat Softening Temperature	306	50°C/hr; 5kg	°C	106	106	106	103	104	125	103	101	102	91	93	94	114	119	124	129	115
		50°C/hr; 5kg	°C	101	101	101	98	98	115	96	90	90	78	79	80	106	112	117	121	108
Heat Deflection Temperature	75/A	1.8MPa, unannealed	°C	83	84	84	81	81	95	86	82	83	74	76	77	86	92	97	101	86
		1.8MPa, annealed	°C	99	100	100	96	96	115	96	92	93	83	84	85	106	112	117	121	106
CTE	11359	-	-	$9.1 \times 10^{-5}$	$8.7 \times 10^{-5}$	$8.7 \times 10^{-5}$	$9.2 \times 10^{-5}$	$9.5 \times 10^{-5}$	$8.3 \times 10^{-5}$	$8.5 \times 10^{-5}$	$8.5 \times 10^{-5}$	$8.6 \times 10^{-5}$	$8.4 \times 10^{-5}$	$8.5 \times 10^{-5}$	$8.6 \times 10^{-5}$	$8.4 \times 10^{-5}$	$8.2 \times 10^{-5}$	$8.3 \times 10^{-5}$	$8.2 \times 10^{-5}$	$8.4 \times 10^{-5}$
Flammability	-	UL-94	-	1.5mm HB	1.5mm HB	1.0mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm V-0 2.5mm 5VA	1.5mmV-0 1.5mm 5VB 2.5mm 5VA	2.5mmV-0 2.5mm 5VB 3.0mm 5VA	1.0mmV-1 1.5mm V-0 1.5mm 5VB 2.5mm 5VA	1.5mmV-1 2.1mm V-0 2.1mm 5VB 2.5mm 5VA	1.5mmV-2 2.5mm V-0 2.5mm 5VB 3.0mm 5VA	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB
Mold Shrinkage	294-4	-	%	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.4 □ 0.7	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6	0.3 □ 0.6
Symbol	1043	-	-	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS-FR(17)<	>ABS-FR(17)<	>ABS-FR(17)<	>ABS-FR(17)<	>ABS-FR(17)<	>ABS-FR(17)<	>ABS<	>ABS<	>ABS<	>ABS<	>ABS<
Product Description				Extrusion	Refrigerator, Extrusion	Refrigerator, Extrusion	High impact, Extrusion	Super impact, Extrusion	High heat, Extrusion, Blow	F.R, High heat, Weather resistant	F.R, Weather resistant	F.R, Weather resistant	F.R, High flow	F.R, High flow	F.R, Medium impact	Medium heat, High impact	High heat, High impact	Super high heat	Ultra high heat	Low emission, Low odor, Low gloss

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## Chimei MABS Polylac Properties & PMMA Acryrex Properties

Typical Properties	ISO	Condition	Units	Transparent		Typical Properties	ISO	Condition	Units	PMMA Acryrex			
				PA-758	PA-758R					CM-205	CM-205M	CM-207	CM-211
MVR	1133	200°C x 5kg	ml/10min	3.0	2.2	MVR	1133	230°C x 3.8kg	ml/10min	1.9	3.2	8.5	16
Mass Density	1183	23°C	g/cm <sup>3</sup>	1.08	1.08	Mass Density	1183	23°C	g/cm <sup>3</sup>	1.19	1.19	1.19	1.19
Tensile Strength	527	50mm/min, yield	MPa	42	45	Tensile Strength	527	5mm/min, yield	MPa	70	70	67	65
		50mm/min,break	MPa	33	33			5mm/min,break	MPa	70	70	67	65
Tensile Elongation	527	50mm/min	%	40	60	Tensile Elongation	527	5mm/min	%	12	12	8	6
Flexural Strength	178	2mm/min	MPa	57	62	Flexural Strength	178	2mm/min	MPa	103	103	97	95
Flexural Modulus	178	2mm/min	GPa	1.9	2.1	Flexural Modulus	178	2mm/min	GPa	2.8	2.8	2.7	2.7
Izod Impact	180/1A	23°C, Notched	KJ/m <sup>2</sup>	14	15	Izod Impact	180/1A	23°C, Notched	KJ/m <sup>2</sup>	2	2	2	2
		-30°C, Notched	KJ/m <sup>2</sup>	7	8			-30°C, Notched	KJ/m <sup>2</sup>	2	2	2	2
	180/1C	23°C, Unnotched	KJ/m <sup>2</sup>	55	58		180/1C	23°C, Unnotched	KJ/m <sup>2</sup>	21	21	18	17
		-30°C, Unnotched	KJ/m <sup>2</sup>	40	41								
Charpy Impact	179	23°C, Notched	KJ/m <sup>2</sup>	14	15	Charpy Impact	179	23°C, Notched	KJ/m <sup>2</sup>	2	2	2	2
		-30°C, Notched	KJ/m <sup>2</sup>	7	8			23°C, unnotched	KJ/m <sup>2</sup>	26	26	20	19
		23°C, unnotched	KJ/m <sup>2</sup>	58	62								
		-30°C, unnotched	KJ/m <sup>2</sup>	45	48								
Vicat Softening Temperature	306	50°C/hr; 1kg	°C	104	102	Vicat Softening Temperature	306	50°C/hr; 1kg	°C	115	115	107	103
		50°C/hr; 5kg	°C	96	94			50°C/hr; 5kg	°C	107	107	99	96
Heat Deflection Temperature	75/A	1.8MPa, unannealed	°C	87	85	Heat Deflection Temperature	75/A	1.8MPa, unannealed	°C	95	95	89	78
		1.8MPa, annealed	°C	97	95			1.8MPa, annealed	°C	104	104	100	98
CTE	11359	-	-	$9.0 \times 10^{-5}$	$8.7 \times 10^{-5}$	CTE	11359	-	-	$6.0 \times 10^{-5}$	$6.0 \times 10^{-5}$	$6.0 \times 10^{-5}$	$6.0 \times 10^{-5}$
Flammability	-	UL-94	-	1.5mm HB	1.5mm HB	Flammability	-	UL-94	-	1.5mm HB	1.5mm HB	1.5mm HB	1.5mm HB
Mold Shrinkage	294-4	-	%	0.3 □ 0.7	0.3 □ 0.7	Mold Shrinkage	294-4	-	%	0.2 □ 0.6	0.2 □ 0.6	0.2 □ 0.6	0.2 □ 0.6
Symbol	1043	-	-	>MABS<	>MABS<	Symbol	1043	-	-	>PMMA<	>PMMA<	>PMMA<	>PMMA<
Product Description				Transparent	Transparent, Chemical resistant	Product Description				High viscosity	High viscosity High flow	Medium viscosity	Low viscosity

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