

Physical Properties				Type	High-Modulus				Intermediate-Modulus	Low-Modulus			Opaque		
List		Measured Condition	Unit	Grade	RT18, RT31 ^{※1} (RT18XB, RT31XB ^{※2})	DX845	DX231	DX820	MX004 (MX004XB ^{※2})	MX002	MX002O	DX310	MBZ230(A)	DX560M	
				Methodolog											
Basic Properties	Density	Density Gradient Method	kg/m ³ lb/in ³	MCI Method	833 0.030	833 0.030	832 0.030	832 0.030	833 0.030	834 0.030	834 0.030	834 0.030	1100 0.040	856 0.031	
	MFR	Applied Force= 5kgf, 260°C	g/10min	MCI Method	26 (RT18) 21 (RT31)	9	100	180	25	21	21	100	57	33	
	Melting Point	DSC Method	°C °F	ASTM D3418	232 449.6	232 449.6	232 449.6	232 449.6	228 442.4	224 435.2	224 435.2	226 438.8	233 451.4	221 429.8	
	Water Absorption		%	ASTM-D570	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	
Thermal Properties	Vicat Softening Temperature	Injection Molded Specimen (2mm thick × 2pcs) Heat Speed: 50°C/hour Applied Load: 10N	°C °F	ASTM-D1525	168 334.4	168 334.4	178 352.4	172 341.6	164 327.2	149 300.2	149 300.2	145 293.0	162 323.6	89 192.2	
	Heat Distortion Temperature	Injection Molded Specimen (1/4 inch thick) Heat Speed: 120°C/hour Applied Stress: 0.45MPa TMA Method	°C °F	ASTM-D648	127 260.6	127 260.6	126 258.8	132 269.6	100 212.0	93 199.4	93 199.4	80 176.0	145 293.0	59 138.2	
	Coefficient of Linear Expansion	Measured Range: -10°C~160°C Applied Force: 3g Heat Speed: 5°C/min Nitrogen Flow: 100ml/min	cm/cm°C	MCI Method	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.17 × 10 ⁻⁴	1.28 × 10 ⁻⁴	3.53 × 10 ⁻⁴	
Mechanical Properties	23°C 73F	Yield Stress	MPa PSI	ASTM-D638	30 4350	30 4350	29 4205	32 4640	25 3625	21 3045	21 3045	20 2900	27 3915	8 1160	
		Fractured Stress	MPa PSI	ASTM-D638	25 3625	25 3625	25 3625	25 3625	20 2900	10 1450	10 1450	10 1450	26 3770	9 1305	
		Fractured Strain	%	ASTM-D638	22	19	19	7	27	87	87	52	20	100	
		Tensile Modulus	MPa PSI	ASTM-D638	1900 275500	1900 275500	1860 269700	1950 282750	1300 188500	900 130500	900 130500	850 123250	2250 326250	280 40600	
	23°C 73F	Flexural Modulus	MPa PSI	ASTM-D790	1450 210250	1500 217500	1450 210250	1600 232000	750 108750	480 69600	480 69600	490 71050	1820 263900	190 27550	
		Flexural Strength	MPa PSI	ASTM-D790	36 5220	40 5800	37 5365	40 5800	25 3625	18 2610	18 2610	18 2610	40 5800	6 870	
	23°C 73F	Izod Impact Strength	Injection Molded Specimen (Machined Notch)	J/m ft-ibs/in	ASTM-D256	24 0.45	25 0.47	13 0.24	10 0.19	27 0.51	30 0.56	30 0.56	19 0.36	99 ^{※3} 1.85 ^{※3}	495 ^{※3} 9.27 ^{※3}
			Injection Molded Specimen (w/o Notch)	kJ/m ² ft-ibs/in ²	ASTM-D4812	10 4.8	10 4.8	8 3.8	9 4.3	22 10.5	NB	NB	29 13.8	56 ^{※3} 26.60 ^{※3}	NB
23°C 73F	Rockwell Hardness	Injection Molded Specimen R scale	—	ASTM-D785	83	86	88	90	66	<50 ^{※4}	<50 ^{※4}	<50 ^{※4}	84	<50 ^{※4}	
Optical Properties	Haze	Injection Molded Specimen	%	ASTM-D1003	0.7	0.7	1.7	2.1	0.7	1.3	0.7	1.7			
	Transmittance	C illuminant	%	ASTM-D1003	94	94	93	92	94	93	94	93			
	Refractive Index	Injection Molded Specimen (2mm thick) Wave Length: 589nm	—	ASTM-D542	1.462	1.462	1.462	1.461	1.462	1.463	1.463	1.463			
Electrical Properties	Volume Resistivity	Injection Molded Specimen (2mm thick)	Ω·cm	ASTM-D257	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁵	
	Dielectric Breakdown Voltage	Injection Molded Specimen (2mm thick)	KV/mm V/mil	ASTM-D149	32 812	32 812	32 812	32 812	32 812	32 812	32 812	32 812	28 711	31 787	
	Relative Dielectric Constant	Injection Molded Specimen (2mm thick), Frequency: 1MHz	—	ASTM-D150	2.11	2.11	2.11	2.14	2.14	2.15	2.15	2.15	2.38	2.15	
Moldability	Spiral Flow	Injection Temperature: 310-320°C Mold Temperature: 73°C	cm	MCI Method - 1	51	50			53	56	56		48		
	Mold Shrinkagee	Injection Molded Specimen (2mm thick) MD	%	MCI Method - 2	1.6	1.5			1.7	1.6	1.6		1.5		
		Injection Molded Specimen (2mm thick) TD	%	MCI Method - 2	1.3	1.4			1.4	1.3	1.3		1.1		
Processing Method	Injection Molding	◎: Recommended ○: Applicable			◎	○	○	○	◎	◎	◎	○	◎	○	
	Extrusion-Coating				○	◎	◎	◎	◎	◎	◎	◎	○	○	
	Extrusion-T-Die Casting				○	○	○	○	◎	◎	◎	◎	○	○	
	Extrusion-Profile type, Mandrel, Pipe				○	○	○	○	◎	◎	◎	◎	○	◎	
	Extrusion-Fiber Spinning				○	○	○	◎	○	○	○	○			
	Direct Blow Molding					○			○	○	○			○	

MCI Method-1 Molding Temp. : 310~330°C (depending on the grade)
MCI Method-2 Molding Temp. : 260~280°C (depending on the grade)
Note : Figures shown here are representative values but not specified values.

※1 RT31, RT31XB : Low odor grade
※2 RT18XB, RT31XB, MX004XB : Blue tint grade
※3 Partially Break
※4 Not detective by ASTM-D785