

Leona Properties (ISO)

				PA non-reinforced											
				General				Heat Stabilized							
				1300S		1300F		1302S		1402S		1402F		1402SH	
Test method	units	condition	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Density	ISO 1183	g/cm ³		1.14	-	1.14	-	1.14	-	1.14	-	1.14	-	1.14	-
Equilibrium moisture content	ISO 62	%		-	2.5	-	2.2	-	2.5	-	2.5	-	2.2	-	2.5
Tensile stress at yield	ISO 527	MPa	23°C50%RH	82	52	88	59	82	52	82	52	88	59	82	48
Tensile strain at yield	ISO 527	%	23°C50%RH	4	24	5	20	4	24	4	24	5	20	4.5	25
Tensile stress at break	ISO 527	MPa	23°C50%RH	-	-	-	-	-	-	-	-	-	-	-	-
Tensile strain at break	ISO 527	%	23°C50%RH	-	>100	-	>100	-	>100	-	>100	-	>100	-	>50
Tensile modulus	ISO 527	MPa	23°C50%RH	3000	1200	3500	1600	3000	1200	3000	1200	3500	1600	3000	1100
Flexural strength	ISO 178	MPa	23°C50%RH	113	42	116	48	113	42	113	42	116	48	111	38
Flexural modulus	ISO 178	GPa	23°C50%RH	2.7	1.1	2.9	1.2	2.7	1.1	2.7	1.1	2.9	1.2	2.6	0.9
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	6	15	6	12	6	15	6	15	6	12	6	16
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	NB	NB	NB	NB	NB	NB	NB	NB	NB	NB	NB	NB
Rockwell hardness	ISO 2039		scale R	120	108	120	110	120	108	120	108	120	110	120	108
Rockwell hardness	ISO 2039		scale M	80	55	85	60	80	55	80	55	85	60	80	55
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		8	-	8	-	8	-	8	-	8	-	8	-
Temperature of distortion under load	ISO 75	°C	1.8MPa	68	-	72	-	68	-	68	-	72	-	62	-
Temperature of distortion under load	ISO 75	°C	0.46MPa	192	-	219	-	192	-	192	-	219	-	162	-
UL-94	UL-94	PLC	1/16inch	-	-	-	-	-	-	-	-	-	-	-	-
UL-94	UL-94		1/32inch	V2	-	V2	-	V2	-	V2	-	V2	-	V2	-
UL94-5VA	UL94-5VA	mm													
Comparative tracking index	IEC 60112		3mm	600	-	600	-	575	-	525	-	525	-	525	-
Dielectric strength	IEC 60243	KV/mm		20	-	20	-	20	-	20	-	20	-	20	-
Surface resistivity	IEC 60093	Ω	23°C50%RH	10 ¹³	-	10 ¹³	-	10 ¹³	-	10 ¹³	-	10 ¹³	-	10 ¹³	-
Volume resistivity	IEC 60093	Ω · cm	23°C50%RH	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁴	-
Dissipation factor	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-
Dissipation factor	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%		1.3~2.0	-	0.9~1.6	-	1.3~2.0	-	1.3~2.0	-	0.9~1.6	-	1.3~2.0	-
Mold shrinkage(para/perp to flow)	ISO 294-4	%		-	-	-	-	-	-	-	-	-	-	-	-
Refractive index	ISO 489			-	-	-	-	-	-	-	-	-	-	-	-
Luminous transmittance	ISO 13468-1			-	-	-	-	-	-	-	-	-	-	-	-
Melt flow rate	ISO 1133	g/10min		-	-	-	-	-	-	-	-	-	-	-	-

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- Be sure to read the relevant MSDS before handling and use, and always follow the Important Precautions.
- Equilibrium moisture content:at 23 ,50%relative humidity.
- Dry:Values for specimens in the as-molded condition. Wet:Values for specimens with equilibrium moisture content at 23 , 50% relative humidity.

Leona Properties (ISO)

				PA GF reinforced																	
				General								Heat Stabilized									
				13G15		1300G		13G43		13G25		14G15		1402G		14G25		14G33		14G50	
	Test method	units	condition	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
Density	ISO 1183	g/cm ³		1.25	-	1.39	-	1.5	-	1.32	-	1.25	-	1.39	-	1.32	-	1.39	-	1.58	-
Equilibrium moisture content	ISO 62	%		-	2.1	-	1.7	-	1.4	-	1.9	-	2.1	-	1.7	-	1.9	-	1.7	-	1.3
Tensile stress at yield	ISO 527	MPa	23°C50%RH	-	77	-	-	-	-	-	116	-	77	-	-	-	116	-	-	-	-
Tensile strain at yield	ISO 527	%	23°C50%RH	-	6	-	-	-	-	-	5.5	-	6	-	-	-	5.5	-	-	-	-
Tensile stress at break	ISO 527	MPa	23°C50%RH	107	73	190	135	207	150	187	112	107	73	190	135	187	112	208	143	237	183
Tensile strain at break	ISO 527	%	23°C50%RH	2.5	11	3	5	3	4.5	4	9	2.5	11	3	5	4	9	4	6	2	4
Tensile modulus	ISO 527	MPa	23°C50%RH	5800	3600	10000	8000	12700	10200	8200	5900	5800	3600	10000	8000	8200	5900	9800	7800	16900	13000
Flexural strength	ISO 178	MPa	23°C50%RH	162	116	280	202	303	225	273	170	162	116	280	202	273	170	302	213	371	269
Flexural modulus	ISO 178	GPa	23°C50%RH	4.8	3.3	9.0	6.8	11.7	8.7	7.8	5.0	4.8	3.3	9.0	6.8	7.8	5.0	9.6	6.7	13.6	11.0
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	6	5	11	16	12	18	10	14	6	5	11	16	10	14	13	16	14	21
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	26	38	72	83	84	85	68	92	26	38	72	83	68	92	90	97	NB	95
Rockwell hardness	ISO 2039		scale R	120	-	120	112	118	-	120	-	120	-	120	112	120	-	120	-	118	-
Rockwell hardness	ISO 2039		scale M	94	71	96	96	96	80	96	74	94	71	96	96	96	74	96	75	95	80
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		4	-	3	-	3	-	3	-	4	-	3	-	3	-	2	-	2	-
Temperature of distortion under load	ISO 75	°C	1.8MPa	236	-	249	-	253	-	244	-	236	-	249	-	244	-	250	-	256	-
Temperature of distortion under load	ISO 75	°C	0.46MPa	262	-	264	-	261	-	259	-	262	-	264	-	259	-	261	-	262	-
UL-94	UL-94	PLC	1/16inch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UL-94	UL-94		1/32inch	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-
UL94-5VA	UL94-5VA	mm																			
Comparative tracking index	IEC 60112		3mm	600	-	600	-	600	-	600	-	425	-	425	-	425	-	425	-	525	-
Dielectric strength	IEC 60243	KV/mm		26	-	28	-	30	-	29	-	26	-	28	-	29	-	33	-	21	-
Surface resistivity	IEC 60093	Ω	23°C50%RH	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-
Volume resistivity	IEC 60093	Ω·cm	23°C50%RH	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-
Dissipation factor	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissipation factor	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%		0.7/1.2	-	0.4/0.9	-	0.3/0.7	-	0.5/0.9	-	0.7/1.2	-	0.4/0.9	-	0.5/0.9	-	0.4/0.8	-	0.4/0.7	-
Mold shrinkage(para/perp to flow)	ISO 294-4	%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Refractive index	ISO 489			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luminous transmittance	ISO 13468-1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melt flow rate	ISO 1133	g/10min		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ISO)

				PA High molecular weight									
				General						Heat Stabilized			
				1500		1700S		9400S		1502		1702	
	Test method	units	condition	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
Density	ISO 1183	g/cm ³		1.14	–	1.14	–	1.14	–	1.14	–	1.14	–
Equilibrium moisture content	ISO 62	%		–	2.5	–	2.5	–	2.8	–	2.5	–	2.5
Tensile stress at yield	ISO 527	MPa	23°C50%RH	84	51	84	50	80	40	84	51	84	50
Tensile strain at yield	ISO 527	%	23°C50%RH	4.5	26	4.5	27	4	22	4.5	26	4.5	27
Tensile stress at break	ISO 527	MPa	23°C50%RH	–	–	–	–	–	–	–	–	–	–
Tensile strain at break	ISO 527	%	23°C50%RH	–	>100	–	>100	–	>100	–	>100	–	>100
Tensile modulus	ISO 527	MPa	23°C50%RH	2900	1000	3000	1100	2700	700	2900	1000	3000	1100
Flexural strength	ISO 178	MPa	23°C50%RH	110	39	115	39	97	30	110	39	115	39
Flexural modulus	ISO 178	GPa	23°C50%RH	2.7	0.9	2.8	0.9	2.3	0.7	2.7	0.9	2.8	0.9
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	7	30	7	30	7	41	7	30	7	30
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	NB	NB	NB	NB	NB	NB	NB	NB	NB	NB
Rockwell hardness	ISO 2039		scale R	120	105	120	105	–	–	120	105	120	105
Rockwell hardness	ISO 2039		scale M	80	55	80	55	75	–	80	55	80	55
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		8	–	8	–	–	–	8	–	8	–
Temperature of distortion under load	ISO 75	°C	1.8MPa	64	–	68	–	60	–	64	–	68	–
Temperature of distortion under load	ISO 75	°C	0.46MPa	196	–	216	–	165	–	196	–	216	–
UL-94	UL-94	PLC	1/16inch	–	–	–	–	–	–	–	–	–	–
UL-94	UL-94		1/32inch	–	–	–	–	–	–	–	–	–	–
UL94-5VA	UL94-5VA	mm											
Comparative tracking index	IEC 60112		3mm	600	–	–	–	–	–	525	–	–	–
Dielectric strength	IEC 60243	KV/mm		20	–	20	–	20	–	20	–	20	–
Surface resistivity	IEC 60093	Ω	23°C50%RH	10 ¹⁴	–	10 ¹⁴	–	10 ¹⁴	–	10 ¹⁴	–	10 ¹⁴	–
Volume resistivity	IEC 60093	Ω · cm	23°C50%RH	10 ¹⁵	–	10 ¹⁵	–	10 ¹⁵	–	10 ¹⁵	–	10 ¹⁵	–
Dissipation factor	IEC 600250		100Hz	–	–	–	–	–	–	–	–	–	–
Dissipation factor	IEC 600250		1MHz	–	–	–	–	–	–	–	–	–	–
Relative permittivity	IEC 600250		100Hz	–	–	–	–	–	–	–	–	–	–
Relative permittivity	IEC 600250		1MHz	–	–	–	–	–	–	–	–	–	–
Mold shrinkage(para/perp to flow)	Asahi method	%		1.3~2.0	–	1.3~2.0	–	–	–	1.3~2.0	–	1.3~2.0	–
Mold shrinkage(para/perp to flow)	ISO 294-4	%		–	–	–	–	–	–	–	–	–	–
Refractive index	ISO 489			–	–	–	–	–	–	–	–	–	–
Luminous transmittance	ISO 13468-1			–	–	–	–	–	–	–	–	–	–
Melt flow rate	ISO 1133	g/10min		–	–	–	–	–	–	–	–	–	–

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- Equilibrium moisture content:at 23 ,50%relative humidity.
- Dry:Values for specimens in the as-molded condition. Wet:Values for specimens with equilibrium moisture content at 23 , 50% relative humidity.

Leona Properties (ISO)

				PA Flame retardant									
				General				Heat Stabilized					
				FR200		FR370		FG170		FG172		FG173	
Test method	units	condition	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Density	ISO 1183	g/cm ³		1.16	-	1.16	-	1.48	-	1.52	-	1.65	-
Equilibrium moisture content	ISO 62	%		-	2.4	-	2.3	-	1.2	-	1.1	-	0.8
Tensile stress at yield	ISO 527	MPa	23°C50%RH	75	44	83	55	-	-	-	-	-	-
Tensile strain at yield	ISO 527	%	23°C50%RH	3.5	2.4	4.5	22	-	-	-	-	-	-
Tensile stress at break	ISO 527	MPa	23°C50%RH	69	-	80	-	131	100	136	107	174	137
Tensile strain at break	ISO 527	%	23°C50%RH	10	>100	15	>50	2.5	3.5	2.5	3	2	2
Tensile modulus	ISO 527	MPa	23°C50%RH	3500	1100	3600	1600	7500	5700	9100	6600	11700	10500
Flexural strength	ISO 178	MPa	23°C50%RH	117	37.2	124	54.1	188	146	208	152	259	188
Flexural modulus	ISO 178	GPa	23°C50%RH	2.9	1.0	3.6	1.5	7.5	4.7	8	5	10.3	8.7
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	4	11	4	6	6	5	7	11	11	10
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	NB	NB	58	NB	44	45	64	62	50	52
Rockwell hardness	ISO 2039		scale R	118	90	120	110	-	-	-	-	-	-
Rockwell hardness	ISO 2039		scale M	80	-	85	55	95	55	95	55	100	60
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		8	-	7	-	3	-	3	-	3	-
Temperature of distortion under load	ISO 75	°C	1.8MPa	62	-	78	-	240	-	240	-	245	-
Temperature of distortion under load	ISO 75	°C	0.46MPa	203	-	239	-	256	-	256	-	262	-
UL-94	UL-94	PLC	1/16inch	-	-	-	-	-	-	-	-	-	-
UL-94	UL-94		1/32inch	V0	-	V0	-	V0	-	V0	-	V0	-
UL94-5VA	UL94-5VA	mm											
Comparative tracking index	IEC 60112		3mm	600	-	600	-	200	-	250	-	275	-
Dielectric strength	IEC 60243	KV/mm		19	-	22	-	27	-	28	-	28	-
Surface resistivity	IEC 60093	Ω	23°C50%RH	10 ¹³	-	10 ¹³	-	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁴	-
Volume resistivity	IEC 60093	Ω · cm	23°C50%RH	10 ¹⁴	-	10 ¹⁴	-	10 ¹⁵	-	10 ¹⁵	-	10 ¹⁵	-
Dissipation factor	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-
Dissipation factor	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%		1.3~2.0	-	0.9~1.6	-	0.6/1.0	-	0.4/0.9	-	0.3/0.7	-
Mold shrinkage(para/perp to flow)	ISO 294-4	%		-	-	-	-	-	-	-	-	-	-
Refractive index	ISO 489			-	-	-	-	-	-	-	-	-	-
Luminous transmittance	ISO 13468-1			-	-	-	-	-	-	-	-	-	-
Melt flow rate	ISO 1133	g/10min		-	-	-	-	-	-	-	-	-	-

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Leona Properties (ISO)

				PA Special composites									
				MF reinforced				Fluoroplastic		MF reinforced and Heat stabilized			
				CR301		CR302		1330G		CR101		MR001	
Test method	units	condition	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Density	ISO 1183	g/cm ³		1.48	–	1.52	–	1.48	–	1.45	–	1.52	–
Equilibrium moisture content	ISO 62	%		–	1.5	–	1.4	–	1.4	–	1.5	–	1.5
Tensile stress at yield	ISO 527	MPa	23°C50%RH	–	–	–	–	–	–	–	77	–	59
Tensile strain at yield	ISO 527	%	23°C50%RH	–	–	–	–	–	–	–	5.5	–	14
Tensile stress at break	ISO 527	MPa	23°C50%RH	85	59	140	92	144	107	100	76	93	58
Tensile strain at break	ISO 527	%	23°C50%RH	2	11	2	2.5	4	6	3	7	5.5	19
Tensile modulus	ISO 527	MPa	23°C50%RH	7000	4100	10000	7600	9800	6700	7200	4600	5900	3400
Flexural strength	ISO 178	MPa	23°C50%RH	140	92	197	148	235	165	180	127	150	84
Flexural modulus	ISO 178	GPa	23°C50%RH	7.4	4.1	9.8	7.1	8.7	6.0	6.5	4.1	5.8	3.1
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	3	3	4	5	10	13	5	7	3	3
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	51	90	38	46	71	78	50	60	62	125
Rockwell hardness	ISO 2039		scale R	–	–	–	–	120	108	120	–	120	108
Rockwell hardness	ISO 2039		scale M	85	–	90	–	89	60	94	74	85	60
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		4	–	–	–	3	–	4	–	6	–
Temperature of distortion under load	ISO 75	°C	1.8MPa	188	–	247	–	246	–	232	–	118	–
Temperature of distortion under load	ISO 75	°C	0.46MPa	249	–	260	–	261	–	252	–	229	–
UL-94	UL-94	PLC	1/16inch	–	–	–	–	–	–	–	–	–	–
UL-94	UL-94		1/32inch	HB相当	–	HB相当	–	HB	–	–	–	HB	–
UL94-5VA	UL94-5VA	mm											
Comparative tracking index	IEC 60112		3mm	–	–	–	–	–	–	–	–	–	–
Dielectric strength	IEC 60243	KV/mm		–	–	–	–	–	–	–	–	22	–
Surface resistivity	IEC 60093	Ω	23°C50%RH	–	–	–	–	–	–	–	–	10 ¹³	–
Volume resistivity	IEC 60093	Ω · cm	23°C50%RH	–	–	–	–	–	–	–	–	10 ¹⁴	–
Dissipation factor	IEC 600250		100Hz	–	–	–	–	–	–	–	–	–	–
Dissipation factor	IEC 600250		1MHz	–	–	–	–	–	–	–	–	–	–
Relative permittivity	IEC 600250		100Hz	–	–	–	–	–	–	–	–	–	–
Relative permittivity	IEC 600250		1MHz	–	–	–	–	–	–	–	–	–	–
Mold shrinkage(para/perp to flow)	Asahi method	%		0.5~1.3	–	0.5~1.0	–	0.5/1.0	–	0.5~1.1	–	1.0~1.1	–
Mold shrinkage(para/perp to flow)	ISO 294-4	%		–	–	–	–	–	–	–	–	–	–
Refractive index	ISO 489			–	–	–	–	–	–	–	–	–	–
Luminous transmittance	ISO 13468-1			–	–	–	–	–	–	–	–	–	–
Melt flow rate	ISO 1133	g/10min		–	–	–	–	–	–	–	–	–	–

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- Equilibrium moisture content:at 23 ,50%relative humidity.
- Dry:Values for specimens in the as-molded condition. Wet:Values for specimens with equilibrium moisture content at 23 , 50% relative humidity.

Leona Properties (ISO)

				PA Special														MF reinforced, excellent surface, enhanced strength and stiffness	
				GF reinforced, excellent surface, enhanced strength and stiffness														91G40	
	Test method	units	condition	90G33		90G50		90G55		90G60		93G33		54G33		54G43		DRY	WET
Density	ISO 1183	g/cm ³		1.39	-	1.58	-	1.64	-	1.71	-	1.39	-	1.39	-	1.5	-	1.46	-
Equilibrium moisture content	ISO 62	%		-	1.4	-	1.2	-	1.1	-	1	-	1.9	-	1.9	-	1.6	-	1.3
Tensile stress at yield	ISO 527	MPa	23°C50%RH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82
Tensile strain at yield	ISO 527	%	23°C50%RH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5
Tensile stress at break	ISO 527	MPa	23°C50%RH	180	150	232	192	244	163	189	138	174	107	183	113	200	131	125	78
Tensile strain at break	ISO 527	%	23°C50%RH	2.5	3	2	3	2	3	2	3	5.5	9.5	4	9	4	7.5	3	6
Tensile modulus	ISO 527	MPa	23°C50%RH	10200	9300	17200	14500	18600	14800	18200	13700	9400	5300	9700	6100	12200	7700	7400	5200
Flexural strength	ISO 178	MPa	23°C50%RH	238	216	355	239	394	269	324	210	233	150	270	165	290	191	186	130
Flexural modulus	ISO 178	GPa	23°C50%RH	9.6	7.8	14.2	12.0	15.4	12.3	15.8	12.2	7.3	4.8	9.0	5.3	10.6	7.0	6.8	4.9
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	6	12	14	14	13	13	11	15	12	23	12	19	14	21	3	3
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	55	54	88	84	82	71	56	54	98	98	98	98	99	109	39	56
Rockwell hardness	ISO 2039		scale R	120	-	120	-	120	115	120	117	-	-	120	110	118	-	120	-
Rockwell hardness	ISO 2039		scale M	90	-	80	-	95	88	95	88	90	-	93	68	93	-	89	-
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		3	-	2	-	2	-	2	-	3	-	3	-	-	-	3	-
Temperature of distortion under load	ISO 75	°C	1.8MPa	219	-	225	-	225	-	210	-	208	-	228	-	228	-	183	-
Temperature of distortion under load	ISO 75	°C	0.46MPa	236	-	238	-	239	-	230	-	228	-	253	-	247	-	220	-
UL-94	UL-94	PLC	1/16inch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UL-94	UL-94		1/32inch	-	-	HB	-	-	-	-	-	HB	-	HB	-	HB	-	-	-
UL94-5VA	UL94-5VA	mm																	
Comparative tracking index	IEC 60112		3mm	-	-	-	-	450	-	475	-	-	-	600	-	600	-	-	-
Dielectric strength	IEC 60243	KV/mm		-	-	-	-	28	-	28	-	-	-	31	-	32	-	-	-
Surface resistivity	IEC 60093	Ω	23°C50%RH	-	-	-	-	10 ¹³	-	10 ¹³	-	-	-	10 ¹⁵	-	10 ¹⁵	-	-	-
Volume resistivity	IEC 60093	Ω·cm	23°C50%RH	-	-	-	-	-	-	-	-	-	-	10 ¹⁵	-	10 ¹⁵	-	-	-
Dissipation factor	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissipation factor	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		100Hz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Relative permittivity	IEC 600250		1MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%		0.4/0.9	-	0.2/0.5	-	0.2/0.5	-	0.2/0.5	-	0.3/0.8	-	0.4/0.9	-	0.3/0.7	-	0.7/0.8	-
Mold shrinkage(para/perp to flow)	ISO 294-4	%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Refractive index	ISO 489			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luminous transmittance	ISO 13468-1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melt flow rate	ISO 1133	g/10min		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ISO)

				PA impact			
				Heat stabilized			
				TR160		TR380	
	Test method	units	condition	DRY	WET	DRY	WET
Density	ISO 1183	g/cm ³		1.11	–	1.08	–
Equilibrium moisture content	ISO 62	%		–	1.9	–	1.7
Tensile stress at yield	ISO 527	MPa	23°C50%RH	72	46	53	35
Tensile strain at yield	ISO 527	%	23°C50%RH	4.5	22	5.5	28
Tensile stress at break	ISO 527	MPa	23°C50%RH	64	–	45	–
Tensile strain at break	ISO 527	%	23°C50%RH	13	>100	15	>100
Tensile modulus	ISO 527	MPa	23°C50%RH	2400	1100	1900	700
Flexural strength	ISO 178	MPa	23°C50%RH	87	38	73	30
Flexural modulus	ISO 178	GPa	23°C50%RH	2.1	1.0	2.0	0.7
Charpy impact strength (Notched)	ISO 179	kJ/m ²	notched	20	NB	90	NB
Charpy impact strength (un-Notched)	ISO 179	kJ/m ²	un-notched	NB	NB	NB	NB
Rockwell hardness	ISO 2039		scale R	114	98	107	89
Rockwell hardness	ISO 2039		scale M	–	–	–	–
Coefficient of linear thermal expansion	ISO 11359	× 10 ⁻⁵ mm/mm/°C		7	–	11	–
Temperature of distortion under load	ISO 75	°C	1.8MPa	64	–	58	–
Temperature of distortion under load	ISO 75	°C	0.46MPa	209	–	183	–
UL-94	UL-94	PLC	1/16inch	–	–	–	–
UL-94	UL-94		1/32inch	–	–	–	–
UL94-5VA	UL94-5VA	mm					
Comparative tracking index	IEC 60112		3mm	–	–	–	–
Dielectric strength	IEC 60243	KV/mm		–	–	–	–
Surface resistivity	IEC 60093	Ω	23°C50%RH	–	–	–	–
Volume resistivity	IEC 60093	Ω · cm	23°C50%RH	–	–	–	–
Dissipation factor	IEC 600250		100Hz	–	–	–	–
Dissipation factor	IEC 600250		1MHz	–	–	–	–
Relative permittivity	IEC 600250		100Hz	–	–	–	–
Relative permittivity	IEC 600250		1MHz	–	–	–	–
Mold shrinkage(para/perp to flow)	Asahi method	%		1.7~2.2	–	1.7~2.5	–
Mold shrinkage(para/perp to flow)	ISO 294-4	%		–	–	–	–
Refractive index	ISO 489			–	–	–	–
Luminous transmittance	ISO 13468-1			–	–	–	–
Melt flow rate	ISO 1133	g/10min		–	–	–	–

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Leona Properties (ASTM)

			PA non-reinforced												
			General				Heat Stabilized								
			1300S		1300F		1302S		1402S		1402F		1402SH		
	test method	units	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Mechanical	Specific gravity	ASTMD792	-	1.14	-	1.14	-	1.14	-	1.14	-	1.14	-	1.14	-
	Water absorption		%	-	2.5	-	2.2	-	2.5	-	2.5	-	2.2	-	2.5
	Tensile strength	ASTMD638	MPa	79	57	88	67	79	57	79	57	88	67	79	55
	Tensile elongation at break	ASTMD638	%	50	250	35	200	50	250	50	250	35	200	50	270
	Flexural strength	ASTMD790	MPa	118	54	128	59	118	54	118	54	128	59	118	50
	Flexural modulus	ASTMD790	GPa	2.8	1.2	3.0	1.3	8.2	1.2	2.8	1.2	3.0	1.3	2.8	1.0
	Izod impact strength (notched)	ASTMD256	J/m	39	147	39	108	39	147	39	147	39	108	39	196
	Rockwell hardness (Scale M)	ASTMD785	-	80	55	85	60	80	55	80	55	85	60	80	55
	Rockwell hardness (Scale R)	ASTMD785	-	120	108	120	110	120	108	120	108	120	110	120	108
Taber abrasion	ASTMD1044	mg	-	7	-	6	-	7	-	7	-	6	-	7	
Thermal	Coefficient of linear thermal expansion	ASTMD696	$\times 10^{-5} \text{mm/mm/}^\circ\text{C}$	8	-	8	-	8	-	8	-	8	-	8	-
	Temperature of distortion under load (1.8MPa)	ASTMD648	$^\circ\text{C}$	70	-	75	-	70	-	70	-	75	-	70	-
	Temperature of distortion under load (0.46MPa)	ASTMD648	$^\circ\text{C}$	230	-	240	-	230	-	230	-	240	-	230	-
	Thermal conductivity	-	$\text{W}/(\text{m}\cdot\text{K})$	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-
	Specific heat	-	$\text{kJ}/\text{Kg}\cdot^\circ\text{C}$	1.67	-	1.67	-	1.67	-	1.67	-	1.67	-	1.67	-
Flammability	UL-94 (1/16inch)	UL-94	PLC	V-2	-	V-2	-	V-2	-	V-2	-	V-2	-	V-2	-
	Oxygen index	ASTMD2863	%	26	-	26	-	26	-	26	-	26	-	26	-
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-
	Volume resistivity	ASTMD257	$\Omega \cdot \text{cm}$	-	-	-	-	-	-	-	-	-	-	-	-
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-	-	-
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-	-	-
	Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%	1.3~2.0	-	0.9~1.6	-	1.3~2.0	-	1.3~2.0	-	0.9~1.6	-	1.3~2.0	-	
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ASTM)

			PA GF reinforced																		
			General								Heat Stabilized										
			13G15		1300G		13G43		13G25		14G15		1402G		14G25		14G33		14G50		
	test method	units	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Mechanical	Specific gravity	ASTMD792	-	1.25	-	1.39	-	1.50	-	1.32	-	1.25	-	1.39	-	1.32	-	1.39	-	1.58	-
	Water absorption		%	-	2.1	-	1.7	-	1.4	-	1.9	-	2.1	-	1.7	-	1.9	-	1.7	-	1.3
	Tensile strength	ASTMD638	MPa	108	79	186	132	196	157	180	110	108	79	186	132	180	110	210	135	235	170
	Tensile elongation at break	ASTMD638	%	2.5	8	3	5	3	4	3	6	2.5	8	3	5	3	6	3	5	2.5	4
	Flexural strength	ASTMD790	MPa	167	108	289	216	314	235	290	175	167	108	289	216	290	175	325	210	390	280
	Flexural modulus	ASTMD790	GPa	4.9	2.5	9.3	6.3	11.8	8.3	8.1	4.7	4.9	2.5	9.3	6.3	8.1	4.7	10.4	6.3	14.5	9.8
	Izod impact strength (notched)	ASTMD256	J/m	49	59	127	147	127	206	105	160	49	59	127	147	105	160	130	170	140	190
	Rockwell hardness (Scale M)	ASTMD785	-	94	71	96	75	96	80	96	74	94	71	96	75	96	74	96	75	95	80
	Rockwell hardness (Scale R)	ASTMD785	-	120	-	120	112	118	-	120	-	120	-	120	112	120	-	120	-	118	-
Taber abrasion	ASTMD1044	mg	-	9	-	15	-	19	-	12	-	9	-	15	-	12	-	15	-	22	
Thermal	Coefficient of linear thermal expansion	ASTMD696	× 10 ⁻⁵ mm/mm/°C	4	-	3	-	3	-	3	-	4	-	3	-	3	-	2	-	2	-
	Temperature of distortion under load (1.8MPa)	ASTMD648	°C	240	-	250	-	250	-	250	-	240	-	250	-	250	-	250	-	250	-
	Temperature of distortion under load (0.46MPa)	ASTMD648	°C	258	-	260	-	260	-	260	-	258	-	260	-	260	-	260	-	260	-
	Thermal conductivity	-	W/(m·K)	-	-	0.3	-	0.4	-	0.3	-	-	-	0.3	-	0.3	-	0.3	-	0.4	-
	Specific heat	-	kJ/Kg·°C	-	-	1.59	-	-	-	-	-	-	-	1.59	-	-	-	-	-	-	-
Flammability	UL-94 (1/16inch)	UL-94	PLC	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-	HB	-
	Oxygen index	ASTMD2863	%	-	-	23	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Volume resistivity	ASTMD257	Ω·cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mold shrinkage(para/perp to flow)	Asahi method	%	0.7/1.2	-	0.4/0.9	-	0.3/0.7	-	0.5/0.9	-	0.7/1.2	-	0.4/0.9	-	0.5/0.9	-	0.4/0.8	-	0.4/0.7	-	
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ASTM)

				PA High molecular weight									
				General						Heat Stabilized			
				1500		1700S		9400S		1502		1702	
		test method	units	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
Mechanical	Specific gravity	ASTMD792	-	1.14	-	1.14	-	1.14	-	1.14	-	1.14	-
	Water absorption		%	-	2.5	-	2.5	-	2.8	-	2.5	-	2.5
	Tensile strength	ASTMD638	MPa	79	57	80	59	79	44	79	57	80	59
	Tensile elongation at break	ASTMD638	%	80	270	100	300	60	260	80	270	100	300
	Flexural strength	ASTMD790	MPa	118	54	118	54	108	44	118	54	118	54
	Flexural modulus	ASTMD790	GPa	2.8	1.2	2.8	1.2	2.6	0.8	2.8	1.2	2.8	1.2
	Izod impact strength (notched)	ASTMD256	J/m	49	176	49	245	54	274	49	176	49	245
	Rockwell hardness (Scale M)	ASTMD785	-	80	55	80	55	75	-	80	55	80	55
	Rockwell hardness (Scale R)	ASTMD785	-	120	105	120	105	-	-	120	105	120	105
	Taber abrasion	ASTMD1044	mg	-	5	-	4	-	-	-	5	-	4
Thermal	Coefficient of linear thermal expansion	ASTMD696	$\times 10^{-5}$ mm/mm/°C	8	-	8	-	-	-	8	-	8	-
	Temperature of distortion under load (1.8MPa)	ASTMD648	°C	70	-	70	-	-	-	70	-	70	-
	Temperature of distortion under load (0.46MPa)	ASTMD648	°C	230	-	230	-	190	-	230	-	230	-
	Thermal conductivity	-	W/(m·K)	0.2	-	0.2	-	-	-	0.2	-	0.2	-
	Specific heat	-	kJ/Kg·°C	1.67	-	1.67	-	-	-	1.67	-	1.67	-
Flammability	UL-94 (1/16inch)	UL-94	PLC	-	-	-	-	-	-	-	-	-	-
	Oxygen index	ASTMD2863	%	-	-	23	-	-	-	-	-	23	-
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Volume resistivity	ASTMD257	$\Omega \cdot \text{cm}$	-	-	-	-	-	-	-	-	-	-
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-
	Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%	1.3~2.0	-	1.3~2.0	-	-	-	1.3~2.0	-	1.3~2.0	-	
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ASTM)

				PA Flame retardant										
				General				Heat Stabilized						
				FR200		FR370		FG170		FG172		FG173		
			test method	units	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
Mechanical	Specific gravity	ASTMD792	-	1.16	-	1.16	-	1.48	-	1.52	-	1.65	-	
	Water absorption		%	-	2.4	-	2.3	-	0.9	-	0.9	-	0.6	
	Tensile strength	ASTMD638	MPa	79	47	83	58	132	108	153	123	167	142	
	Tensile elongation at break	ASTMD638	%	25	80	7	70	2.5	2.7	2.5	2.7	2.5	2.7	
	Flexural strength	ASTMD790	MPa	118	44	128	56	191	152	216	177	250	221	
	Flexural modulus	ASTMD790	GPa	2.9	1.1	3.3	1.3	6.4	4.9	7.6	5.9	10.8	8.3	
	Izod impact strength (notched)	ASTMD256	J/m	29	118	29	98	49	59	63	72	88	98	
	Rockwell hardness (Scale M)	ASTMD785	-	80	-	85	55	95	55	95	55	100	60	
	Rockwell hardness (Scale R)	ASTMD785	-	118	90	120	110	-	-	-	-	-	-	
	Taber abrasion	ASTMD1044	mg	-	8	-	7	-	24	-	24	-	29	
Thermal	Coefficient of linear thermal expansion	ASTMD696	$\times 10^{-5} \text{mm/mm/}^\circ\text{C}$	8	-	7	-	3	-	3	-	3	-	
	Temperature of distortion under load (1.8MPa)	ASTMD648	$^\circ\text{C}$	66	-	80	-	248	-	248	-	252	-	
	Temperature of distortion under load (0.46MPa)	ASTMD648	$^\circ\text{C}$	209	-	240	-	255	-	255	-	260	-	
	Thermal conductivity	-	W/(m·K)	0.2	-	-	-	-	-	-	-	-	-	
	Specific heat	-	kJ/Kg· $^\circ\text{C}$	1.67	-	-	-	-	-	-	-	-	-	
Flammability	UL-94 (1/16inch)	UL-94	PLC	V-0	-	V-0	-	V-0	-	V-0	-	V-0	-	
	Oxygen index	ASTMD2863	%	32	-	36	-	38	-	37	-	-	-	
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	
	Volume resistivity	ASTMD257	$\Omega \cdot \text{cm}$	-	-	-	-	-	-	-	-	-	-	
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-	
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-	
	Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-	
Mold shrinkage(para/perp to flow)	Asahi method	%	1.3~2.0	-	0.9~1.6	-	0.6/1.0	-	0.4/0.9	-	0.3/0.7	-		
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-	
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-	

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Leona Properties (ASTM)

				PA Special composites									
				MF reinforced				Fluoroplastic		MF reinforced and Heat stabilized			
				CR301		CR302		1330G		CR101		MR001	
				DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
	test method	units											
Mechanical	Specific gravity	ASTMD792	-	1.48	-	1.52	-	1.48	-	1.45	-	1.52	-
	Water absorption		%	-	1.5	-	1.4	-	1.4	-	1.5	-	1.5
	Tensile strength	ASTMD638	MPa	88	64	128	98	157	118	125	83	98	67
	Tensile elongation at break	ASTMD638	%	3	3.5	3	3.5	3	3	3	4	6	7
	Flexural strength	ASTMD790	MPa	147	93	191	157	245	177	190	118	157	98
	Flexural modulus	ASTMD790	GPa	5.9	2.9	8.8	5.8	8.0	6.3	6.1	3.1	5.6	3.3
	Izod impact strength (notched)	ASTMD256	J/m	34	39	36	39	98	118	40	49	34	39
	Rockwell hardness (Scale M)	ASTMD785	-	85	-	90	-	89	60	94	74	85	60
	Rockwell hardness (Scale R)	ASTMD785	-	-	-	-	-	120	108	120	-	120	108
	Taber abrasion	ASTMD1044	mg	-	8	-	-	-	9	-	-	-	22
Thermal	Coefficient of linear thermal expansion	ASTMD696	$\times 10^{-5} \text{mm/mm/}^\circ\text{C}$	4	-	-	-	3	-	4	-	6	-
	Temperature of distortion under load (1.8MPa)	ASTMD648	$^\circ\text{C}$	191	-	245	-	248	-	240	-	160	-
	Temperature of distortion under load (0.46MPa)	ASTMD648	$^\circ\text{C}$	250	-	250	-	260	-	-	-	240	-
	Thermal conductivity	-	$\text{W}/(\text{m}\cdot\text{K})$	-	-	-	-	-	-	-	-	-	-
	Specific heat	-	$\text{kJ}/\text{Kg}\cdot^\circ\text{C}$	-	-	-	-	-	-	-	-	-	-
Flammability	UL-94 (1/16inch)	UL-94	PLC	HB相当	-	HB相当	-	HB	-	-	-	HB	-
	Oxygen index	ASTMD2863	%	-	-	-	-	-	-	-	-	-	-
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-
	Volume resistivity	ASTMD257	$\Omega \cdot \text{cm}$	-	-	-	-	-	-	-	-	-	-
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-
	Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%	0.5~1.3	-	0.5~1.0	-	0.5/1.0	-	0.5~1.1	-	1.0~1.1	-	
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-

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			PA Special															MF reinforced, excellent surface, enhanced strength and stiffness	
			GF reinforced, excellent surface, enhanced strength and stiffness																
			90G33		90G50		90G55		90G60		93G33		54G33		54G43		91G40		
	test method	units	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	
Mechanical	Specific gravity	ASTMD792	-	1.39	-	1.58	-	1.64	-	1.71	-	1.39	-	1.39	-	1.50	-	1.46	-
	Water absorption		%	-	1.4	-	1.1	-	1.0	-	0.9	-	1.9	-	1.9	-	1.6	-	1.3
	Tensile strength	ASTMD638	MPa	194	157	235	196	221	181	190	148	167	108	181	118	186	132	127	98
	Tensile elongation at break	ASTMD638	%	3	4	2.5	3	2	3	2	3	4	9	3	7	3	4	3	3.5
	Flexural strength	ASTMD790	MPa	294	245	373	304	348	284	300	234	275	157	289	167	304	177	206	166
	Flexural modulus	ASTMD790	GPa	9.6	7.6	15.5	12.1	15.7	12.7	16.0	12.9	8.6	4.5	9.1	5.0	11.0	5.9	6.5	5.6
	Izod impact strength (notched)	ASTMD256	J/m	98	118	127	133	110	118	95	100	132	240	137	196	147	226	30	35
	Rockwell hardness (Scale M)	ASTMD785	-	90	-	90	-	95	88	95	88	90	-	93	68	93	-	89	-
	Rockwell hardness (Scale R)	ASTMD785	-	120	-	120	-	120	115	120	117	-	-	120	110	118	-	120	-
	Taber abrasion	ASTMD1044	mg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal	Coefficient of linear thermal expansion	ASTMD696	× 10 ⁻⁵ mm/mm/°C	3	-	2	-	2	-	2	-	3	-	3	-	-	-	3	-
	Temperature of distortion under load (1.8MPa)	ASTMD648	°C	220	-	225	-	225	-	225	-	210	-	240	-	240	-	220	-
	Temperature of distortion under load (0.46MPa)	ASTMD648	°C	-	-	-	-	-	-	-	-	-	-	250	-	250	-	-	-
	Thermal conductivity	-	W/(m·K)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific heat	-	kJ/Kg·°C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flammability	UL-94 (1/16inch)	UL-94	PLC	-	-	HB	-	-	-	-	-	HB	-	HB	-	HB	-	-	-
	Oxygen index	ASTMD2863	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical	Relative permittivity (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Relative permittivity (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (60Hz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dissipation factor (1MHz)	ASTMD150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Volume resistivity	ASTMD257	Ω·cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Surface resistivity	ASTMD257	Ω	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dielectric strength	ASTMD149	kV/mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arc resistance	ASTMD495	sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mold shrinkage(para/perp to flow)	Asahi method	%	0.4/0.9	-	0.2/0.5	-	0.2/0.5	-	0.2/0.5	-	0.3/0.8	-	0.4/0.9	-	0.3/0.7	-	0.7/0.8	-	
Physical	Refractive index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Luminous transmittance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Leona Properties (ASTM)

				PA impact			
				Heat stabilized			
				TR160		TR380	
		test method	units	DRY	WET	DRY	WET
Mechanical	Specific gravity	ASTMD792	–	1.11	–	1.08	–
	Water absorption		%	–	1.9	–	1.7
	Tensile strength	ASTMD638	MPa	70	47	54	37
	Tensile elongation at break	ASTMD638	%	20	220	70	220
	Flexural strength	ASTMD790	MPa	98	49	79	39
	Flexural modulus	ASTMD790	GPa	2.5	1.4	2.0	1.0
	Izod impact strength (notched)	ASTMD256	J/m	167	1200	1110	1320
	Rockwell hardness (Scale M)	ASTMD785	–	–	–	–	–
	Rockwell hardness (Scale R)	ASTMD785	–	114	98	107	89
Taber abrasion	ASTMD1044	mg	–	7	–	6	
Thermal	Coefficient of linear thermal expansion	ASTMD696	$\times 10^{-5}$ mm/mm/°C	7	–	11	–
	Temperature of distortion under load (1.8MPa)	ASTMD648	°C	77	–	73	–
	Temperature of distortion under load (0.46MPa)	ASTMD648	°C	225	–	215	–
	Thermal conductivity	–	W/(m·K)	–	–	–	–
	Specific heat	–	kJ/Kg·°C	–	–	–	–
Flammability	UL-94 (1/16inch)	UL-94	PLC	–	–	–	–
	Oxygen index	ASTMD2863	%	–	–	–	–
Electrical	Relative permittivity (60Hz)	ASTMD150	–	–	–	–	–
	Relative permittivity (1MHz)	ASTMD150	–	–	–	–	–
	Dissipation factor (60Hz)	ASTMD150	–	–	–	–	–
	Dissipation factor (1MHz)	ASTMD150	–	–	–	–	–
	Volume resistivity	ASTMD257	$\Omega \cdot \text{cm}$	–	–	–	–
	Surface resistivity	ASTMD257	Ω	–	–	–	–
	Dielectric strength	ASTMD149	kV/mm	–	–	–	–
	Arc resistance	ASTMD495	sec	–	–	–	–
Mold shrinkage(para/perp to flow)		Asahi method	%	1.7~2.2	–	1.7~2.5	–
Physical	Refractive index	–	–	–	–	–	–
	Luminous transmittance	–	–	–	–	–	–

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