■ *Typical Properties of SIVERAS™*

IKP ㈜일광폴리머 ILKWANG POLYMER CO., LTD

Property		Units	Test Method	Glss fiber reinforeced	Glss fiber reinforeced	Glss fiber reinforeced	Low warpage	Low warpage High flow	Low blister Low warpage	Low blister Low warpage	Low warpage High flow	Low warpage	Glss fiber reinforeced	Glss fiber reinforeced/High flow	Low warpage High flow	Low warpage
			ASTM	L204G35EBJ	L304G35	L304G35H	L304M35	L304M35H	L304X35	L304A35	L304T35 H	L304T40	LX70G25J	LX70G35F	LX70M35H	LX70M50H
Specific Gravity		-	D792	1.68	1.65	1.65	1.68	1.67	1.68	1.71	1.68	1.72	1.57	1.66	1.68	1.80
Mechanical																
Tensile Strength		MPa	D638	155	145	135	125	110	125	175	120	130	185	160	125	110
Tensile Elongation		%		3.0	3.0	3.0	2.5	4.0	2.7	2.5	3.1	2.8	4.0	4.0	4.5	2.5
Flexural strength		MPa	D790	200	180	160	160	125	165	190	145	160	230	180	145	150
Flexural modulus		GPa	D790	14.0	13.5	13.0	13.0	11.3	11.2	21.0	11.2	13.2	14.5	15.0	13.0	15.5
Izod impact V-notched		J/m	D256	70	70	75	60	50	75	100	60	65	90	80	50	40
Thermal																
Heat Deformation Temperature (1.82MPa)		℃	D648	255	270	270	270	260	270	270	260	270	250	245	230	240
Soldering Temperature[*3]		℃	-	300	310	310	310	310	310	310	310	310	300	300	300	300
Linear Thermal Expansion*4	Machine direction	×10-5/℃	TORAY Method	1.0	1.0	1.2	1.3	0.8	1.3	0.3	1.3	1.4	0.8	1.2	0.8	1.3
(30℃ - 200℃)	Transverse direction	cm/cm/℃		1.7	1.7	1.8	1.8	1.9	1.9	2.2	1.9	2.0	2.3	2.0	1.9	1.5
Flammability (thick)		-	UL94	V-0 (0.38mmt)	V-0 (0.20mmt)	V-0 (0.20mmt)	V-0 (0.38mmt)	V-0 (0.38mmt)	V-0 (0.38mmt)	V-0 (1.5mmt)	V-0 (0.38mmt)	V-0 (0.38mmt)	V-0 (0.38mmt)	V-0 (0.38Nc/0.20Bk)	V-0 (0.38mmt)	V-0 (0.38mmt)
Electrical																
Dielectric constant[*5]	1KHz	-	D150	4.4	4.4	4.4	4.4									
	1MHz			4.1	4.1	4.1	4.1									
	1GHz			3.5	3.5	3.5										
Dissipation factor[*5]	1KHz	-	D150	0.03	0.03	0.03	0.03				0.03	0.03	0.03	0.03	0.03	0.03
	1MHz															
	1GHz															
Volume resistivity		Ω•m	D257	10^{17}	10^{17}	10^{17}	10^{16}	10^{16}	10^{16}		10^{16}	10^{16}	10^{16}	10^{16}	10^{16}	10^{16}
Surface resistivity		Ω		10^{16}	10^{16}	10^{16}	10^{16}	10^{16}	10^{16}		10^{16}	10^{16}	10^{16}	10^{16}	10^{16}	10^{16}
Dielectric strength (1mmthick)		MV/m	D149	50	50	50	58	50	60	40						
Ark		sec	D495													
Tracking (CTI)		V	(ICE)	190	190					225						
Moldability																
Bar Flow (32℃, 98MPa, 0.5mm thick)		mm	TORAY Method	95 (330)	80 (340)	90 (340)	90 (340)	105 (340)	85 (340)	120 (340)	85 (340)	70 (340)	90 (330)	90 (330)	100 (330)	65 (330)
Mold shrinkage	Machine direction	%	TORAY Method	0.05	0.06	0.18	0.18	0.05	0.16	-0.05	0.14	0.1	0.01	0.02	0.03	0.09
(2mm thickness plate)	Transverse direction			0.35	0.50	0.32	0.32	0.48	0.38	0.35	0.35	0.35	0.62	0.60	0.38	0.64

Notes:These values are typical data for this product under specific test conditions and not intended for use as limiting specifications.

[*1] Wearing Property : Suzuki's Wearing Test Machine, measured at PV=9.8MPa•m/s
[*2] Other Material : Aluminum 5056
[*3] Soldering Temperature High Toughness : Plate sample of 1mmt, soldering time of 10seconds
[*4] Linear Thermal Expansion Rate : 70×70×2mmt plate
[*5] Dielectric Property : Triplate-line resonator(method)

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