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PRODUCTS SUMIKA SUPER LCP

General Properties of SUMIKASUPER LCP

Item	Test method	Unit	E5008L	E5006L	E5008	E5002L	E5204L	E4008	E4006L	E4205L	E6008	E6006L	E6109F	E6007AS	E6007LHF	E6807LHF	E6808LHF	E6808UHF	E6810LHF	E7006L	E7008
Filler			Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber/inorganic	Glass fiber	Glass fiber	Glass filler	Glass fiber	Glass fiber	inorganic	Glass fiber/inorganic	Glass fiber	Glass fiber/inorganic	Glass fiber/inorganic	Glass fiber/inorganic	Glass fiber/inorganic	Glass fiber	Glass fiber
Standard molding temperature		°C	400	400	400	400	400	380	380	380	350	350	350	350	350	340	350	350	350	320	320
Specific gravity	ASTM D792		1.69	1.60	1.69	1.45	1.21	1.70	1.60	1.18	1.70	1.61	1.80	1.63	1.65	1.67	1.70	1.72	1.82	1.64	1.71
Water absorption coefficient	ASTM D570	%	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Mold shrinkage rate	MD	%	0.05	0.02	0.06	0.07	0.57	0.10	0.11	0.66	0.18	0.19	0.25	0.31	0.20	0.11	0.17	0.22	0.13	0.14	0.17
	TD	%	0.81	0.86	1.25	1.27	1.70	1.32	0.78	1.67	1.16	0.74	1.21	1.08	0.60	0.63	0.40	1.02	0.38	0.79	1.05
Tensile strength		MPa	123	151	111	150	89	150	182	82	147	164	126	121	157	134	130	100	105	133	127
Elongation at break	ASTM D638	%	3.7	4.5	4.8	4.7	5.5	5.0	5.6	5.0	5.2	5.0	5.5	6.8	5.1	4.5	4.5	5.0	4.0	4.5	4.2
Flexural strength	23 °C	MPa	127	152	127	127	93	139	155	85	143	153	112	126	158	145	140	120	133	140	138
	200 °C	MPa	39	-	39	-	-	39	47	-	33	34	-	-	-	29	-	-	-	21	24
Flexural modulus	23 °C	MPa	13400	14200	12200	9510	6960	12300	11900	5600	12300	11300	11500	9800	11800	12100	12500	9400	12600	11200	11300
	200 °C	MPa	6370	-	5880	-	-	6300	5780	-	4900	5100	-	-	-	4500	-	-	-	3140	3230
Izod impact strength	6.4t notched	J/m	49	109	88	175	-	108	137	-	108	137	-	-	-	118	96	-	-	78	56
	6.4t without notched	J/m	324	382	441	480	343	520	461	309	412	363	382	343	251	343	270	350	200	255	275
Shear strength	ASTM D732	MPa	53	-	50	-	-	52	58	-	51	55	-	-	-	53	54	-	-	48	49
Poisson's ratio	ASTM D785		0.44	0.48	0.41	0.51	-	0.49	0.48	-	0.46	0.45	-	-	-	0.41	0.4	-	-	0.45	0.42
Rockwell hardness	ASTM D785	R scale	89	90	89	-	90	91	91	-	103	103	91	-	106	101	97	96	102	107	107
DTUL	ASTM D648	°C	339	355	335	354	351	313	310	305	279	284	270	274	269	270	270	240	266	242	242
Soldering resistance	Sumitomo Chemical method	°C	340	350	340	350	-	330	335	-	300	300	300	300	300	295	280	290	280	275	275
Linear expansion coefficient (150 °C)	MD	x 10 ⁻⁵ %	0.2	1.7	0.1	0.2	1.3	1.4	0.2	-	1.3	2.0	1.4	-	0.2	1.0	0.4	1.0	-	0.8	0.8
	TD	x 10 ⁻⁵ %	6.0	7.3	6.4	8.1	7.3	6.2	8.1	-	5.6	8.9	7.8	-	8.5	6.3	8.1	6.2	-	8.4	7.8
Limiting oxygen index	JIS K7201		47	-	47	-	-	48	44	-	48	42	-	-	40	45	44	48	48	49	49
Flame retardancy	flame class	UL94	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0
	color		ALL	ALL	ALL	ALL	NC,BK	NC,BK	NC,BK	BK	ALL	NC,BK	BK	-	ALL	ALL	NC,BK	NC,BK	NC,BK	NC,BK	NC,BK
Flame retardancy	thickness	mmt	0.3	0.3	0.3	0.3	0.29	0.3	0.3	0.3	0.3	0.3	0.81	-	0.3	0.3	0.3	0.3	0.3	0.38	0.38
	W/mk		0.56	0.54	0.56	0.44	0.38	0.57	0.53	0.41	0.52	0.53	-	-	-	0.56	-	-	-	0.55	0.56
Thermal conductivity	JIS R2618	kcal/mhr°C	0.48	-	0.48	-	-	0.49	0.46	0.35	0.45	0.46	-	-	-	0.48	-	-	-	0.47	0.48
Dielectric constant	(10 ³ Hz)		4.7	-	4.7	-	-	4.5	4.4	-	4.4	4.3	-	-	-	4.7	-	-	-	4.6	4.7
	(10 ⁶ Hz)		4.2	3.7	4.2	3.4	3.1	3.9	3.7	2.9	3.9	3.7	-	-	3.8	4.1	3.8	3.8	4.1	3.9	4.1
	(10 ⁹ Hz)		-	3.4	-	3.1	2.8	-	-	-	-	-	-	-	3.5	-	3.6	3.4	3.8	-	-
Dielectric tangent	(10 ³ Hz)		0.013	-	0.015	-	-	0.018	0.018	-	0.022	0.023	-	-	-	0.024	-	-	-	0.026	0.024
	(10 ⁶ Hz)		0.031	0.022	0.031	0.023	0.018	0.034	0.035	0.013	0.022	0.034	-	-	0.026	0.03	0.038	0.033	0.02	0.032	0.03
	(10 ⁹ Hz)		-	0.004	-	0.004	0.003	-	-	-	-	-	-	-	0.004	-	0.004	0.004	0.004	-	-
Specific volume resistance	ASTM D257	Qm	10 ¹³	10 ¹³	10 ¹³	10 ¹⁴	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³
Arc resistance	ASTM D495	sec	128	-	128	-	-	130	130	-	130	130	-	-	124	180	140	132	181	125	125
Tracking resistance	IEC method	V	185	-	175	-	-	145	185	-	125	115	-	-	175	150	190	200	200	155	155