Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

COMPANY
KINGBOARD LAMINATES HOLDINGS LTD
23/F., Delta House
No. 3 On Yiu Street
Shatin, Hong Kong

E123995

Industrial laminates:

Mtl Dsg	ANSI Type	Color	Build up Min Thk (mm)	Flame Class	R.T.I. Elec (°C)	R.T.I. Mech (°C)	H W I	H A I	H V T R	H C T I	Meets 746E Non-HAL	Meets 746E DSR
Industrial laminates furnished as sheets												
KB-150	XPC	NC, BK	0.71	HB	130	130	2	0	0	-	-	Yes
			1.57	HB	130	130	1	0	1	4	-	Yes
KB-2150	FR-2	NC	1.45	V-0	105	105	4	3	1	4	-	Yes
KB-2150G	FR-2	TN	0.71	V-0	75	75	0	3	6	-	-	Yes
			1.45	V-0	105	105	0	3	6	3	-	Yes
KB-3151S (with Adhesive)												
	FR-1	NC	1.45	V-0	130	130	0	0	-	0	-	Yes
			0.71	V-0	130	130	0	0	-	-	-	Yes
KB-3151S (without Adhesive)												
	FR-1	NC	1.45	V-0	130	130	3	3	4	4	-	Yes
			0.71	V-0	130	130	3	3	4	-	-	Yes
KB-3152	FR-1	NC	0.71	V-0	130	130	0	0	-	-	-	Yes
			1.45	V-0	130	130	0	0	-	0	-	Yes
KB-5150	CEM-1	NC	0.63	V-0	130	140	3	2	4	-	-	Yes
			1.40	V-0	130	140	1	2	4	3	-	Yes
KB-5150&	CEM-1	NC	0.63	V-0	130	140	1	3	4	-	-	Yes
			1.40	V-0	130	140	1	3	4	0	-	Yes
KB-5150HC	CEM-1	NC	0.63	V-0	130	140	3	2	-	-	-	Yes
			1.40	V-0	130	140	1	2	-	0	-	Yes
KB-5252	CEM-1	NC	0.63	V-0	130	140	3	2	-	-	-	Yes
			1.40	V-0	130	140	1	2	-	3	-	Yes

KB-6160A	FR-4.0	YL	0.38	V-0	130	130	0	0	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6160C	FR-4.0	NC	0.38	V-0	130	130	0	0	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	0	-	Yes
KB-6160F	FR-4.0	NC	0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6160LC(C)	FR-4.0	NC	0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	0	-	Yes
KB-6165	FR-4.0	YL	0.38	V-0	130	130	2	0	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6165C	FR-4.0	NC	0.05	-	-	-	-	-	-	-	-	-
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	0	-	Yes
KB-6165G	FR-4.1	NC	0.05	V-0	120	100	0	3	-	-	Yes	Yes
			0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6165GC	FR-4.1	NC	0.05	V-0	120	100	0	3	-	-	Yes	Yes
			0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	0	-	Yes
KB-6165LE	FR-4.0	NC	0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6168	FR-4.0	NC	0.38	V-0	130	130	0	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6169GT	FR-15.1	NC	0.38	V-0	140	140	0	1	-	-	Yes	Yes
			0.63	V-0	150	150	0	1	-	-	-	Yes
			1.40	V-0	150	150	0	1	-	0	-	Yes
KB-7150	CEM-3.0	NC	0.63	V-0	130	140	0	2	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-7150C	CEM-3.0	NC	0.63	V-0	130	140	0	2	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	0	-	Yes
Industrial laminates furnished as sheets or rolls												
FL-170	FR-4.0	NC	0.38	V-0	130	130	1	1	-	-	-	Yes

			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-5150A	CEM-1	NC	0.63	V-0	130	140	3	2	4	-	-	Yes
			1.40	V-0	130	140	1	2	4	2	-	Yes
KB-5150G	CEM-1	NC	0.63	V-0	130	140	3	2	4	-	-	Yes
			1.40	V-0	130	140	1	2	4	0	-	Yes
KB-5150H	CEM-1	NC	0.63	V-0	130	140	3	2	4	-	-	Yes
			1.40	V-0	130	140	1	2	4	2	-	Yes
KB-5150L	CEM-1	NC	0.63	V-0	130	140	3	2	4	-	-	Yes
			1.40	V-0	130	140	1	2	4	3	-	Yes
KB-616(X)	FR-4.0	YL	0.38	V-0	130	130	3	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6160LC	FR-4.0	NC	0.38	V-0	130	130	1	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6164F	FR-4.0	NC	0.38	V-0	130	130	0	4	-	-	-	-
			0.63	V-0	130	140	0	2	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6165F	FR-4.0	NC(YL)	0.38	V-0	130	130	3	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6167A	FR-4.0	NC	0.38	V-0	130	130	0	2	-	-	-	Yes
			0.63	V-0	130	140	0	2	4	-	-	Yes
			1.40	V-0	130	140	0	1	4	4	-	Yes
KB-6167F	FR-4.0	NC	0.38	V-0	130	130	0	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes
KB-6167G	FR-4.1	NC	0.05	V-0	120	100	0	3	-	-	Yes	Yes
			0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	0	-	Yes
KB-6167GMD	FR-4.1	NC	0.38	V-0	130	130	0	1	-	-	Yes	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	0	-	0	-	Yes
KB-6168LE	FR-4.0	NC	0.38	V-0	130	130	1	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6200G	FR-4.1	NC	0.05	V-0	120	100	0	3	-	-	Yes	Yes
			0.38	V-0	130	130	0	1	-	-	-	Yes

			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	2	-	Yes
KB-7150T	CEM-3.0	NC	0.63	V-0	130	140	0	2	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	0	-	Yes
PI-515G	FR-4.1	NC	0.05	V-0	120	100	0	3	-	-	Yes	Yes
			0.38	V-0	130	130	0	1	-	-	-	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
Industrial laminates furnished as sheets, rods or tubes												
HF-140	FR-4.1	NC	0.38	V-0	130	130	0	2	-	-	Yes	Yes
			0.63	V-0	130	140	0	2	-	-	-	Yes
			1.40	V-0	130	140	0	2	-	3	-	Yes
HF-170	FR-4.1	NC	0.38	V-0	130	130	0	3	-	-	Yes	Yes
			0.63	V-0	130	140	0	3	-	-	-	Yes
			1.40	V-0	130	140	0	2	-	3	-	Yes
KB-3150N	FR-1	NC	0.71	V-0	130	130	0	0	-	-	-	Yes
			1.45	V-0	130	130	-	-	-	3	-	Yes
KB-3150NU %	FR-1	NC	0.71	V-0	130	130	3	3	4	-	-	Yes
			1.45	V-0	130	130	3	3	4	4	-	Yes
KB-3151HS	FR-1	NC	0.71	V-0	130	130	0	0	4	-	-	Yes
			1.45	V-0	130	130	0	0	4	0	-	Yes
*KB-3153**	FR-1	NC	0.71	V-0	130	130	0	0	4	-	-	Yes
			1.45	V-0	130	130	0	0	4	0	-	Yes
KB-5152	No ANSI	NC	0.60	V-0	-	-	-	-	-	-	-	-
			1.40	V-0	-	-	-	-	-	-	-	-
KB-6150	FR-4.0	NC	0.10	V-0	120	125	0	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	4	-	Yes
			0.38	V-0	130	130	0	3	-	-	-	Yes
KB-6162	No ANSI	NC	0.63	V-0	-	-	-	-	-	-	-	-
			1.40	V-0	-	-	-	-	-	-	-	-
KB-6167GLD	FR-4.1	NC	0.38	V-0	130	130	0	3	-	-	Yes	Yes
			0.63	V-0	130	140	0	3	-	-	-	Yes
			1.40	V-0	130	140	0	2	-	3	-	Yes
P-138	FR-4.0	YL	0.38	V-0	130	130	0	0	-	-	-	-
			0.64	V-0	130	140	0	0	-	-	-	-
			1.40	V-0	130	140	0	0	2	3	-	-
Industrial laminates												
EEL-128	FR-4.0	NC	0.38	V-0	130	130	3	0	-	-	-	-
			0.63	V-0	130	140	0	3	-	-	-	Yes

			1.40	V-0	130	140	0	2	-	3	-	Yes
EEL-145	FR-4.0	NC	0.38	V-0	130	130	3	0	-	-	-	-
			0.63	V-0	130	140	0	3	-	-	-	Yes
			1.40	V-0	130	140	0	2	-	3	-	Yes
KB-3151C (with Adhesive)												
	FR-1	NC	0.71	V-0	130	130	0	0	-	-	-	Yes
			1.45	V-0	130	130	-	-	-	0	-	Yes
KB-3151C (without Adhesive)												
	FR-1	NC	0.71	V-0	130	130	3	3	4	-	-	Yes
			1.45	V-0	130	130	3	3	4	4	-	Yes
KB-3151C175 (with Adhesive)												
	FR-1	NC	0.71	V-0	130	130	0	0	-	-	-	Yes
			1.45	V-0	130	130	-	-	-	3	-	Yes
KB-3200G	FR-4.1	NC	0.38	V-0	130	130	0	0	-	-	Yes	Yes
			0.63	V-0	130	140	0	0	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	3	-	Yes
KB-6155	FR-4.0	NC	0.38	V-0	130	130	0	3	-	-	-	Yes
			0.63	V-0	130	140	0	3	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	4	-	Yes
KB-6165GMD	FR-4.1	NC	0.38	V-0	130	130	0	0	-	-	Yes	Yes
			0.63	V-0	130	140	0	1	-	-	-	Yes
			1.40	V-0	130	140	0	1	-	2	-	Yes
KB-7152	CEM-3.0	NC	0.63	V-0	130	140	0	2	4	-	-	Yes
			1.40	V-0	130	140	0	2	4	3	-	Yes

Ultrathin build ups:

Build Up					Laminate			Prepreg		
Mtl Dsg	ANSI Type	Min Thk (mm)	TI Elec	TI Mech	Mtl Dsg	Thk (mic)	TI Elec	Mtl Dsg	Thk (mic)	TI Elec
EEL-128	FR-4.0	0.38	130	130	EEL-128	50	90	EP	50	90
EEL-145	FR-4.0	0.38	130	130	EEL-145	50	90	ETP	50	90
FL-170	FR-4.0	0.38	130	130	FL-170	50	90	PP-FL170	50	90
		0.45	130	130	FL-170	50	90	PP-FL170	50	90
		0.63	130	140	FL-170	50	90	PP-FL170	50	90
		1.40	130	140	FL-170	50	90	PP-FL170	50	90
HF-140	FR-4.1	0.38	130	130	HF-140	50	90	PP-HF140	50	90
HF-170/PP-HF170	FR-4.1	0.38	130	130	HF-170	65	90	PP-HF170	50	90
KB-3200G	FR-4.1	0.38	130	130	KB-3200G	65	90	PP-KB-3200G	50	90
KB-6155	FR-4.0	0.38	130	130	KB-6155	50	90	KB-6055	50	90
KB-616(X)	FR-4.0	0.38	130	130	KB-6160, KB-6164	100	120	KB-6060, KB-6064	50	90
KB-6160A	FR-4.0	0.38	130	130	KB-6160A	50	90	KB-6060A	50	90

KB-6160C	FR-4.0	0.38	130	130	KB-6160C	50	90	KB-6060C	50	90
KB-6160F	FR-4.0	0.38	130	130	KB-6160F	50	90	KB-6060F	50	90
		0.45	130	130	KB-6160F	50	90	KB-6060F	50	90
		0.63	130	140	KB-6160F	50	90	KB-6060F	50	90
		1.40	130	140	KB-6160F	50	90	KB-6060F	50	90
KB-6160LC	FR-4.0	0.38	130	130	KB-6160LC	50	90	KB-6060LC	50	90
		0.45	130	130	KB-6160LC	50	90	KB-6060LC	50	90
		0.63	130	140	KB-6160LC	50	90	KB-6060LC	50	90
		1.40	130	140	KB-6160LC	50	90	KB-6060LC	50	90
KB-6164F	FR-4.0	0.38	130	130	KB-6164F	50	90	KB-6064F	50	90
KB-6165	FR-4.0	0.38	130	130	KB-6165	50	90	KB-6065	50	90
KB-6165C	FR-4.0	0.63	130	130	KB-6165C	50	90	KB-6065C	50	90
KB-6165F	FR-4.0	0.38	130	130	KB-6165F	50	90	KB-6065F	50	90
KB-6165G	FR-4.1	0.38	130	130	KB-6165G	50	90	KB-6065G	50	90
		0.63	130	140	KB-6165G	50	90	KB-6065G	50	90
KB-6165GC	FR-4.1	0.38	130	130	KB-6165GC	50	90	KB-6065GC	50	90
		0.63	130	140	KB-6165GC	50	90	KB-6065GC	50	90
KB-6165GMD	FR-4.1	0.38	130	130	KB-6165GMD	65	90	KB-6065GMD	50	90
KB-6165LE	FR-4.0	0.38	130	130	KB-6165LE	50	90	KB-6065LE	50	90
		0.45	130	130	KB-6165LE	50	90	KB-6065LE	50	90
		0.63	130	140	KB-6165LE	50	90	KB-6065LE	50	90
		1.40	130	140	KB-6165LE	50	90	KB-6065LE	50	90
KB-6167A	FR-4.0	0.38	130	130	KB-6167A	100	120	KB-6067A	50	90
KB-6167F	FR-4.0	0.38	130	130	KB-6167F	100	90	KB-6067F	50	90
KB-6167G	FR-4.1	0.38	130	130	KB-6167G	50	90	KB-6067G	50	90
KB-6167GLD	FR-4.1	0.38	130	130	KB-6167GLD	65	90	KB-6067GLD	50	90
KB-6167GMD	FR-4.1	0.38	130	130	KB-6167GMD	65	90	KB-6067GMD	50	90
KB-6168	FR-4.0	0.38	130	130	KB-6168	50	90	KB-6068	50	90
KB-6168LE	FR-4.0	0.38	130	130	KB-6168LE	50	90	KB-6068LE	50	90
		0.45	130	130	KB-6168LE	50	90	KB-6068LE	50	90
		0.63	130	140	KB-6168LE	50	90	KB-6068LE	50	90
		1.40	130	140	KB-6168LE	50	90	KB-6068LE	50	90
KB-6169GT	FR-15.1	0.38	140	140	KB-6169GT	50	90	KB-6069GT	50	90
		0.63	150	150	KB-6169GT	50	90	KB-6069GT	50	90
KB-6200G	FR-4.1	0.38	130	130	KB-6200G	50	90	PP-KB6200G	50	90
P-138	FR-4.0	0.38	130	130	P-138	100	120	PP-138	50	90
PI-515G	FR-4.1	0.38	130	130	PI-515G	50	90	PP-PI515G	50	90

Metal clad industrial laminates:

			Bld up	Clad Cond Thk	Max		Max	Assembly Solder	Solder Lts

Metal Clad Dsg	Laminate Dsg	Prepreg Dsg	ANSI Type	Min Thk (mm)	Min Ext (mic)	Max Ext (mic)	Max Int (mic)	Area Dia (mm)	Flame Class	Oper Temp (°C)	Process Temp(°C)	Process Cycles	Temp (°C)	Time (sec)
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets														
FL-170	FL-170	PP-FL170	FR-4.0	0.38	9	102	68	50.8	V-0	130	-	-	288	30
				0.45	9	102	102	50.8	V-0	130	-	-	288	30
KB-6160A	KB-6160A	KB-6060A	FR-4.0	0.38	12	102	70	50.8	V-0	130	-	-	288	20
KB-6160C	KB-6160C	KB-6060C	FR-4.0	0.38	12	102	60	50.8	V-0	130	-	-	288	20
KB-6160F	KB-6160F	KB-6060F	FR-4.0	0.38	9	102	68	50.8	V-0	130	-	-	288	30
				0.45	12	102	102	50.8	V-0	130	-	-	288	30
KB-6160LC	KB-6160LC	KB-6060LC	FR-4.0	0.38	9	102	68	50.8	V-0	130	-	-	288	30
				0.45	9	102	102	50.8	V-0	130	-	-	288	30
KB-6164F	KB-6164F	KB-6064F	FR-4.0	0.38	12	102	102	50.8	V-0	130	-	-	288	60
KB-6165	KB-6165	KB-6065	FR-4.0	0.38	12	102	54	50.8	V-0	130	-	-	288	60
KB-6165C (ASP 1)														
	KB-6165C	KB-6065C	FR-4.0	0.63	12	102	102	50.8	V-0	130	260	4	288	60
KB-6165F	KB-6165F	KB-6065F	FR-4.0	0.38	12	102	102	50.8	V-0	130	-	-	288	60
				0.63	12	102	204	50.8	V-0	130	-	-	288	60
KB-6165G	KB-6165G	KB-6065G	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
KB-6165GC	KB-6165GC	KB-6065GC	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
KB-6165LE	KB-6165LE	KB-6065LE	FR-4.0	0.38	9	102	68	50.8	V-0	130	-	-	288	30
				0.45	12	102	102	50.8	V-0	130	-	-	288	30
KB-6167F	KB-6167F	KB-6067F	FR-4.0	0.38	12	102	102	50.8	V-0	130	-	-	288	60
KB-6167G/KB-6067G														
	KB-6167G	KB-6067G	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
KB-6168	KB-6168	KB-6068	FR-4.0	0.38	12	102	70	50.8	V-0	130	-	-	288	60
KB-6168LE	KB-6168LE	KB-6068LE	FR-4.0	0.38	9	102	68	50.8	V-0	130	-	-	288	30
				0.45	9	102	102	50.8	V-0	130	-	-	288	30
KB-6169GT	KB-6169GT	KB-6069GT	FR-15.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
				0.63	12	102	102	50.8	V-0	150	260	6	288	20

KB-6200G	KB-6200G	PP-KB6200G	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
P-138	P-138	PP-138	FR-4.0	0.63	12	102	-	50.8	V-0	130	-	-	288	30
PI-515G	PI-515G	PP-PI515G	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	20
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets or rolls														
KB-616(X)	KB-6160, KB-6164	KB-6060, KB-6064	FR-4.0	0.38	17	102	35	50.8	V-0	130	-	-	288	30
KB-6167A	KB-6167A	KB-6067A	FR-4.0	0.38	17	102	35	50.8	V-0	130	-	-	288	30
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets, rods or tubes														
HF-140	HF-140	PP-HF140	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	30
HF-170/PP-HF170	HF-170	PP-HF170	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	30
KB-6167GLD/KB-6067GLD, KB-6165GMD/KB-6065GMD, KB-3200G/PP-KB3200G and KB-6167GMD/KB-6067GMD														
	KB-6167GLD, KB-6165GMD, KB-3200G, KB-6167GMD	KB-6067GLD, KB-6065GMD, PP-KB3200G, KB-6067GMD	FR-4.1	0.38	12	102	102	50.8	V-0	130	-	-	288	30
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides,														
EEL-128	EEL-128	EP	FR-4.0	0.38	17	102	68	38.1	V-0	130	-	-	288	30
				0.63	17	102	68	50.8	V-0	130	-	-	288	30
EEL-145	EEL-145	ETP	FR-4.0	0.38	17	102	170	50.8	V-0	130	-	-	288	30
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets														
FL-170	FL-170	-	FR-4.0	0.38	9	102	-	50.8	V-0	130	-	-	288	30
KB-2150G	KB-2150G	-	FR-2	0.71	35	102	-	50.8	V-0	75	-	-	265	15
				1.45	35	102	-	38.1	V-0	105	-	-	265	15
KB-3152	KB-3152	-	FR-1	0.71	35	102	-	50.8	V-0	130	-	-	288	10
KB-5150	KB-5150	-	CEM-1	0.63	17	102	-	38.1	V-0	130	-	-	288	20
KB-5252	KB-5252	-	CEM-1	0.63	17	102	-	13	V-0	130	-	-	260	10
KB-6150	KB-6150	-	FR-4.0	0.63	17	102	-	50.8	V-0	130	-	-	288	20
KB-616(X)	KB-6160, KB-6164	-	FR-4.0	0.38	17	102	-	50.8	V-0	130	-	-	288	30

KB-6160A	KB-6160A	-	FR-4.0	0.38	12	140	-	50.8	V-0	130	-	-	288	20
KB-6160C	KB-6160C	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	20
KB-6160F	KB-6160F	-	FR-4.0	0.38	9	102	-	50.8	V-0	130	-	-	288	30
KB-6160LC	KB-6160LC	-	FR-4.0	0.38	9	102	-	50.8	V-0	130	-	-	288	30
KB-6160LC(C)	KB-6160LC(C)	-	FR-4.0	0.63	17	102	-	50.8	V-0	130	-	-	288	20
KB-6164F	KB-6164F	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-6165	KB-6165	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-6165C (ASP 1)														
	KB-6165C	-	FR-4.0	0.63	12	102	-	50.8	V-0	130	260	4	288	60
KB-6165F	KB-6165F	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-6165G	KB-6165G	-	FR-4.1	0.05	17	102	-	50.8	V-0	100	-	-	288	20
				0.38	17	102	-	50.8	V-0	130	-	-	288	20
KB-6165GC	KB-6165GC	-	FR-4.1	0.05	17	102	-	50.8	V-0	100	-	-	288	20
				0.38	17	102	-	50.8	V-0	130	-	-	288	20
KB-6165LE	KB-6165LE	-	FR-4.0	0.38	9	102	-	50.8	V-0	130	-	-	288	30
KB-6167A	KB-6167A	-	FR-4.0	0.38	17	102	-	50.8	V-0	130	-	-	288	30
KB-6167F	KB-6167F	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-6167G	KB-6167G	-	FR-4.1	0.05	17	102	-	50.8	V-0	100	-	-	288	20
				0.38	17	102	-	50.8	V-0	130	-	-	288	20
KB-6168	KB-6168	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-6168LE	KB-6168LE	-	FR-4.0	0.38	9	102	-	50.8	V-0	130	-	-	288	30
KB-6169GT	KB-6169GT	-	FR-15.1	0.38	17	102	-	50.8	V-0	130	-	-	288	20
				0.63	17	102	-	50.8	V-0	150	260	6	288	20
KB-6200G	KB-6200G	-	FR-4.1	0.05	17	102	-	50.8	V-0	100	-	-	288	20
				0.38	17	102	-	50.8	V-0	130	-	-	288	20
KB-7150	KB-7150	-	CEM-3.0	0.63	17	102	-	50.8	V-0	130	-	-	290	20
KB-7150C	KB-7150C	-	CEM-3.0	0.63	17	102	-	50.8	V-0	130	-	-	288	20

KB-7150T	KB-7150T	-	CEM-3.0	0.63	17	102	-	50.8	V-0	130	-	-	288	20
P-138	P-138	-	FR-4.0	0.63	12	102	-	50.8	V-0	130	-	-	288	30
PI-515G	PI-515G	-	FR-4.1	0.05	17	102	-	50.8	V-0	100	-	-	288	20
				0.38	17	102	-	50.8	V-0	130	-	-	288	20
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets, rods or tubes														
HF-140	HF-140	-	FR-4.1	0.38	12	102	-	50.8	V-0	130	-	-	288	30
HF-170	HF-170	-	FR-4.1	0.38	12	102	-	50.8	V-0	130	-	-	288	30
*KB-3153**	KB-3153	-	FR-1	0.71	34	102	-	50.8	V-0	130	-	-	260	10
KB-6167GLD,KB-6165GMD,KB-3200G,KB-6167GMD														
	KB-6167GLD, KB-6165GMD, KB-3200G, KB-6167GMD	-	FR-4.1	0.38	12	102	-	50.8	V-0	130	-	-	288	30
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides,														
EEL-128	EEL-128	-	FR-4.0	0.38	17	102	-	38.1	V-0	130	-	-	288	30
				0.63	17	102	-	50.8	V-0	130	-	-	288	30
EEL-145	EEL-145	-	FR-4.0	0.38	17	102	-	50.8	V-0	130	-	-	288	30
*KB-3151C**	KB-3151C	-	FR-1	0.71	17	102	-	50.8	V-0	130	-	-	260	10
KB-3151S	KB-3151S	-	FR-1	0.71	17	102	-	38.1	V-0	130	-	-	260	10
KB-5150A	KB-5150A	-	CEM-1	0.63	17	102	-	50.8	V-0	130	-	-	288	20
KB-5150H	KB-5150H	-	CEM-1	0.63	17	102	-	50.8	V-0	130	-	-	288	20
KB-5150L	KB-5150L	-	CEM-1	063	17	102	-	50.8	V-0	130	-	-	260	10
KB-6155	KB-6155	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	-	-	288	60
KB-7152	KB-7152	-	CEM-3.0	0.63	17	102	-	50.8	V-0	130	-	-	288	20
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one side only, furnished as sheets														
KB-1150	KB-150	-	XPC	0.71	35	117	-	25.4	HB	130	-	-	260	10
KB-5150	KB-5150	-	CEM-1	0.63	35	102	-	50.8	V-0	130	-	-	260	10
KB-5150G	KB-5150G	-	CEM-1	0.63	17	102	-	50.8	V-0	130	-	-	288	10
KB-5150HC (ASP 1)														

	KB-5150HC	-	CEM-1	0.63	17	102	-	50.8	V-0	130	245	2	288	20
KB-5252	KB-5252	-	CEM-1	0.63	17	102	-	50.8	V-0	130	-	-	288	10
P-138	P-138	-	FR-4.0	0.63	12	102	-	50.8	V-0	130	-	-	288	30
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one side only, furnished as sheets, rods or tubes														
KB-3150N	KB-3150NU %	-	FR-1	0.71	17	102	-	50.8	V-0	130	-	-	260	10
KB-3151HS	KB-3151HS	-	FR-1	0.71	34	102	-	50.8	V-0	130	-	-	260	10
Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides,														
KB-6155	KB-6155	KB-6055	FR-4.0	0.38	12	102	70	50.8	V-0	130	-	-	288	60

Metal clad industrial laminates (Flammability Only Recognition):

				Bld up	Clad Cond Thk			Max		Max	Assembly Solder		Solder Lts	
Metal Clad Dsg	Lam-inate Dsg	Pre-preg Dsg	ANSI Type	Min Thk (mm)	Min Ext (mic)	Max Ext (mic)	Max Int (mic)	Area Dia (mm)	Flame Class	Oper Temp (°C)	Process Temp(°C)	Process Cycles	Temp (°C)	Time (sec)
Metal clad industrial laminates for use in single layer printed wiring boards with copper on one or both sides, furnished as sheets														
KB-5152	KB-5152	-	No ANSI	0.60	-	-	-	-	V-0	-	-	-	260	10
KB-6162	KB-6162	-	No ANSI	0.63	-	-	-	-	V-0	-	-	-	288	30

% - Corresponds to Unclad values without adhesive. For declad values (single sided) see corresponding grade "KB-3150N"

& - Corresponds to Declad values with adhesive. For Unclad values see corresponding grade designation.

(ASP 1) - Assembly solder process evaluated to IPC-TM-650, 2.6.27 Thermal Stress Assembly Simulation.

* - With adhesive

X - may be 0, 4

Marking: Company name, material designation on container or wrapper.

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