QMTS2.E123995
Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

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

KINGBOARD LAMINATES HOLDINGS LTD
2ND FL, HARBOUR VIEW 1
NO 12 SCIENCE PARK EAST AVE
PHASE II, HONG KONG SCIENCE PARK
SHATIN, N T HONG KONG

E123995

Industrial laminates:

			Build up		R.T.I.				H			
Mtl Dsg	**ANSI Type**	**Color**	**Min Thk (mm)**	**Flame Class**	**Elec (°C)**	**Mech (°C)**	**HWI**	**HAI**	**VTR**	**CTI**	**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-2150GC	FR-2	TN	0.71	V-0	75	75	0	4	6	-	-	-
			1.45	V-0	105	105	0	3	6	0	-	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-5252	CEM-1	NC	0.63	V-0	130	140	3	2	-	-	-	Yes
			1.40	V-0	130	140	1	2	-	3	-	Yes
KB-6150C	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-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-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-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-7150	CEM-3	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	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.												
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-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-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-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-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-7150T	CEM-3	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, 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
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-3152C	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-3152S	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	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-
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-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-7152	CEM-3	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**
Ultrathin industrial laminates and bonding layers, furnished in sheet form, for use in multilayer printed wiring boards where the thickness is built up to the minimum specified.										
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
HF-140	FR-4.1	0.38	130	130	HF-140	50	90	PP-HF140	50	90
KB-6155	FR-4.0	0.38	130	130	KB-6155	0.05	90	KB-6055	0.05	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-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-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
KB-6165GC	FR-4.1	0.38	130	130	KB-6165GC	50	90	KB-6065GC	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-6168	FR-4.0	0.38	130	130	KB-6168	50	90	KB-6068	50	90	

Metal clad industrial laminates:

				Bld up	Clad Cond Thk			Max		Max	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)**	**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.												
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-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-6165F												
	KB-6165F	KB-6065F	FR-4.0	0.38	12	102	102	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-6167F												
	KB-6167F	KB-6067F	FR-4.0	0.38	12	102	102	50.8	V-0	130	288	60
KB-6168												
	KB-6168	KB-6068	FR-4.0	0.38	12	102	70	50.8	V-0	130	288	60
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
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.												
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-2150GC												
	KB-2150GC	-	FR-2	0.71	35	102	-	50.8	V-0	75	265	15
				1.45	35	102	-	50.8	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-6150C												
	KB-6150C	-	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-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-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-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-6168												
	KB-6168	-	FR-4.0	0.38	12	102	-	50.8	V-0	130	288	60
KB-7150												
	KB-7150	-	CEM-3	0.63	17	102	-	50.8	V-0	130	290	20
KB-7150C												
	KB-7150C	-	CEM-3	0.63	17	102	-	50.8	V-0	130	288	20
KB-7150T												
	KB-7150T	-	CEM-3	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 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
KB-3152C												
	KB-3152C	-	FR-1	0.71	34	102	-	50.8	V-0	130	260	10
KB-3152S												
	KB-3152S	-	FR-1	0.71	34	102	-	50.8	V-0	130	260	10
KB-3153*												
	KB-3153	-	FR-1	0.71	34	102	-	50.8	V-0	130	260	10
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	063	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	0.63	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	0.71	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-5252												
	KB-5252	-	CEM-1	0.63	17	102	-	50.8	V-0	130	288	10
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	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)**	**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 (Flammability Only Recognition).												
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.

* - With adhesive

X - may be 0, 4

Marking: Company name and material designation on container or wrapper.
Last Updated on 2014-09-06

additional information regarding this product's certification.

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.