



CERTIFICATE OF COMPLIANCE - RoHS 6 of 6

The European Union's Directive 2002/95/EC is known as RoHS, for "restriction of hazardous substances." It requires the EU member states to ban, starting July 1, 2006, the use of six substances - lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr⁶⁺), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) - in new electrical and electronic equipment, except in specified exemptions (which are periodically reviewed).

No KOA products use asbestos, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, or polybrominated diphenyl ethers. They are also free of perfluorooctane sulfonates (PFOS) and deca bromodiphenyl ethers (Deca-BDE), meeting the EU RoHS 2006/122/EC Directive. Many KOA products may include lead in exempt applications (such as in glass, electronic ceramic materials, or high melting temperature solder).


A KOA part number includes a designator for the termination material, which is considered part of the solder materials. Those parts with lead-free terminations (designators "C", "T", "D", "A" and others, excluding "L") are fully RoHS compliant. All solderable KOA products may be used in both lead-free and lead bearing solder processes. All parts can withstand 260°C temperatures for three cycles, have an MSL of 1, with a two year self life, and meet J-STD-020C. All RoHS 6 of 6 solderable KOA products are also backwards compatible with SnPb soldering processes.

The following KOA products are fully RoHS compliant. They do not contain mercury, hexavalent chromium, polybrominated biphenyls, or polybrominated diphenyl ethers above the RoHS limits of 0.1% by mass per homogeneous material, and they do not contain cadmium above the RoHS limits of 0.01% by mass per homogenous material. These parts may also contain other uses of lead in specific RoHS exemptions, but any nonexempt use of lead is below the RoHS limit of 0.1% by mass per homogeneous material.

This Certificate of Compliance (C of C) certifies that the parts identified below, and the family of parts with a termination code letter other than "L", are fully RoHS 6 of 6 compliant. This pertains to all through-hole and SMD type devices which have an "A", "C", "D", "T" and others, and do **not** have an "L" termination code designation. Some component families, such as RK73, SR73, SG73, UR73, WK73, HV73, and CN rely upon PbO in glass exemption (Exemption 5: Lead in glass of cathode ray tubes, electronic components and fluorescent tubes) for full RoHS compliance.

All these devices are in Full Compliance with European Union RoHS Directive 2002/95/EC, "Restriction of Use of Hazardous Substances (RoHS)"

AC(X)	AFS	BGR	BLR	BPR	BR	CC	CCF	CCF-UM	CCP	CF	CFP	CFPS	CFS
CN	CN_A	CNB	CND	CN_H	CN_K	CNN	CN-N	CNZ	CPCN	CR	CSR	CTX	CW
CWH	CWP	CZB	CZP	DN(X)	ED(X)	FBA	GS	HPC	HV73	J	JL	KA	KL32
KL73	KLC	KQ	KQC	KVSF	LA73	LF	LFF	LP73	LPC	LR	LR72(X)	LT	LT73
MCL	MCM	MF	MFS	MHL	MLT	MO	MOS	MIRGF	MRP	MRS	NP0	NPR	NT73
NV73	NV73DL	NVD	PAP	PCF	PGD	PGE	PL	PN	PSB	PSE	PSI	PSN	PSO
PT72	PV	PWW	R(X)A	RCR	RCS	RCT	RCU	RCW	RD(X)	RD41	RF	RF26	RF73
RK½-¼-1	RK26	RK73	RK73A	RK73G	RK92	RKC	RKH	RKL	RM41	RN41	RN73	RN73H	
RNS	RT(X)	RW	SA	SC	SDR	SDS	SDT	SF	SG73	SG73P	SG73-RT	SG73S	SL07
SL1	SL2	SL3	SLF	SLN2	SPR	SR73	ST	TF	TF(X)	TLR	TLRH	TSL	UR73 WF
	WK73	X5R	X7R	Y5V	Z								

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CERTIFICATE OF COMPLIANCE - RoHS 5 of 6*

The European Union's Directive 2002/95/EC is known as RoHS, for "restriction of hazardous substances." It requires the EU member states to ban, starting July 1, 2006, the use of six substances - lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr⁶⁺), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) - in new electrical and electronic equipment, except in specified exemptions (which are periodically reviewed).


No KOA products use asbestos, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, or polybrominated diphenyl ethers. They are also free of perfluorooctane sulfonates (PFOS) and deca bromodiphenyl ethers (Deca-BDE), meeting the EU RoHS 2006/122/EC Directive. Many KOA products may include lead in exempt applications (such as in glass, electronic ceramic materials, or high melting temperature solder).

A KOA part number includes a designator for the termination material, which is considered part of the solder materials. Those parts, and all pre-July 1, 2002 part numbers, with lead terminations (designated with an "L") are not RoHS 6 of 6 compliant, rather they are RoHS 5 of 6* compliant. This means the components have lead as a part of the outer termination.

All solderable KOA products may be used in both lead-free and lead bearing solder processes. All parts can withstand 260°C temperatures for three cycles, have an MSL of 1, with a two year shelf life, and meet J-STD-020C. All RoHS 5 of 6* solderable KOA products are also backwards compatible with SnPb soldering processes.

The following KOA Speer products, with an "L" termination material designation, are fully RoHS 5 of 6* compliant. They do not contain mercury, hexavalent chromium, polybrominated biphenyls, or polybrominated diphenyl ethers above the RoHS limits of 0.1% by mass per homogeneous material, and they do not contain cadmium above the RoHS limits of 0.01% by mass per homogenous material. However, they do contain lead in the outer terminations.

AC(X)	CCF	CCP	CN	CNB	CND	CNN	CN_A	CN_K	CN_N	CNZ	CR	CSR	CTX
DN(X)	ED(X)	KA/SC	LA73	LR72	LT73	NPR	NT73	PT72	R(X)A	RD(X)	RF73	RK73A	RK73B
RK73G	RK73H	RK73Z	RK92	RKC	RKH	RKL	RN73	RT(X)	SG73	SL1	SL2	SL3	SR73
TF(X)	TSL												

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- ❖ KOA determines that RoHS 5 of 6 pertains to the lead in the terminations only; none of the other items -- mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenylethers -- are present in KOA's components. Other customers/suppliers may have different definitions for RoHS 5 of 6.

