

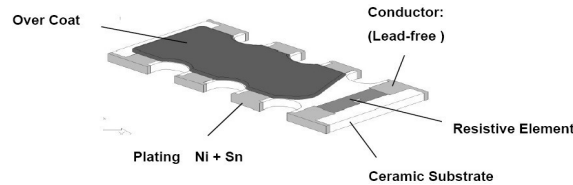


American Accurate Components, Inc.

196 Technology Dr. Ste E, Irvine, CA 92618, U.S.A

Tel: +1 949-453-9888 | Email: sales@aacix.com | Website: www.aacix.com

RESISTOR MATERIAL COMPOSITION – THICK FILM CHIP RESISTORS ARRAYS



This statement pertains to the following directive 2011/65/EC of the European Parliament and of the Council of the European Union on the restriction of the use of certain hazardous substances in electrical and electronic equipment. The definition of LEAD-FREE products is external terminal meet Lead Free.

RoHS exemption 7 (c)-1, Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronics devices, or in a glass or ceramic matrix compound (2011/65/EU).

CAS no.	Material	Substance	CRN10-2V		CRN10-4V		CRN16-8V		CRN16-2V	
			Mass mg	%	Mass mg	%	Mass mg	%	Mass mg	%
1344-28-1	Ceramic Substrate	Al ₂ O ₃	0.7861	76.05%	2.2865	83.91%	7.9098	82.94%	3.6690	83.39%
60676-86-0		SiO ₂	0.0328	3.17%	0.0953	3.50%	0.3296	3.46%	0.1529	3.47%
7440-22-4	Conductor Layer	Ag	0.0371	3.59%	0.0730	2.68%	0.0339	2.67%	0.0652	1.48%
65997-17-3		Glass	0.0020	0.19%	0.0038	0.14%	0.0018	0.14%	0.0034	0.08%
12036-10-1	Resistive Element	RuO ₂	0.0065	0.63%	0.0160	0.59%	0.0580	0.60%	0.0114	0.26%
7440-22-4		Ag	0.0103	1.00%	0.0256	0.94%	0.0927	0.96%	0.0183	0.42%
1317-36-8		PbO	0.0039	0.38%	0.0096	0.35%	0.0348	0.36%	0.0069	0.16%
65997-17-3		Glass	0.0052	0.50%	0.0128	0.47%	0.0464	0.48%	0.0092	0.21%
25068-38-6	Over-Coating	Epoxy	0.0247	2.39%	0.0304	1.12%	0.2295	1.62%	0.0590	1.34%
25068-38-6	Marking	Epoxy	0.0000	0.00%	0.0031	0.12%	0.1549	0.06%	0.0057	0.13%
7440-02-0	End Terminal	Ni	0.0296	2.86%	0.0020	0.07%	0.0055	1.64%	0.0792	1.80%
7440-47-3		Cr	0.0074	0.72%	0.0005	0.02%	0.1957	0.41%	0.0198	0.45%
7440-02-0	Ni Plating	Ni	0.0484	4.68%	0.0877	3.22%	0.2440	2.55%	0.1650	3.75%
7440-31-5	Sn Plating	Sn	0.0397	3.84%	0.0783	2.87%	0.2000	2.10%	0.1351	3.07%
All of the above are approximate values by the component parts of the material			1.0337	100	2.7246	100	9.5366	100	4.4001	100

CAS no.	Material	Substance	CRN16-4V		CRN16-8SU		CRN31-15SU	
			Mass mg	%	Mass mg	%	Mass mg	%
1344-28-1	Ceramic Substrate	Al ₂ O ₃	7.0191	80.42%	6.6999	77.12%	52.9485	82.73%
60676-86-0		SiO ₂	0.2925	3.35%	0.2792	3.21%	1.2659	1.98%
7440-22-4	Conductor Layer	Ag	0.1036	1.19%	0.1956	2.25%	0.8256	1.29%
65997-17-3		Glass	0.0055	0.06%	0.0103	0.12%	0.4395	0.69%
12036-10-1	Resistive Element	RuO ₂	0.0210	0.24%	0.0243	0.28%	0.1850	0.29%
7440-22-4		Ag	0.0336	0.38%	0.0389	0.45%	0.0579	0.09%
1317-36-8		PbO	0.0126	0.14%	0.0146	0.17%	0.1496	0.23%
65997-17-3		Glass	0.0168	0.19%	0.0195	0.22%	0.0511	0.08%
25068-38-6	Over-Coating	Epoxy	0.1226	1.40%	0.1251	1.44%	0.2513	0.39%
25068-38-6	Marking	Epoxy	0.0044	0.05%	0.0035	0.04%	0.4120	0.64%
7440-02-0	End Terminal	Ni	0.2212	2.54%	0.2057	2.37%	0.0027	0.00%
7440-47-3		Cr	0.0553	0.63%	0.0514	0.59%	0.0005	0.00%
7440-02-0	Ni Plating	Ni	0.4506	5.16%	0.5604	6.45%	0.0005	0.00%
7440-31-5	Sn Plating	Sn	0.3695	4.24%	0.4596	5.29%	4.0755	6.37%
All of the above are approximate values by the component parts of the material			8.7283	100	8.6880	100	3.3345	5.21%