


MATERIAL DECLARATION SHEET



Material Number	FW 10W			
Product Line	Fusible Power Resistor			
Compliance Date	2012.02.07			
RoHS Compliant	Yes	MSL	1	

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	FW 10W	Substrate (Ceramic)	187.27	Aluminum oxide	1344-28-1	69.21	129.61	22.09
				Silicon dioxide	14808-60-7	23.89	44.73	7.62
				Magnesium oxide	1309-48-4	1.23	2.30	0.39
				Barium oxide	1304-28-5	2.92	5.47	0.93
				Calcium oxide	1305-78-8	2.37	4.44	0.76
				Potassium oxide	12136-45-7	0.38	0.71	0.12
2		Resistive layer (Ni-Cr Alloy)	4.72	Nickel	7440-02-0	80.00	3.78	0.64
				Chromium	7440-47-3	20.00	0.94	0.16
3		End cap	163.11	Copper	7440-50-8	92.70	151.20	25.76
				Tin	7440-31-5	2.92	4.76	0.81
				Iron	7439-89-6	4.38	7.14	1.22
4		Lead wire	82.87	Copper	7440-50-8	99.96	82.834	14.11
	Tin			7440-31-5	0.04	0.033	0.01	
5	Coating	148.90	Epoxy Resin	25085-99-8	100.00	148.90	25.37	
		Total weight	586.86					

This Document was updated on: 11-21-2012

MATERIAL DECLARATION SHEET



Important remarks:

- It is the responsibility of the user to verify they are accessing the latest version.

Material Number	FW 20W		
Product Line	Fusible Power Resistor		
Compliance Date	2012.02.07		
RoHS Compliant	Yes	MSL	1

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	FW 20W	Substrate (Ceramic)	239.55	Aluminum oxide	1344-28-1	67.81	162.44	23.83
				Silicon dioxide	14808-60-7	26.53	63.55	9.32
				Magnesium oxide	1309-48-4	1.37	3.28	0.48
				Barium oxide	1304-28-5	3.25	7.78	1.14
				Calcium oxide	1305-78-8	0.62	1.50	0.22
				Potassium oxide	12136-45-7	0.42	1.01	0.15
2		Resistive layer (Ni-Cr Alloy)	4.72	Nickel	7440-02-0	80.00	3.78	0.55
				Chromium	7440-47-3	20.00	0.94	0.14
3		End cap	163.11	Copper	7440-50-8	92.70	151.20	22.18
				Tin	7440-31-5	2.92	4.76	0.70
				Iron	7439-89-6	4.38	7.14	1.05
4		Lead wire	80.00	Copper	7440-50-8	99.96	79.968	11.73
	Tin			7440-31-5	0.04	0.033	0.005	
5	Coating	194.40	Epoxy Resin	25085-99-8	100.00	194.40	28.51	
		Total weight	681.78					

This Document was updated on: 11-21-2012

Important remarks:

MATERIAL DECLARATION SHEET



1. It is the responsibility of the user to verify they are accessing the latest version.

Material Number	FW 30W		
Product Line	Fusible Power Resistor		
Compliance Date	2012.02.07		
RoHS Compliant	Yes	MSL	1

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	FW 30W	Substrate (Ceramic)	530.90	Aluminum oxide	1344-28-1	69.21	367.44	29.22
				Silicon dioxide	14808-60-7	23.89	126.83	10.09
				Magnesium oxide	1309-48-4	1.23	6.53	0.52
				Barium oxide	1304-28-5	2.92	15.50	1.23
				Calcium oxide	1305-78-8	2.37	12.58	1
				Potassium oxide	12136-45-7	0.38	2.02	0.16
2		Resistive layer (Ni-Cr Alloy)	48.70	Nickel	7440-02-0	80.00	38.96	3.10
				Chromium	7440-47-3	20.00	9.74	0.77
3		End cap	157.00	Copper	7440-50-8	92.70	145.54	11.57
				Tin	7440-31-5	2.92	4.58	0.36
				Iron	7439-89-6	4.38	6.88	0.55
4		Lead wire	200.00	Copper	7440-50-8	99.96	199.92	15.90
	Tin			7440-31-5	0.04	0.13	0.01	
5	Coating	321.00	Epoxy Resin	25085-99-8	100.00	321.00	25.52	
	Total weight	1257.60						

This Document was updated on: **11-21-2012**

Important remarks:

MATERIAL DECLARATION SHEET

1. It is the responsibility of the user to verify they are accessing the latest version.

Material Number	FW 50W		
Product Line	Fusible Power Resistor		
Compliance Date	2012.02.07		
RoHS Compliant	Yes	MSL	1

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	FW 50W	Substrate (Ceramic)	982.50	Aluminum oxide	1344-28-1	69.21	679.99	37.42
				Silicon dioxide	14808-60-7	23.89	234.72	12.92
				Magnesium oxide	1309-48-4	1.23	12.08	0.67
				Barium oxide	1304-28-5	2.92	28.69	1.58
				Calcium oxide	1305-78-8	2.37	23.29	1.28
				Potassium oxide	12136-45-7	0.38	3.73	0.21
2		Resistive layer (Ni-Cr Alloy)	57.20	Nickel	7440-02-0	80.00	45.76	2.52
				Chromium	7440-47-3	20.00	11.44	0.63
3		End cap	243.40	Copper	7440-50-8	92.70	225.63	12.42
				Tin	7440-31-5	2.92	7.11	0.39
				Iron	7439-89-6	4.38	10.66	0.59
4		Lead wire	200.00	Copper	7440-50-8	99.96	199.92	11.00
	Tin			7440-31-5	0.04	0.13	0.01	
5	Coating	334.00	Epoxy Resin	25085-99-8	100.00	334.00	18.38	
		Total weight	1817.10					

This Document was updated on: 11-21-2012

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.

Material Number	FW 70W	www.bourns.com
-----------------	---------------	----------------

MATERIAL DECLARATION SHEET



Product Line	Fusible Power Resistor		
Compliance Date	2012.02.07		
RoHS Compliant	Yes	MSL	1

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	FW 70W	Substrate (Ceramic)	2791.20	Aluminum oxide	1344-28-1	69.21	1931.79	46.80
				Silicon dioxide	14808-60-7	23.89	666.82	16.15
				Magnesium oxide	1309-48-4	1.23	34.33	0.83
				Barium oxide	1304-28-5	2.92	81.50	1.97
				Calcium oxide	1305-78-8	2.37	66.15	1.60
				Potassium oxide	12136-45-7	0.38	10.61	0.26
2	FW 70W	Resistive layer (Ni-Cr Alloy)	133.40	Nickel	7440-02-0	80.00	106.72	2.59
				Chromium	7440-47-3	20.00	26.68	0.65
3	FW 70W	End cap	443.20	Copper	7440-50-8	92.70	410.85	9.95
				Tin	7440-31-5	2.92	12.94	0.31
				Iron	7439-89-6	4.38	19.41	0.47
4	FW 70W	Lead wire	280.00	Copper	7440-50-8	99.96	279.89	6.78
				Tin	7440-31-5	0.04	0.19	0.005
5	FW 70W	Coating	480.00	Epoxy Resin	25085-99-8	100.00	480.00	11.63
			Total weight	4127.80				

This Document was updated on: **11-21-2012**

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.