



Bulletin No.PCS89

Powder Coated Spring Coils

Properties of VMC Powder Coated Finish

	Typical Properties and Test Methods	
GENERAL	Specific Gravity (dependent upon color and formulation)	1.2-1.8
	Particle Size (mean—In microns) ASTM 3451 (8.4)	20-30
	Color Range Available ASTM D2244	Broad range
	Appearance	Smooth to texture
PHYSICAL PROPERTIES ¹	Gloss Range Available ASTM D523	20-100+
	Direct impact ASTM D2794 Reverse Impact ASTM D2794 (dependent upon formulation)	Up to 160 Up to 160
	Flexibility ASTM D522	Passes 1/8
	Hardness ASTM D3363	H-3H
ENVIRONMENTAL ¹	Taber Abrasion, 1000 Cycles CS10 Wheel, 1000 Grams (weight loss) ASTM D1044	30-50 mg
	Salt Spray: 5% Salt Solution Bonderite Panels ASTM B117	2000 hrs. approx. 1/32 inch creepage from scribe
CHEMICAL RESISTANCE ²	Ultraviolet Weathering (QUV)	500 hrs. 5% loss of gloss
	Acid	Resistant
	Alkali	Resistant
	Ketones	Use not recommended
	Alcohols	Resistant

VMC spring coils are now furnished with a "Powder Coated" finish, replacing the old painted finish. This new finish is applied in attractive solid colors to meet our published color codes for easy identification. All springs in the 1" (25.4mm), 1 1/2" (38.1mm) and 2" (50.8mm) deflection ranges will be furnished with the new powder coated finish.

The powder coated finish is fast replacing liquid finishes for a variety of reasons, not the least being its superior quality. Gone are the sags, runs, drips and bubbles—instead a smooth, uniform and durable finish is achieved.

The process is amazingly simple in concept and operation. Dry powder is pneumatically fed from a supply reservoir to a spray gun where a low amperage, high voltage charge is imparted to the powder particles. The powder coating process is comprised of resins and pigments and in its dry, formulated state is then sprayed onto a part to be finished. The parts to be coated are electrically grounded so that the charged particles projected at them are firmly attracted to the part's surface and held there until melted and fused into a smooth coating.

VMC Spring Chart & Color Code



1" (25.4 mm) DEFLECTION RANGE

Spring No	O.D. ins. (mm)	Free Height ins. (mm)	Color CODE	Max. Load lbs. (kg)	Max. Load Defl. ins. (mm)
11	2" (50.8)	2 3/4" (69.8)	BLUE	60 (27.2)	1.3" (33.0)
12	2" (50.8)	2 3/4" (69.8)	ORANGE	100 (45.4)	1.3" (33.0)
13	2" (50.8)	2 3/4" (69.8)	BROWN	165 (75.0)	1.2" (30.4)
14	2" (50.8)	2 3/4" (69.8)	BLACK	260 (118.0)	1.0" (25.4)
16	2" (50.8)	2 3/4" (69.8)	YELLOW	370 (168.0)	0.8" (20.3)
17	2" (50.8)	2 3/4" (69.8)	RED	450 (204.3)	0.5" (12.7)
18	2" (50.8)	2 3/4" (69.8)	GREEN	700 (317.8)	0.45" (11.4)
92	2 1/2" (63.5)	3 3/8" (92.0)	BROWN	125 (56.7)	1.3" (33.0)
93	2 1/2" (63.5)	3 3/8" (92.0)	ORANGE	225 (102.0)	1.3" (33.0)
94	2 1/2" (63.5)	3 3/8" (92.0)	GREEN	325 (147.5)	1.2" (30.4)
95	2 1/2" (63.5)	3 3/8" (92.0)	RED	450 (204.3)	1.2" (30.4)
96	2 1/2" (63.5)	3 3/8" (92.0)	BLACK	600 (272.4)	1.2" (30.4)
97	2 1/2" (63.5)	3 3/8" (92.0)	WHITE	750 (340.5)	1.1" (28.0)
98	2 1/2" (63.5)	3 3/8" (92.0)	GRAY	900 (408.6)	1.0" (25.4)
99	2 1/2" (63.5)	3 3/8" (92.0)	BLUE	1100 (499.4)	0.9" (22.8)
**19	2" (50.8)	4" (101.6)	PINK	85 (38.5)	1.4" (35.5)
**21	2" (50.8)	4" (101.6)	BLACK	115 (52.2)	1.3" (33.0)
**22	2" (50.8)	4" (101.6)	BLUE	170 (77.0)	1.3" (33.0)
**23	2" (50.8)	4" (101.6)	YELLOW	225 (102.0)	1.3" (33.0)
**24	2" (50.8)	4" (101.6)	BROWN	325 (147.5)	1.2" (30.4)
**25	2" (50.8)	4" (101.6)	RED	450 (204.3)	1.2" (30.4)
**26	2" (50.8)	4" (101.6)	PURPLE	600 (272.4)	1.2" (30.4)
**27	2" (50.8)	4" (101.6)	ORANGE	750 (340.5)	1.1" (28.0)
**28	2" (50.8)	4" (101.6)	GREEN	900 (408.6)	1.0" (25.4)
**31	2" (50.8)	4" (101.6)	GRAY	1100 (499.4)	0.8" (20.3)
**32	2" (50.8)	4" (101.6)	WHITE	1300 (590.2)	0.8" (20.3)
**35	2" (50.8)	4 1/2" (114.3)	GOLD	1500 (681.0)	0.7" (17.7)
2W	3 1/4" (82.5)	4" (101.6)	BLUE	125 (56.7)	1.3" (33.0)
4W	3 1/4" (82.5)	4" (101.6)	BLACK	400 (181.6)	1.3" (33.0)
6W	3 1/4" (82.5)	4" (101.6)	RED	650 (295.0)	1.1" (28.0)
10W	3 1/4" (82.5)	4" (101.6)	GREEN	1000 (454.0)	1.1" (28.0)
13W	3 1/4" (82.5)	4" (101.6)	YELLOW	1300 (590.2)	1.0" (25.4)
16W	3 1/4" (82.5)	4" (101.6)	GRAY	1600 (726.4)	1.0" (25.4)

1 1/2" (38.5 mm) DEFLECTION RANGE

100	3 1/4" (82.5)	5 1/2" (139.7)	BROWN	100 (45.4)	1.5" (38.0)
101	3 1/4" (82.5)	5 1/2" (139.7)	ORANGE	200 (90.8)	1.5" (38.0)
102	3 1/4" (82.5)	5 1/2" (139.7)	GREEN	400 (181.6)	1.5" (38.0)
103	3 1/4" (82.5)	5 1/2" (139.7)	RED	600 (272.4)	1.5" (38.0)
104	3 1/4" (82.5)	5 1/2" (139.7)	BLACK	800 (363.2)	1.5" (38.0)
105	3 1/4" (82.5)	5 1/2" (139.7)	WHITE	1000 (454.0)	1.5" (38.0)
106	3 1/4" (82.5)	5 1/2" (139.7)	GRAY	1250 (567.5)	1.5" (38.0)
107	3 1/4" (82.5)	5 1/2" (139.7)	BLUE	1500 (681.0)	1.5" (38.0)
108	3 1/4" (82.5)	5 1/2" (139.7)	YELLOW	1750 (794.5)	1.5" (38.0)
109	3 1/4" (82.5)	5 1/2" (139.7)	PINK	2000 (908.0)	1.5" (38.0)

2" (50.8 mm) DEFLECTION RANGE

50	3 3/4" (95.2)	6" (152.4)	BLUE	150 (68.0)	2.0" (50.8)
51	3 3/4" (95.2)	6" (152.4)	BLACK	275 (124.8)	2.0" (50.8)
52	3 3/4" (95.2)	6" (152.4)	RED	500 (227.0)	2.0" (50.8)
53	3 3/4" (95.2)	6" (152.4)	GREEN	1000 (454.0)	2.0" (50.8)
55	3 3/4" (95.2)	6" (152.4)	GRAY	1400 (635.6)	2.0" (50.8)
*40	2 1/2" (63.5)	6" (152.4)	BLUE	150 (68.0)	2.0" (50.8)
*41	2 1/2" (63.5)	6" (152.4)	BLACK	275 (124.8)	2.0" (50.8)
*42	2 1/2" (63.5)	6" (152.4)	RED	500 (227.0)	2.0" (50.8)
*43	2 1/2" (63.5)	6" (152.4)	GREEN	800 (363.2)	2.0" (50.8)

- * These springs are designed to fit inside the #50 through #55 springs for increased capacity. They are not to be used singularly.
 ** These springs used in Series C housed Spring-Flex mountings.

VMC