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AS24585

FEDERAL SUPPLY CLASS
5360

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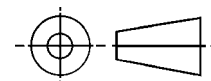
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THIRD ANGLE PROJECTION



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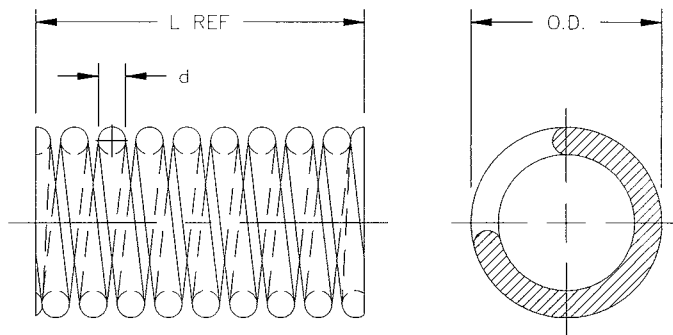
PROCUREMENT SPECIFICATION: MIL-S-13572

SAE The Engineering Society
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400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

SPRING, HELICAL, COMPRESSION:
FOR LOADS BELOW 20 POUNDS

AS24585
SHEET 1 OF 13



FOR PROCUREMENT AND DRAWING REQUIREMENTS FOR
NEW DESIGN SEE MIL-S-13572 AND MIL-STD-29.

MATERIAL: Wire, Steel, Music, in accordance with ASTM A228. Wire, Steel, Corrosion-Resisting, in accordance with ASTM A580 and ASTM A313.

PROTECTIVE COATING: Cadmium plating in accordance with QQ-P-416, Type II, Class 2.
Zinc coating in accordance with ASTM B633, Type II, Fe/Zn5.
Passivation treatment in accordance with QQ-P-35.

ENDS: Squared and ground

DIRECTION OF HELIX: Optional.

TOLERANCES: Outside diameter "O.D." .120 to .240 $\pm .005$, .300 to .500 $\pm .008$, .550 to .850 $\pm .015$.
Ends to be square within 3° with axis. (Grade B of procurement specification.)
Spring rate "R" $\pm 10\%$.
Wire diameter "d" in accordance with material specifications.
Deflection "F" $\pm 10\%$.

DIMENSIONS: All dimensions are in inches unless otherwise specified.

PART NUMBER: The MS part number consists of the MS number, plus the dash number. Example: MS24585-1.

- NOTES:**
- (1) Free length "L", active coils "N", and deflection per coil "f" are for reference use only.
 - (2) Load "P" must be attained at a compressed length determined by subtracting deflection "F" (with tolerance) from the free length "L". For corrosion-resisting steel multiply "P" by .833.
 - (3) Spring values shown are for music wire and are based on a service life of 50,000 cycles at .50 stress range. To determine safe working deflection under other operating conditions, or when corrosion-resisting steel is used, multiply "P" by the appropriate factor shown in Table I. P_1 = load at assembled length and P_2 = final load.
 - (4) To determine Load "P" at any deflection other than "F" multiply the proposed deflection by the rate "R".
 - (5) When steel, corrosion-resisting is used the value for rate "R" must be corrected by multiplying "R" by .833.
 - (6) Music wire springs are not recommended for applications where temperature exceeds 250°F. Corrosion-resisting steel springs are not recommended for applications where temperature exceeds 500°F.
 - (7) Referenced documents shall be of the issue in effect on date of invitations for bid.
 - (8) For design feature purposes, this standard takes precedence over procurement documents referenced herein.

TABLE 1 – CORRECTION FACTOR FOR STRESS RANGE LIFE CYCLES AND SPRING MATERIAL

MATERIAL	$\frac{P_2 - P_1}{P_2}$	CYCLES				
		5,000	10,000	50,000	100,000	Infinite
MUSIC WIRE	.25	1.28	1.23	1.11	1.06	.95
	.50	1.23	1.16	1.00	.93	.76
	.75	1.21	1.12	.93	.84	.65
	1.00	1.17	1.08	.86	.77	.55
CORROSION-RESISTING STEEL	.25	.92	.90	.83	.81	.77
	.50	.88	.84	.76	.72	.63
	.75	.85	.80	.68	.63	.51
	1.00	.83	.76	.61	.55	.41

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TABLE II - DIMENSIONS AND CHARACTERISTICS

Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
1	1001		C1	.120	.016	.25	4.50	.0210	1.837	.095	.104	19.3
2	1002		C2			.31	6.25			.131	.132	14.0
3	1003		C3			.38	7.75			.163	.156	11.3
4	1004		C4			.44	9.25			.194	.180	9.5
5	1005		C5			.50	10.50			.220	.200	8.3
6	1006		C6			.56	12.00			.252	.224	7.3
7	1007		C7		.018	.62	13.25	.0173	2.564	.278	.244	6.6
8	1008		C8			.69	15.00			.315	.272	5.8
9	1009		C9			.75	16.50			.346	.296	5.3
10	1010	2010	C10			.25	5.25			.091	.130	28.2
11	1011	2011	C11			.31	6.75			.117	.157	21.9
12	1012	2012	C12			.38	8.25			.143	.184	17.9
13	1013	2013	C13			.44	9.75			.169	.211	15.2
14	1014	2014	C14			.50	11.25			.195	.238	13.1
15	1015	2015	C15			.56	13.00			.224	.270	11.4
16	1016	2016	C16			.62	14.00			.242	.288	10.6
17	1017	2017	C17			.69	16.00			.276	.324	9.3
18	1018	2018	C18			.75	17.50			.302	.351	8.5
19	1019		C19	.180	.022	.25	5.25	.0120	4.481	.063	.159	71.1
20	1020		C20			.31	7.00			.084	.198	53.3
21	1021		C21			.38	9.00			.108	.242	41.5
22	1022		C22			.44	10.25			.123	.269	36.4
23	1023		C23			.50	12.00			.144	.308	31.1
24	1024		C24			.56	13.25			.159	.335	28.2
25	1025		C25		.016	.62	15.00	.0563	1.254	.180	.374	24.9
26	1026		C26			.69	17.00			.204	.418	22.0
27	1027		C27			.75	18.50			.222	.451	20.2
28	1028		C28			.81	20.00			.240	.484	18.7
29	1029	2029	C29			.25	2.50			.141	.072	8.9
30	1030	2030	C30			.31	3.00			.167	.080	7.5
31	1031	2031	C31			.38	3.75			.211	.092	5.9
32	1032	2032	C32			.44	4.50			.253	.104	4.9
33	1033	2033	C33			.50	5.25			.295	.116	4.2
34	1034	2034	C34			.56	6.00			.337	.128	3.7
35	1035	2035	C35			.62	6.50			.366	.136	3.4
36	1036	2036	C36			.69	7.25			.407	.148	3.1
37	1037	2037	C37		.018	.75	8.00	.0475	1.760	.450	.160	2.8
38	1038		C38			.25	2.75			.130	.085	13.5
39	1039		C39			.31	3.25			.154	.094	11.4
40	1040		C40			.38	4.00			.190	.108	9.3
41	1041		C41			.44	4.75			.225	.121	7.8
42	1042		C42			.50	5.50			.261	.135	6.7
43	1043		C43			.56	6.50			.308	.153	5.7
44	1044		C44			.62	7.25			.344	.166	5.1
45	1045		C45			.69	8.00			.380	.180	4.6
46	1046		C46			.75	9.00			.427	.198	4.1
47	1047	2047	C47		.022	.25	3.00	.0352	3.134	.106	.110	29.6
48	1048	2048	C48			.31	3.75			.132	.126	23.7

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued

Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
49	1049	2049	C49	.180	.022	.38	4.50	.0352	3.134	.158	.143	19.8
50	1050	2050	C50			.44	5.25			.185	.159	16.9
51	1051	2051	C51			.50	6.25			.220	.181	14.2
52	1052	2052	C52			.56	7.50			.264	.209	11.9
53	1053	2053	C53			.62	8.50			.299	.231	10.5
54	1054	2054	C54			.69	9.25			.325	.247	9.6
55	1055	2055	C55		.026	.75	10.25	.0268	5.032	.361	.269	8.7
56	1056	2056	C56			.81	11.50			.405	.297	7.7
57	1057		C57			.25	3.25			.087	.136	57.8
58	1058		C58			.31	4.00			.107	.156	47.0
59	1059		C59			.38	5.00			.134	.182	37.5
60	1060		C60			.44	6.00			.161	.208	31.2
61	1061		C61			.50	7.00			.188	.234	26.8
62	1062		C62			.56	8.00			.214	.260	23.5
63	1063		C63			.62	9.00			.241	.286	20.9
64	1064		C64			.69	10.00			.268	.312	18.8
65	1065		C65			.75	11.00			.295	.338	17.0
66	1066		C66			.81	12.00			.322	.364	15.6
67	1067		C67	.032	.022	.88	13.00		8.833	.348	.390	14.4
68	1068	2068	C68			.31	4.00			.072	.192	122.7
69	1069	2069	C69			.38	5.00			.091	.224	97.0
70	1070	2070	C70			.44	6.25			.114	.264	77.5
71	1071	2071	C71			.50	7.50			.136	.304	64.9
72	1072	2072	C72			.56	8.25			.150	.328	58.9
73	1073	2073	C73			.62	9.50			.172	.368	51.3
74	1074	2074	C74			.69	10.25			.186	.392	47.5
75	1075	2075	C75			.75	11.75			.214	.440	41.3
76	1076	2076	C76			.81	13.00			.237	.450	37.3
77	1077	2077	C77			.88	14.50			.264	.528	33.5
78	1078	2078	C78			.94	15.50			.282	.560	31.3
79	1079	2079	C79	.240	.022	1.00	16.50	.0706	2.394	.300	.592	29.4
80	1080		C80			.38	2.75			.194	.104	12.3
81	1081		C81			.44	3.50			.247	.121	9.7
82	1082		C82			.50	4.00			.282	.132	8.5
83	1083		C83			.56	4.50			.318	.143	7.5
84	1084		C84			.62	5.00			.353	.154	6.8
85	1085		C85		.026	.69	5.50	.0552	3.846	.388	.165	6.2
86	1086		C86			.75	6.00			.423	.176	5.6
87	1087		C87			.81	6.50			.458	.187	5.2
88	1088	2088	C88			.38	3.00			.165	.130	23.3
89	1089	2089	C89			.44	3.50			.193	.143	19.9
90	1090	2090	C90			.50	4.00			.221	.156	17.4
91	1091	2091	C91	.026	.026	.56	4.75	.0552	3.846	.262	.175	14.7
92	1092	2092	C92			.62	5.50			.303	.195	12.7
93	1093	2093	C93			.69	6.25			.345	.214	11.1
94	1094	2094	C94			.75	7.00			.386	.234	10.0
95	1095	2095	C95			.81	7.50			.414	.247	9.3
96	1096	2096	C96			.88	8.25			.455	.266	8.4

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued												
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
97	1097		C97			.31	2.75			.108	.152	63.8
98	1098		C98			.38	3.25			.128	.168	53.8
99	1099		C99			.44	4.00			.158	.192	43.2
100	1100		C100			.50	4.75			.187	.216	36.8
101	1101		C101			.56	5.50			.216	.240	31.9
102	1102		C102			.62	6.25			.246	.264	28.0
103	1103		C103		.032	.69	7.00	.0394	6.892	.276	.288	25.0
104	1104		C104			.75	8.00			.315	.320	21.9
105	1105		C105			.81	8.75			.344	.344	20.0
106	1106		C106			.88	9.50			.374	.368	18.4
107	1107		C107			.94	10.25			.403	.392	17.1
108	1108		C108			1.00	11.00			.433	.416	15.9
109	1109	2109	C109			.31	3.00			.087	.190	127.1
110	1110	2110	C110			.38	3.75			.109	.218	101.5
111	1111	2111	C111			.44	4.50			.131	.247	84.4
112	1112	2112	C112			.50	5.25			.153	.275	72.3
113	1113	2113	C113			.56	6.00			.175	.304	63.2
114	1114	2114	C114			.62	6.75			.196	.332	56.4
115	1115	2115	C115			.69	7.50			.218	.361	50.7
116	1116	2116	C116		.038	.75	8.25	.0291	11.06	.240	.389	46.1
117	1117	2117	C117			.81	9.00			.262	.418	42.2
118	1118	2118	C118			.88	10.00			.291	.456	38.0
119	1119	2119	C119	.240		.94	11.00			.320	.494	34.6
120	1120	2120	C120			1.00	11.75			.342	.522	32.3
121	1121	2121	C121			1.12	13.25			.385	.579	28.7
122	1122	2122	C122			1.25	14.75			.429	.636	25.8
123	1123	2123	C123			1.38	16.25			.473	.693	23.4
124	1124	2124	C124			1.50	17.75			.516	.750	21.4
125	1125		C125			.38	3.50			.084	.231	171.3
126	1126		C126			.44	4.50			.107	.273	134.5
127	1127		C127			.50	5.25			.125	.304	115.1
128	1128		C128			.56	6.00			.143	.336	100.6
129	1129		C129			.62	6.75			.161	.367	89.4
130	1130		C130			.69	7.50			.179	.399	80.4
131	1131		C131			.75	8.50			.203	.441	70.9
132	1132		C132		.042	.81	9.25	.0239	14.39	.221	.472	65.1
133	1133		C133			.88	10.00			.239	.504	60.2
134	1134		C134			.94	11.00			.263	.546	54.7
135	1135		C135			1.00	11.75			.281	.577	51.2
136	1136		C136			1.12	13.25			.317	.640	45.4
137	1137		C137			1.25	14.75			.352	.703	40.9
138	1138		C138			1.38	16.50			.394	.777	36.5
139	1139		C139			1.50	18.50			.442	.861	32.5
140	1140	2140	C140			.50	2.50			.295	.099	6.6
141	1141	2141	C141			.56	2.75			.325	.104	5.9
142	1142	2142	C142	.300	.022	.62	3.25	.1181	1.931	.383	.115	5.0
143	1143	2143	C143			.69	3.50			.413	.121	4.7
144	1144	2144	C144			.75	4.00			.472	.132	4.1

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued												
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
145	1145	2145	C145	.300	.022	.81	4.25	.1181	1.931	.501	.137	3.8
146	1146	2146	C146			.88	4.50			.531	.143	3.6
147	1147		C147			.44	2.50			.234	.117	13.3
148	1148		C148			.50	3.00			.281	.130	11.1
149	1149		C149			.56	3.25			.304	.136	10.3
150	1150		C150			.62	3.75			.351	.149	8.9
151	1151		C151		.026	.69	4.25	.0937	3.122	.398	.162	7.8
152	1152		C152			.75	4.50			.422	.169	7.4
153	1153		C153			.81	5.00			.468	.182	6.7
154	1154		C154			.88	5.50			.515	.195	6.1
155	1155		C155			.94	6.00			.562	.208	5.5
156	1156		C156			1.00	6.50			.609	.221	5.1
157	1157	2157	C157			.44	3.00			.205	.160	27.3
158	1158	2158	C158			.50	3.50			.237	.176	23.6
159	1159	2159	C159			.56	4.00			.274	.192	20.4
160	1160	2160	C160			.62	4.50			.308	.208	18.2
161	1161	2161	C161		.032	.69	5.00	.0684	5.593	.342	.224	16.3
162	1162	2162	C162			.75	5.50			.376	.240	14.9
163	1163	2163	C163			.81	6.00			.410	.256	13.6
164	1164	2164	C164			.88	6.50			.445	.272	12.6
165	1165	2165	C165			.94	7.25			.496	.296	11.3
166	1166	2166	C166			1.00	7.75			.530	.312	10.6
167	1167		C167			.38	2.50			.130	.171	69.6
168	1168		C168			.44	3.25			.169	.199	53.5
169	1169		C169			.50	3.75			.195	.218	46.4
170	1170		C170			.56	4.50			.233	.247	38.8
171	1171		C171			.62	5.00			.259	.266	34.9
172	1172		C172			.69	5.75			.298	.294	30.3
173	1173		C173			.75	6.25			.324	.313	27.9
174	1174		C174		.038	.81	6.75	.0519	9.043	.350	.332	25.8
175	1175		C175			.88	7.50			.389	.361	23.2
176	1176		C176			.94	8.00			.415	.380	21.8
177	1177		C177			1.00	8.50			.441	.399	20.5
178	1178		C178			1.12	9.50			.493	.437	18.3
179	1179		C179			1.25	10.50			.545	.475	16.6
180	1180		C180			1.38	11.50			.597	.513	15.1
181	1181		C181			1.50	12.50			.648	.551	13.9
182	1182	2182	C182			.38	2.50			.109	.189	108.3
183	1183	2183	C183			.44	3.00			.130	.210	90.8
184	1184	2184	C184			.50	3.75			.167	.241	70.7
185	1185	2185	C185			.56	4.50			.196	.273	60.2
186	1186	2186	C186		.042	.62	5.25	.0436	11.81	.229	.304	51.6
187	1187	2187	C187			.69	6.00			.262	.336	45.1
188	1188	2188	C188			.75	6.50			.283	.357	41.7
189	1189	2189	C189			.81	7.25			.316	.388	37.4
190	1190	2190	C190			.88	8.00			.349	.420	33.8
191	1191	2191	C191			.94	8.50			.370	.441	31.9
192	1192	2192	C192			1.00	9.00			.392	.462	30.1

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued												
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
193	1193	2193	C193	.300	.042	1.12	10.00	.0436	11.81	.436	.504	27.1
194	1194	2194	C194			1.25	11.25			.490	.556	24.1
195	1195	2195	C195			1.38	12.50			.545	.609	21.7
196	1196	2196	C196			1.50	13.75			.599	.661	19.7
197	1197		C197			.38	2.50			.096	.202	148.5
198	1198		C198			.44	3.25			.125	.236	114.1
199	1199		C199		.045	.50	4.00	.0384	14.26	.154	.270	92.6
200	1200		C200			.56	4.75			.182	.304	78.3
201	1201		C201			.62	5.50			.211	.337	67.6
202	1202		C202			.69	6.00			.230	.360	62.0
203	1203		C203			.75	6.75			.259	.394	55.0
204	1204		C204			.81	7.25			.278	.416	51.3
205	1205		C205			.88	8.00			.307	.450	46.4
206	1206		C206			.94	8.75			.336	.484	42.4
207	1207		C207			1.00	9.25			.355	.506	40.2
208	1208		C208			1.12	10.25			.394	.551	36.2
209	1209		C209			1.25	11.50			.441	.607	32.3
210	1210		C210			1.38	12.75			.490	.664	29.1
211	1211		C211			1.50	14.00			.538	.720	26.5
212	1212	2212	C212	.360	.022	.50	2.00	.1782	1.622	.356	.088	4.5
213	1213	2213	C213			.62	2.25			.401	.093	4.0
214	1214	2214	C214			.69	2.50			.445	.099	3.6
215	1215	2215	C215			.75	2.75			.490	.104	3.3
216	1216	2216	C216			.81	3.00			.535	.110	3.0
217	1217	2217	C217			.88	3.25			.579	.115	2.8
218	1218	2218	C218			.94	3.50			.624	.121	2.6
219	1219	2219	C219			1.00	3.75			.668	.126	2.4
220	1220		C220			.50	2.00	.1425	2.621	.285	.104	9.2
221	1221		C221			.56	2.25			.321	.110	8.2
222	1222		C222			.62	2.50			.356	.117	7.4
223	1223		C223			.69	2.75			.392	.123	6.7
224	1224		C224			.75	3.00			.427	.130	6.1
225	1225		C225			.81	3.25			.463	.136	5.7
226	1226		C226			.88	3.75			.534	.149	4.9
227	1227		C227			.94	4.00			.570	.156	4.6
228	1228		C228			1.00	4.50			.641	.169	4.1
229	1229		C229			1.12	4.75			.677	.175	3.9
230	1230	2230	C230	.360	.026	.50	2.50	.1054	4.718	.263	.144	17.9
231	1231	2231	C231			.56	2.75			.290	.152	16.3
232	1232	2232	C232			.62	3.00			.316	.160	14.9
233	1233	2233	C233			.69	3.50			.369	.176	12.8
234	1234	2234	C234			.75	3.75			.395	.184	11.9
235	1235	2235	C235			.81	4.00			.422	.192	11.2
236	1236	2236	C236			.88	4.50			.474	.208	9.9
237	1237	2237	C237			.94	4.75			.501	.216	9.4
238	1238	2238	C238			1.00	5.25			.553	.232	8.5
239	1239	2239	C239			1.12	6.00			.632	.256	7.5
240	1240	2240	C240			1.38	7.50			.790	.304	6.0

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued												
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
241	1241	2241	C241		.032	1.50	8.25	.1054	4.718	.869	.328	5.4
242	1242		C242			.44	2.50			.204	.171	37.4
243	1243		C243			.50	2.75			.224	.180	34.1
244	1244		C244			.56	3.25			.265	.199	28.8
245	1245		C245			.62	3.75			.306	.218	24.9
246	1246		C246			.69	4.25			.346	.237	22.1
247	1247		C247			.75	4.50			.367	.247	20.8
248	1248		C248		.038	.81	5.00	.0815	7.631	.407	.266	18.7
249	1249		C249			.88	5.50			.448	.285	17.0
250	1250		C250			.94	6.00			.489	.304	15.6
251	1251		C251			1.00	6.25			.509	.313	15.0
252	1252		C252			1.12	7.25			.591	.351	12.9
253	1253		C253			1.25	8.00			.652	.380	11.7
254	1254		C254			1.38	9.00			.733	.418	10.4
255	1255		C255			1.50	9.75			.795	.446	9.6
256	1256		C256			.44	2.50			.172	.189	58.1
257	1257		C257			.50	3.00			.207	.210	48.3
258	1258		C258			.56	3.50			.242	.231	41.3
259	1259		C259			.62	3.75			.259	.241	38.6
260	1260		C260			.69	4.25			.294	.262	34.0
261	1261		C261			.75	4.75			.328	.283	30.5
262	1262		C262		.042	.81	5.25	.0691	10.00	.363	.304	27.5
263	1263		C263	.360		.88	5.75			.397	.325	25.2
264	1264		C264			.94	6.25			.432	.346	23.1
265	1265		C265			1.00	6.75			.466	.367	21.5
266	1266		C266			1.12	7.75			.535	.409	18.7
267	1267		C267			1.25	8.50			.587	.441	17.0
268	1268		C268			1.38	9.25			.639	.472	15.6
269	1269		C269			1.50	10.00			.691	.504	14.5
270	1270	2270	C270			.44	2.50			.153	.202	79.0
271	1271	2271	C271			.50	3.00			.184	.225	65.7
272	1272	2272	C272			.56	3.50			.215	.247	56.2
273	1273	2273	C273			.62	4.00			.246	.270	49.1
274	1274	2274	C274			.69	4.50			.276	.292	43.8
275	1275	2275	C275			.75	5.00			.307	.315	39.4
276	1276	2276	C276		.045	.81	5.50	.0614	12.09	.338	.337	35.8
277	1277	2277	C277			.88	6.00			.368	.360	32.8
278	1278	2278	C278			.94	6.50			.399	.382	30.3
279	1279	2279	C279			1.00	7.00			.430	.405	28.1
280	1280	2280	C280			1.12	8.00			.491	.450	24.6
281	1281	2281	C281			1.25	9.00			.552	.495	21.9
282	1282	2282	C282			1.38	10.00			.614	.540	19.7
283	1283	2283	C283			1.50	11.00			.675	.585	17.9
284	1284	2284	C284			.62	2.50			.344	.171	17.9
285	1285	2285	C285			.69	2.75			.379	.180	16.3
286	1286	2286	C286	.450	.038	.75	3.00	.1378	6.167	.413	.190	14.9
287	1287	2287	C287			.81	3.25			.448	.199	13.8
288	1288	2288	C288			.88	3.50			.482	.209	12.8

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued																
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/				
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.				
Dash No.	Dash No.	Dash No.	Dash No.													
289	1289	2289	C289		.038	.94	3.75	.1378	6.167	.517	.218	11.9				
290	1290	2290	C290			1.00	4.00			.551	.228	11.2				
291	1291	2291	C291			1.12	4.75			.654	.256	9.4				
292	1292	2292	C292			1.25	5.25			.723	.275	8.5				
293	1293	2293	C293			1.38	5.75			.792	.294	7.8				
294	1294	2294	C294			1.50	6.50			.896	.323	6.9				
295	1295		C295			.62	2.50			.296	.189	27.5				
296	1296		C296			.69	3.00			.354	.210	23.0				
297	1297		C297			.75	3.25			.384	.220	21.2				
298	1298		C298			.81	3.50			.414	.231	19.6				
299	1299		C299		.042	.88	4.00	.1183	8.136	.473	.252	17.2				
300	1300		C300			.94	4.25			.503	.262	16.2				
301	1301		C301			1.00	4.50			.532	.273	15.3				
302	1302		C302			1.12	5.00			.591	.294	13.7				
303	1303		C303			1.25	5.75			.680	.325	12.0				
304	1304		C304			1.38	6.50			.769	.357	10.6				
305	1305		C305			1.50	7.25			.858	.388	9.5				
306	1306	2306	C306			.56	2.50			.264	.202	37.1				
307	1307	2307	C307			.450	.045			.62	2.75	.1057	9.785	.291	.214	33.6
308	1308	2308	C308							.69	3.25			.343	.236	28.5
309	1309	2309	C309	.75	3.50			.370	.247	26.4						
310	1310	2310	C310	.81	3.75			.396	.259	24.7						
311	1311	2311	C311	.88	4.25			.449	.281	21.7						
312	1312	2312	C312	.94	4.50			.476	.292	20.5						
313	1313	2313	C313	1.00	4.75			.502	.304	19.5						
314	1314	2314	C314	1.12	5.50			.581	.337	16.8						
315	1315	2315	C315	1.25	6.00			.634	.360	15.4						
316	1316	2316	C316	1.38	6.75			.713	.394	13.7						
317	1317	2317	C317		.055	1.50	7.50	.0764	17.02	.793	.427	12.3				
318	1318		C318			.50	2.50			.191	.247	89.1				
319	1319		C319			.56	2.75			.210	.261	81.0				
320	1320		C320			.62	3.25			.248	.289	68.6				
321	1321		C321			.69	3.75			.286	.316	59.5				
322	1322		C322			.75	4.00			.306	.330	55.6				
323	1323		C323			.81	4.25			.325	.344	52.4				
324	1324		C324			.88	4.75			.363	.371	46.9				
325	1325		C325			.94	5.25			.401	.399	42.4				
326	1326		C326			1.00	5.75			.439	.426	38.8				
327	1327		C327		.038	1.12	6.50	.1757	5.575	.497	.467	34.2				
328	1328		C328			1.25	7.25			.554	.509	30.7				
329	1329		C329			1.38	8.00			.611	.550	27.8				
330	1330		C330			1.50	8.75			.668	.591	25.5				
331	1331		C331			.500				.62	2.00	.351	.152	15.9		
332	1332		C332							.69	2.25	.395	.161	14.1		
333	1333		C333							.75	2.50	.439	.171	12.7		
334	1334		C334							.81	2.75	.483	.180	11.5		
335	1335		C335							.88	3.00	.527	.190	10.6		
336	1336		C336							.94	3.25	.571	.199	9.8		

2/ - See Note (2). 5/ - See Note (5).

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TABLE II – Continued												
Steel				O.D.	d	L	N	f	P 2/	F	H	R 5/
Uncoated	Cadmium Plated	Zinc Coated	Corrosion Resisting	Outside Dia.	Wire Dia.	Free Length	Active Coils	Defl. Per Coil	Load Lb	Defl.	Solid Length Max.	Spring Rate Lb/in.
Dash No.	Dash No.	Dash No.	Dash No.									
337	1337		C337	.038		1.00	3.50			.614	.209	9.1
338	1338		C338			1.12	3.75			.659	.218	8.5
339	1339		C339			1.25	4.25	.1757	5.575	.747	.237	7.5
340	1340		C340			1.38	4.75			.834	.256	6.7
341	1341		C341			1.50	5.25			.922	.275	6.0
342	1342		C342			.56	2.00			.302	.168	24.3
343	1343		C343	.042		.62	2.25			.340	.178	21.6
344	1344		C344			.69	2.50			.378	.189	19.4
345	1345		C345			.75	2.75			.416	.199	17.6
346	1346		C346			.81	3.00			.454	.210	16.1
347	1347		C347			.88	3.25	.1513	7.336	.492	.220	14.9
348	1348		C348			.94	3.50			.529	.231	13.9
349	1349		C349	.500		1.00	3.75			.567	.241	12.9
350	1350		C350			1.12	4.25			.643	.262	11.4
351	1351		C351			1.25	4.75			.719	.283	10.2
352	1352		C352			1.38	5.25			.794	.304	9.2
353	1353		C353			1.50	5.75			.870	.325	8.4
354	1354	2354	C354			.56	2.00			.271	.180	32.7
355	1355	2355	C355	.045		.62	2.25			.305	.191	29.1
356	1356	2356	C356			.69	2.50			.339	.202	26.2
357	1357	2357	C357			.75	2.75			.373	.214	23.8
358	1358	2358	C358			.81	3.00			.407	.225	21.8
359	1359	2339	C359			.88	3.50	.1358	8.870	.475	.247	18.7
360	1360	2360	C360			.94	3.75			.509	.259	17.4
361	1361	2361	C361	.055		1.00	4.00			.543	.270	16.3
362	1362	2362	C362			1.12	4.50			.611	.292	14.5
363	1363	2363	C363			1.25	5.00			.679	.315	13.1
364	1364	2364	C364			1.38	5.50			.747	.337	11.9
365	1365	2365	C365			1.50	6.00			.815	.360	10.9
366	1366		C366			.50	2.00			.198	.220	77.9
367	1367		C367	.0990		.56	2.25			.223	.234	69.1
368	1368		C368			.62	2.75			.272	.261	56.7
369	1369		C369			.69	3.00			.297	.275	51.9
370	1370		C370			.75	3.25			.322	.289	47.9
371	1371		C371			.81	3.75			.371	.316	41.6
372	1372		C372			.88	4.00			.396	.330	38.9
373	1373		C373	.2174		.94	4.50			.445	.357	34.6
374	1374		C374			1.00	4.75			.470	.371	32.8
375	1375		C375			1.12	5.25			.520	.399	29.6
376	1376		C376			1.25	6.00			.594	.440	25.9
377	1377		C377			1.38	6.50			.643	.467	24.0
378	1378		C378			1.50	7.25			.718	.509	21.5
379	1379	2379	C379	.550		.75	2.00			.435	.152	11.6
380	1380	2380	C380		.038	.81	2.30			.500	.163	10.1
381	1381	2381	C381			.88	2.50	.2174	5.043	.543	.171	9.3
382	1382	2382	C382			.94	2.70			.587	.179	8.6
383	1383	2383	C383			1.00	2.90			.630	.186	8.0
384	1384	2384	C384			1.12	3.30			.717	.201	7.0

2/ - See Note (2). 5/ - See Note (5).