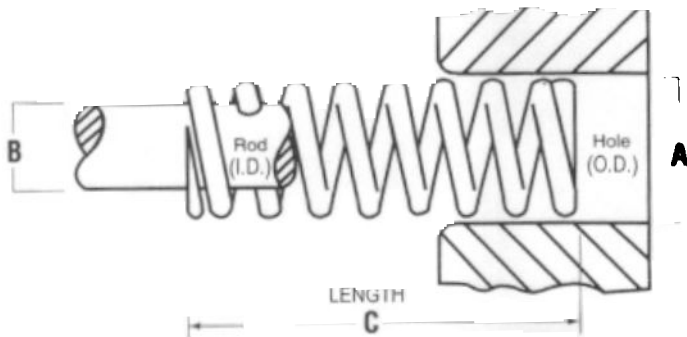


# RAYMOND DIE AND MOLD SPRINGS

# EXTRA HEAVY DUTY GREEN

| EXTRA HEAVY DUTY GREEN |                         |            |        | RATE       | MAX. RATE * |
|------------------------|-------------------------|------------|--------|------------|-------------|
| HOLE DIA.              | ROD DIA.                | FREE       | PART   | LBS. / IN. | POUNDS AT   |
| O.D. (A)               | I.D. (B)                | LENGTH (C) | NUMBER | 1/10 IN.   | 25% DEF.    |
| <b>3/8</b><br>9.53 mm  | <b>3/16</b><br>4.76 mm  | 1          | 16104  | 22.0       | 55.0        |
|                        |                         | 1-1/4      | 16105  | 16.0       | 50.0        |
|                        |                         | 1-1/2      | 16106  | 12.5       | 46.9        |
|                        |                         | 1-3/4      | 16107  | 11.5       | 50.3        |
|                        |                         | 2          | 16108  | 9.0        | 45.0        |
|                        |                         | 2-1/2      | 16110  | 7.0        | 43.8        |
|                        |                         | 3          | 16112  | 6.5        | 48.8        |
|                        |                         | 12         | 16148  | 1.5        | 45.0        |
| WIRE<br>.059 x .080    |                         |            |        |            |             |
| <b>1/2</b><br>12.70 mm | <b>9/32</b><br>7.14 mm  | 1          | 16204  | 32.0       | 80.0        |
|                        |                         | 1-1/4      | 16205  | 24.0       | 75.0        |
|                        |                         | 1-1/2      | 16206  | 20.0       | 75.0        |
|                        |                         | 1-3/4      | 16207  | 17.0       | 74.4        |
|                        |                         | 2          | 16208  | 14.0       | 70.0        |
|                        |                         | 2-1/2      | 16210  | 11.5       | 71.9        |
|                        |                         | 3          | 16212  | 9.0        | 67.5        |
|                        |                         | 3-1/2      | 16214  | 8.0        | 70.0        |
| 12                     | 16248                   | 2.5        | 75.0   |            |             |
| WIRE<br>.084 x .097    |                         |            |        |            |             |
| <b>5/8</b><br>15.88 mm | <b>11/32</b><br>8.73 mm | 1          | 16304  | 63.0       | 157.5       |
|                        |                         | 1-1/4      | 16305  | 47.0       | 146.9       |
|                        |                         | 1-1/2      | 16306  | 38.0       | 142.5       |
|                        |                         | 1-3/4      | 16307  | 32.0       | 140.0       |
|                        |                         | 2          | 16308  | 29.0       | 145.0       |
|                        |                         | 2-1/2      | 16310  | 22.0       | 137.5       |
|                        |                         | 3          | 16312  | 19.0       | 142.5       |
|                        |                         | 3-1/2      | 16314  | 16.0       | 140.0       |
| 4                      | 16316                   | 13.5       | 135.0  |            |             |
| 12                     | 16348                   | 4.5        | 135.0  |            |             |
| WIRE<br>.110 x .126    |                         |            |        |            |             |
| <b>3/4</b><br>19.05 mm | <b>3/8</b><br>9.53 mm   | 1          | 16404  | 140.0      | 350.0       |
|                        |                         | 1-1/4      | 16405  | 110.0      | 343.8       |
|                        |                         | 1-1/2      | 16406  | 89.0       | 333.8       |
|                        |                         | 1-3/4      | 16407  | 75.0       | 328.1       |
|                        |                         | 2          | 16408  | 68.0       | 340.0       |
|                        |                         | 2-1/2      | 16410  | 50.0       | 312.5       |
|                        |                         | 3          | 16412  | 40.5       | 303.8       |
|                        |                         | 3-1/2      | 16414  | 34.5       | 301.9       |
|                        |                         | 4          | 16416  | 30.0       | 300.0       |
|                        |                         | 4-1/2      | 16418  | 26.5       | 298.1       |
|                        |                         | 5          | 16420  | 23.5       | 293.8       |
|                        |                         | 5-1/2      | 16422  | 21.5       | 295.6       |
| 6                      | 16424                   | 19.5       | 292.5  |            |             |
| 12                     | 16448                   | 9.5        | 285.0  |            |             |
| WIRE<br>.135 x .165    |                         |            |        |            |             |

| EXTRA HEAVY DUTY GREEN   |                        |                          |                        | RATE       | MAX. RATE * |       |       |
|--------------------------|------------------------|--------------------------|------------------------|------------|-------------|-------|-------|
| HOLE DIA.                | ROD DIA.               | FREE                     | PART                   | LBS. / IN. | POUNDS AT   |       |       |
| O.D. (A)                 | I.D. (B)               | LENGTH (C)               | NUMBER                 | 1/10 IN.   | 25% DEF.    |       |       |
| <b>1</b><br>25.4 mm      | <b>1/2</b><br>12.70 mm | 1-1/2                    | 16506                  | 160.0      | 600.0       |       |       |
|                          |                        | 2                        | 16508                  | 116.0      | 580.0       |       |       |
|                          |                        | 2-1/2                    | 16510                  | 89.6       | 560.0       |       |       |
|                          |                        | 3                        | 16512                  | 73.6       | 552.0       |       |       |
|                          |                        | 3-1/2                    | 16514                  | 62.4       | 546.0       |       |       |
|                          |                        | 4                        | 16516                  | 55.2       | 552.0       |       |       |
|                          |                        | 4-1/2                    | 16518                  | 48.8       | 549.0       |       |       |
|                          |                        | 5                        | 16520                  | 43.2       | 540.0       |       |       |
|                          |                        | 6                        | 16524                  | 36.0       | 540.0       |       |       |
|                          |                        | 12                       | 16548                  | 17.6       | 528.0       |       |       |
|                          |                        | WIRE<br>.188 x .225      |                        |            |             |       |       |
|                          |                        | <b>1-1/4</b><br>31.75 mm | <b>5/8</b><br>15.88 mm | 2          | 16608       | 192.0 | 960.0 |
| 2-1/2                    | 16610                  |                          |                        | 144.0      | 900.0       |       |       |
| 3                        | 16612                  |                          |                        | 118.4      | 888.0       |       |       |
| 3-1/2                    | 16614                  |                          |                        | 100.8      | 882.0       |       |       |
| 4                        | 16616                  |                          |                        | 84.0       | 840.0       |       |       |
| 4-1/2                    | 16618                  |                          |                        | 78.4       | 882.0       |       |       |
| 5                        | 16620                  |                          |                        | 68.0       | 850.0       |       |       |
| 6                        | 16624                  |                          |                        | 56.0       | 840.0       |       |       |
| 8                        | 16632                  |                          |                        | 41.6       | 832.0       |       |       |
| 10                       | 16640                  |                          |                        | 33.6       | 840.0       |       |       |
| 12                       | 16648                  |                          |                        | 26.4       | 792.0       |       |       |
| WIRE<br>.225 x .295      |                        |                          |                        |            |             |       |       |
| <b>1-1/2</b><br>38.10 mm | <b>3/4</b><br>19.05 mm | 2                        | 16708                  | 376.0      | 1880.0      |       |       |
|                          |                        | 2-1/2                    | 16710                  | 294.4      | 1840.0      |       |       |
|                          |                        | 3                        | 16712                  | 231.2      | 1734.0      |       |       |
|                          |                        | 3-1/2                    | 16714                  | 196.0      | 1715.0      |       |       |
|                          |                        | 4                        | 16716                  | 171.2      | 1712.0      |       |       |
|                          |                        | 4-1/2                    | 16718                  | 148.0      | 1665.0      |       |       |
|                          |                        | 5                        | 16720                  | 136.0      | 1700.0      |       |       |
|                          |                        | 6                        | 16724                  | 110.4      | 1656.0      |       |       |
|                          |                        | 8                        | 16732                  | 80.8       | 1616.0      |       |       |
|                          |                        | 10                       | 16740                  | 67.2       | 1680.0      |       |       |
|                          |                        | 12                       | 16748                  | 54.4       | 1632.0      |       |       |
|                          |                        | WIRE<br>.300 x .350      |                        |            |             |       |       |
| <b>2</b><br>50.80 mm     | <b>1</b><br>25.40 mm   | 2-1/2                    | 16810                  | 381.6      | 2385.0      |       |       |
|                          |                        | 3                        | 16812                  | 312.0      | 2340.0      |       |       |
|                          |                        | 3-1/2                    | 16814                  | 254.4      | 2226.0      |       |       |
|                          |                        | 4                        | 16816                  | 220.0      | 2200.0      |       |       |
|                          |                        | 4-1/2                    | 16818                  | 188.8      | 2124.0      |       |       |
|                          |                        | 5                        | 16820                  | 172.8      | 2160.0      |       |       |
|                          |                        | 6                        | 16824                  | 141.6      | 2124.0      |       |       |
|                          |                        | 8                        | 16832                  | 100.0      | 2000.0      |       |       |
|                          |                        | 10                       | 16840                  | 84.0       | 2100.0      |       |       |
|                          |                        | 12                       | 16848                  | 71.2       | 2136.0      |       |       |
|                          |                        | WIRE<br>.365 x .460      |                        |            |             |       |       |



### Load Deflection

15% of free length for Optimum Life

17% of free length for Long Life

20% of Free length Maximum Operating Deflection

\* 25% of free length Maximum Deflection

Colors BLUE, RED, GOLD, GREEN are a registered trademark of Barnes Group, Inc.  
Made from Chrome Silicone Steel.(Temperature range of up to 400° F;

\* Tabulated load values shown represent loads near solid and are for design information only