

# Runde Schraubenfedern

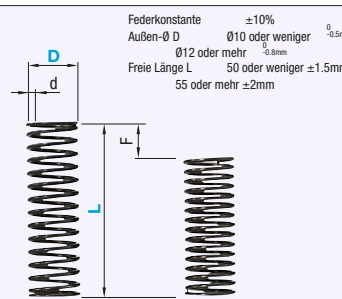
## WH, WB: Außen-Ø Referenzausführung



Ordering  
Example

Teilenummer  
**WH13-60**

WH  
WB



RoHS

Federkonstante  
Außen-Ø D  
Freie Länge L  
Federkonstante  
±10%  
Ø10 oder weniger  
±1.5mm  
55 oder mehr ±2mm  
Werkstoff JIS-SWP-A

■ Federkonstante

⚠ D12 und 14 für Ausführung WY und D12, 14 und 20 für Ausführung WT nicht möglich.

| Ausführung | WY                                | WR                                | WF                                | WL                               | WT                               | WM                               | WH                                | WB                                |
|------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|
| 2          |                                   |                                   |                                   | 0.5(0.05)                        |                                  |                                  |                                   |                                   |
| 3          |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 4          |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 5          | N/mm<br>0.1<br>{kgf/mm}<br>{0.01} |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 6          |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 8          |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 10         | N/mm<br>0.2<br>{kgf/mm}<br>{0.02} | N/mm<br>0.3<br>{kgf/mm}<br>{0.03} | N/mm<br>0.5<br>{kgf/mm}<br>{0.05} | N/mm<br>1.0<br>{kgf/mm}<br>{0.1} | N/mm<br>2.0<br>{kgf/mm}<br>{0.2} | N/mm<br>2.9<br>{kgf/mm}<br>{0.3} | N/mm<br>5.9<br>{kgf/mm}<br>{0.6}  | N/mm<br>9.8<br>{kgf/mm}<br>{1.0}  |
| 12         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 13         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 14         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 16         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 18         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 20         |                                   | N/mm<br>0.5<br>{kgf/mm}<br>{0.05} | N/mm<br>1.0<br>{kgf/mm}<br>{0.1}  | N/mm<br>3.9<br>{kgf/mm}<br>{0.3} | N/mm<br>4.9<br>{kgf/mm}<br>{0.4} | N/mm<br>4.9<br>{kgf/mm}<br>{0.5} | N/mm<br>14.7<br>{kgf/mm}<br>{1.5} | N/mm<br>19.6<br>{kgf/mm}<br>{2.0} |
| 22         |                                   |                                   |                                   |                                  |                                  |                                  |                                   |                                   |
| 27         |                                   |                                   |                                   |                                  |                                  |                                  |                                   | N/mm<br>28.4(4.9)<br>{mm}{3.0}    |
| Fmax.      | F = L x 75%                       | F = Lx60%                         | F = L x 45%                       | F = Lx40%                        | F = Lx40%                        | F = L x 35%                      | F = L x 30%                       | F = L x 25%                       |

### ■ WH:Fmax. (Zulässige Auslenkung)=Lx30%

| d    | Feste Länge | F max. | Max. Last N {kgf} | Teilenummer Ausführung D-L | Stückpreis 10 - 19 Stk. |
|------|-------------|--------|-------------------|----------------------------|-------------------------|
| 0.45 | 2.7         | 1.5    | 4.9(0.5)          | WH4- 5*                    |                         |
| 0.45 | 2.7         | 3      | 8.8(0.9)          | 10*                        |                         |
| 0.55 | 5.8         | 4.5    | 13.7(1.4)         | 15                         |                         |
| 0.6  | 8.4         | 6      | 17.7(1.8)         | 20                         |                         |
| 0.65 | 12.4        | 7.5    | 22.6(2.3)         | 25                         |                         |
| 0.65 | 12.4        | 9      | 26.5(2.7)         | 30                         |                         |
| 0.6  | 3.3         | 1.5    | 8.8(0.9)          | WH5- 5*                    |                         |
| 0.7  | 5.5         | 3      | 17.7(1.8)         | 10                         |                         |
| 0.75 | 7.5         | 4.5    | 26.5(2.7)         | 15                         |                         |
| 0.75 | 7.5         | 6      | 35.3(3.6)         | 20                         |                         |
| 0.85 | 13.6        | 7.5    | 44.1(4.5)         | 25                         |                         |
| 0.85 | 13.6        | 7.5    | 44.3(4.5)         | (30)                       |                         |
| 0.9  | 17.1        | 8.8    | 51.6(5.3)         | (35)                       |                         |
| 0.9  | 17.1        | 8.8    | 51.9(5.3)         | (40)                       |                         |
| 0.65 | 3.3         | 1.5    | 8.8(0.9)          | WH6- 5*                    |                         |
| 0.75 | 5.2         | 3      | 17.7(1.8)         | 10                         |                         |
| 0.8  | 6.4         | 4.5    | 26.5(2.7)         | 15                         |                         |
| 0.9  | 9.9         | 6      | 35.3(3.6)         | 20                         |                         |
| 0.9  | 9.9         | 7.5    | 44.1(4.5)         | 25                         |                         |
| 1.0  | 16          | 9      | 53.0(5.4)         | 30                         |                         |
| 1.0  | 16          | 10.5   | 61.8(6.3)         | 35                         |                         |
| 1.1  | 25          | 12     | 70.6(7.2)         | 40                         |                         |
| 1.1  | 25          | 11.3   | 66.7(6.8)         | (45)                       |                         |
| 1.2  | 39.6        | 10     | 58.8(6.0)         | (50)                       |                         |
| 1.2  | 39.6        | 14.5   | 85.3(8.7)         | (55)                       |                         |
| 1.2  | 39.6        | 14     | 82.4(8.4)         | (60)                       |                         |
| 1.2  | 39.6        | 14     | 82.4(8.4)         | (65)                       |                         |
| 1.2  | 39.6        | 15     | 88.3(9.0)         | (70)                       |                         |
| 0.9  | 5.4         | 3      | 17.7(1.8)         | WH8- 10                    |                         |
| 1.0  | 8           | 4.5    | 26.5(2.7)         | 15                         |                         |
| 1.1  | 11.5        | 6      | 35.3(3.6)         | 20                         |                         |
| 1.1  | 11.5        | 7.5    | 44.1(4.5)         | 25                         |                         |
| 1.2  | 16.8        | 9      | 53.0(5.4)         | 30                         |                         |
| 1.2  | 16.8        | 10.5   | 61.8(6.3)         | 35                         |                         |
| 1.2  | 16.8        | 12     | 70.6(7.2)         | 40                         |                         |
| 1.3  | 24.7        | 13.5   | 79.4(8.1)         | 45                         |                         |
| 1.3  | 24.7        | 15     | 88.3(9.0)         | 50                         |                         |
| 1.4  | 35          | 16.5   | 97.1(9.9)         | 55                         |                         |
| 1.4  | 35          | 18     | 105.9(10.8)       | 60                         |                         |
| 1.4  | 35          | 17     | 100.0(10.2)       | (65)                       |                         |
| 1.4  | 35          | 19     | 111.8(11.4)       | (70)                       |                         |
| 1.0  | 5.4         | 3      | 17.7(1.8)         | WH10- 10                   |                         |
| 1.1  | 7           | 4.5    | 26.5(2.7)         | 15                         |                         |
| 1.2  | 9.6         | 6      | 35.3(3.6)         | 20                         |                         |
| 1.2  | 9.6         | 7.5    | 44.1(4.5)         | 25                         |                         |
| 1.3  | 13.9        | 9      | 53.0(5.4)         | 30                         |                         |
| 1.4  | 18          | 10.5   | 61.8(6.3)         | 35                         |                         |
| 1.4  | 18          | 12     | 70.6(7.2)         | 40                         |                         |
| 1.5  | 25          | 13.5   | 79.4(8.1)         | 45                         |                         |
| 1.5  | 25          | 15     | 88.3(9.0)         | 50                         |                         |
| 1.5  | 25          | 16.5   | 97.1(9.9)         | 55                         |                         |
| 1.5  | 25          | 18     | 105.9(10.8)       | 60                         |                         |
| 1.6  | 35          | 19.5   | 114.7(11.7)       | 65                         |                         |
| 1.6  | 35          | 21     | 123.6(12.6)       | 70                         |                         |
| 1.7  | 45.9        | 24     | 141.0(14.4)       | 80                         |                         |

• Methode der Traglastberechnung = Federkonstante x Auslenkung  
(Intern. Einheit) N=N/mmxFmm  
kgf = kgf/mm x Fmm  
(kgf = N x 0.101972)  
⚠ Die Werte für feste Länge sind nur Referenzwerte.  
Je nach Charge können diese leicht variieren.  
⚠ Gebrauchshäufigkeit: 1 Million Mal  
⚠ Artikelübersicht **S.327**  
⚠ Verwendung von Schraubenfedern und Vorsichtsmaßnahmen **S.328**

| d   | Feste Länge | F max. | Max. Last N {kgf} | Teilenummer Ausführung D-L | Stückpreis 10 - 19 Stk. |
|-----|-------------|--------|-------------------|----------------------------|-------------------------|
| 1.2 | 6.9         | 3      | 17.7(1.8)         | WH12-10                    |                         |
| 1.3 | 9.1         | 4.5    | 26.5(2.7)         | 15                         |                         |
| 1.3 | 9.1         | 6      | 35.3(3.6)         | 20                         |                         |
| 1.3 | 9.1         | 7.5    | 44.1(4.5)         | 25                         |                         |
| 1.4 | 11.9        | 9      | 53.0(5.4)         | 30                         |                         |
| 1.4 | 11.9        | 10.5   | 61.8(6.3)         | 35                         |                         |
| 1.5 | 15.4        | 12     | 70.6(7.2)         | 40                         |                         |
| 1.5 | 15.4        | 13.5   | 79.4(8.1)         | 45                         |                         |
| 1.6 | 20.4        | 15     | 88.3(9.0)         | 50                         |                         |
| 1.6 | 20.4        | 16.5   | 97.1(9.9)         | 55                         |                         |
| 1.7 | 26.8        | 18     | 105.9(10.8)       | 60                         |                         |
| 1.7 | 26.8        | 19.5   | 114.7(11.7)       | 65                         |                         |
| 1.8 | 35.1        | 21     | 123.6(12.6)       | 70                         |                         |
| 1.9 | 45.6        | 24     | 141.0(14.4)       | 80                         |                         |
| 1.3 | 6.2         | 3      | 29.4(3.0)         | WH13-10                    |                         |
| 1.5 | 9.3         | 4.5    | 44.1(4.5)         | 15                         |                         |
| 1.6 | 12.3        | 6      | 58.8(6.0)         | 20                         |                         |
| 1.6 | 12.3        | 7.5    | 73.5(7.5)         | 25                         |                         |
| 1.7 | 15          | 9      | 88.3(9.0)         | 30                         |                         |
| 1.7 | 15          | 10.5   | 103.0(10.5)       | 35                         |                         |
| 1.8 | 19          | 12     | 117.7(12.0)       | 40                         |                         |
| 1.9 | 25          | 13.5   | 132.4(13.5)       | 45                         |                         |
| 1.9 | 25          | 15     | 147.1(15.0)       | 50                         |                         |
| 2.0 | 30          | 16.5   | 161.8(16.5)       | 55                         |                         |
| 2.0 | 30          | 18     | 176.5(18.0)       | 60                         |                         |
| 2.1 | 39          | 19.5   | 191.2(19.5)       | 65                         |                         |
| 2.1 | 39          | 21     | 205.9(21.0)       | 70                         |                         |
| 2.1 | 39          | 24     | 235.4(24.0)       | 80                         |                         |
| 1.6 | 10.4        | 4.5    | 44.1(4.5)         | WH14-15                    |                         |
| 1.6 | 10.4        | 6      | 58.8(6.0)         | 20                         |                         |
| 1.6 | 10.4        | 7.5    | 73.5(7.5)         | 25                         |                         |
| 1.7 | 12.8        | 9      | 88.3(9.0)         | 30                         |                         |
| 1.7 | 12.8        | 10.5   | 103.0(10.5)       | 35                         |                         |
| 1.9 | 20          | 12     | 117.7(12.0)       | 40                         |                         |
| 1.9 | 20          | 13.5   | 132.4(13.5)       | 45                         |                         |
| 2.1 | 30.5        | 15     | 147.1(15.0)       | 50                         |                         |
| 2.1 | 30.5        | 16.5   | 161.8(16.5)       | 55                         |                         |
| 2.1 | 30.5        | 18     | 176.5(18.0)       | 60                         |                         |
| 2.2 | 37.4        | 19.5   | 191.2(19.5)       | 65                         |                         |
| 2.2 | 37.4        | 21     | 205.9(21.0)       | 70                         |                         |
| 2.3 | 47.2        | 24     | 235.4(24.0)       | 80                         |                         |
| 1.7 | 10.2        | 4.5    | 44.1(4.5)         | WH16-15                    |                         |
| 1.8 | 12.6        | 6      | 58.8(6.0)         | 20                         |                         |
| 1.9 | 14.5        | 7.5    | 73.5(7.5)         | 25                         |                         |
| 1.9 | 14.5        | 9      | 88.3(9.0)         | 30                         |                         |
| 2.0 | 18          | 10.5   | 103.0(10.5)       | 35                         |                         |
| 2.1 | 21          | 12     | 117.7(12.0)       | 40                         |                         |
| 2.2 | 26          | 13.5   | 132.4(13.5)       | 45                         |                         |
| 2.2 | 26          | 15     | 147.1(15.0)       | 50                         |                         |
| 2.2 | 26          | 16.5   | 161.8(16.5)       | 55                         |                         |
| 2.3 | 32          | 18     | 176.5(18.0)       | 60                         |                         |
| 2.3 | 32          | 19.5   | 191.2(19.5)       | 65                         |                         |
| 2.4 | 38          | 21     | 205.9(21.0)       | 70                         |                         |
| 2.5 | 47.5        | 24     | 235.4(24.0)       | 80                         |                         |

⚠ Zulässige Auslenkung von Maß L  
WH5-30Fmax.=Lx25%  
WH5-35Fmax.=Lx25%  
WH5-40Fmax.=Lx22%  
WH6-45Fmax.=Lx25%  
WH6-50Fmax.=Lx20%  
WH6-55Fmax.=Lx26%  
WH6-60Fmax.=Lx23%  
WH6-65Fmax.=Lx21%  
WH8-65Fmax.=Lx26%  
WH8-70Fmax.=Lx21%  
WH8-75Fmax.=Lx25%  
WH8-80Fmax.=Lx21%  
WH8-85Fmax.=Lx26%

| d   | Feste Länge | F max. | Max. Last N {kgf} | Teilenummer Ausführung D-L | Stückpreis 10 - 19 Stk. |
|-----|-------------|--------|-------------------|----------------------------|-------------------------|
| 2.1 | 12.6        | 6      | 88.3(9.0)         | WH18- 20                   |                         |
| 2.2 | 15.4        | 7.5    | 109.8(11.2)       | 25                         |                         |
| 2.2 | 15.4        | 9      | 132.4(13.5)       | 30                         |                         |
| 2.3 | 18.4        | 10.5   | 154.0(15.7)       | 35                         |                         |
| 2.4 | 21.6        | 12     | 176.5(18.0)       | 40                         |                         |
| 2.5 | 25          | 13.5   | 199.1(20.3)       | 45                         |                         |
| 2.5 | 25          | 15     | 220.6(22.5)       | 50                         |                         |
| 2.6 | 30          | 16.5   | 242.2(24.7)       | 55                         |                         |
| 2.6 | 30          | 18     | 264.8(27.0)       | 60                         |                         |
| 2.8 | 42          | 19.5   | 286.4(29.2)       | 65                         |                         |
| 2.8 | 42          | 21     | 308.9(31.5)       | 70                         |                         |
| 2.9 | 49.3        | 24     | 353.0(36.0)       | 80                         |                         |
| 3.0 | 57          | 26.1   | 397.2(40.5)       | (90)                       |                         |
| 3.0 | 57          | 24     | 441.3(45.0)       | (100)                      |                         |
| 2.2 | 12.7        | 6      | 88.3(9.0)         | WH20- 20                   |                         |
| 2.3 | 15          | 7.5    | 109.8(11.2)       | 25                         |                         |
| 2.3 | 15          | 9      | 132.4(13.5)       | 30                         |                         |
| 2.5 | 20          | 10.5   | 154.0(15.7)       | 35                         |                         |
| 2.5 | 20          | 12     | 176.5(18.0)       | 40                         |                         |
| 2.5 | 20          | 13.5   | 199.1(20.3)       | 45                         |                         |
| 2.6 | 22.8        | 15     | 220.6(22.5)       | 50                         |                         |
| 2.6 | 22.8        | 16.5   | 242.2(24.7)       | 55                         |                         |
| 2.8 | 30.8        | 18     | 264.8(27.0)       | 60                         |                         |
| 2.8 | 30.8        | 19.5   | 286.4(29.2)       | 65                         |                         |
| 3.0 | 42          | 21     | 308.9(31.5)       | 70                         |                         |
| 3.0 | 42          | 24     | 353.0(36.0)       | 80                         |                         |
| 3.2 | 56.8        | 27     | 397.2(40.5)       | 90                         |                         |
| 3.2 | 56.8        | 30     | 441.3(45.0)       | 100                        |                         |
| 2.3 | 12.7        | 6      | 88.3(9.0)         | WH22- 20                   |                         |
| 2.5 | 16.7        | 7.5    | 109.8(11.2)       | 25                         |                         |
| 2.5 | 16.7        | 9      | 132.4(13.5)       | 30                         |                         |
| 2.6 | 18.2        | 10.5   | 154.0(15.7)       | 35                         |                         |
| 2.8 | 25          | 12     | 176.5(18.0)       | 40                         |                         |
| 2.8 | 25          | 13.5   | 199.1(20.3)       | 45                         |                         |
| 2.8 | 25          | 15     | 220.6(22.5)       | 50                         |                         |
| 3.0 | 33          | 16.5   | 242.2(24.7)       | 55                         |                         |
| 3.0 | 33          | 18     | 264.8(27.0)       | 60                         |                         |
| 3.0 | 33          | 19.5   | 286.4(29.2)       | 65                         |                         |
| 3.2 | 43          | 21     | 308.9(31.5)       | 70                         |                         |
| 3.2 | 43          | 24     | 353.0(36.0)       | 80                         |                         |
| 3.2 | 43          | 26.1   | 397.2(40.5)       | (90)                       |                         |
| 3.5 | 64.4        | 26     | 441.3(45.0)       | (100)                      |                         |
| 2.8 | 16.8        | 9      | 132.4(13.5)       | WH27- 30                   |                         |
| 2.8 | 16.8        | 10.5   | 154.0(15.7)       | 35                         |                         |
| 2.9 | 18.8        | 12     | 176.5(18.0)       | 40                         |                         |
| 2.9 | 19.4        | 13.5   | 199.1(20.3)       | 45                         |                         |
| 3.2 | 25.5        | 15     | 220.6(22.5)       | 50                         |                         |
| 3.2 | 25.5        | 16.5   | 242.2(24.7)       | 55                         |                         |
| 3.5 | 35.5        | 18     | 264.8(27.0)       | 60                         |                         |
| 3.5 | 35.5        | 19.5   | 286.4(29.2)       | 65                         |                         |
| 3.5 | 35.5        | 21     | 308.9(31.5)       | 70                         |                         |
| 3.5 | 35.5        | 24     | 353.0(36.0)       | 80                         |                         |
| 3.5 | 35.5        | 27     | 397.2(40.5)       | 90                         |                         |
| 4.0 | 68          | 30     | 441.3(45.0)       | 100                        |                         |

WH8 -70Fmax. =Lx27%  
WH18-90Fmax. =Lx29%  
WH18-100Fmax. =Lx24%  
WH22-90Fmax. =Lx29%  
WH22-100Fmax. =Lx26%

### ■ WB:Fmax. (Zulässige Auslenkung)=Lx25%

| d    | Feste Länge | F max. | Max. Last N (kg/ft) | Teilenummer Ausführung D-L | Stückpreis 10 - 19 Stk. |
|------|-------------|--------|---------------------|----------------------------|-------------------------|
| 0.4  | 3.2         | 1.3    | 4.9(0.5)            | WB3-                       | 5*                      |
| 0.5  | 6.5         | 2.5    | 9.8(1.0)            |                            | 10*                     |
| 0.55 | 10.5        | 3.8    | 14.7(1.5)           |                            | 15*                     |
| 0.55 | 12.7        | 5      | 19.6(2.0)           |                            | 20*                     |
| 0.6  | 17.4        | 6.3    | 24.5(2.5)           |                            | 25*                     |
| 0.6  | 21.0        | 7.5    | 29.4(3.0)           |                            | 30*                     |
| 0.65 | 24.0        | 8.8    | 34.3(3.5)           |                            | 35*                     |
| 0.65 | 27.0        | 10.0   | 39.2(4.0)           |                            | 40*                     |
| 0.5  | 3           | 1.3    | 5.9(0.6)            | WB4-                       | 5*                      |
| 0.6  | 6           | 2.5    | 12.3(1.3)           |                            | 10                      |
| 0.65 | 9.8         | 3.8    | 18.1(1.9)           |                            | 15                      |
| 0.7  | 12.6        | 5      | 24.5(2.5)           |                            | 20                      |
| 0.75 | 16.5        | 6.3    | 30.4(3.1)           |                            | 25                      |
| 0.75 | 20.3        | 7.5    | 36.8(3.8)           |                            | 30                      |
| 0.8  | 24          | 8.8    | 43.1(4.4)           |                            | 35                      |
| 0.8  | 28          | 10     | 49.0(5.0)           |                            | 40                      |
| 0.8  | 29          | 11.3   | 55.4(5.7)           | 45                         |                         |
| 0.85 | 34          | 12.5   | 61.3(6.3)           | 50                         |                         |
| 0.65 | 3.3         | 1.3    | 12.7(1.3)           | WB5-                       | 5                       |
| 0.7  | 7           | 2.5    | 24.5(2.5)           |                            | 10                      |
| 0.8  | 7           | 3.8    | 37.3(3.8)           |                            | 15                      |
| 0.9  | 13          | 5      | 49.0(5.0)           |                            | 20                      |
| 0.9  | 13          | 6.3    | 61.8(6.3)           |                            | 25                      |
| 1.0  | 21          | 7.5    | 73.5(7.5)           |                            | 30                      |
| 1.0  | 25          | 8.8    | 86.3(8.8)           |                            | 35                      |
| 1.0  | 25          | 10     | 98.1(10.0)          |                            | 40                      |
| 1.1  | 31          | 11.3   | 110.8(11.3)         | 45                         |                         |
| 1.1  | 34          | 12.5   | 122.6(12.5)         | 50                         |                         |
| 1.1  | 39          | 13.8   | 135.3(13.8)         | 55                         |                         |
| 1.1  | 43          | 15     | 147.1(15.0)         | 60                         |                         |
| 1.1  | 46          | 16.3   | 159.8(16.3)         | 65                         |                         |
| 1.2  | 50          | 17.5   | 171.6(17.5)         | 70                         |                         |
| 0.7  | 3.5         | 1.3    | 12.7(1.3)           | WB6-                       | 5                       |
| 0.9  | 7           | 2.5    | 24.5(2.5)           |                            | 10                      |
| 0.9  | 7.5         | 3.8    | 37.3(3.8)           |                            | 15                      |
| 1.0  | 11.5        | 5      | 49.0(5.0)           |                            | 20                      |
| 1.1  | 17.5        | 6.3    | 61.8(6.3)           |                            | 25                      |
| 1.1  | 19.5        | 7.5    | 73.5(7.5)           |                            | 30                      |
| 1.1  | 20          | 8.8    | 86.3(8.8)           |                            | 35                      |
| 1.2  | 28          | 10     | 98.1(10.0)          |                            | 40                      |
| 1.2  | 30          | 11.3   | 110.8(11.3)         | 45                         |                         |
| 1.2  | 32          | 12.5   | 122.6(12.5)         | 50                         |                         |
| 1.2  | 32          | 13.8   | 135.3(13.8)         | 55                         |                         |
| 1.3  | 43          | 15     | 147.1(15.0)         | 60                         |                         |
| 1.3  | 46          | 16.3   | 159.8(16.3)         | 65                         |                         |
| 1.3  | 50          | 17.5   | 171.6(17.5)         | 70                         |                         |
| 1.4  | 57          | 20     | 196.1(20.0)         | 80                         |                         |
| 1.0  | 6           | 2.5    | 24.5(2.5)           | WB8-                       | 10                      |
| 1.2  | 10.8        | 3.8    | 37.3(3.8)           |                            | 15                      |
| 1.2  | 11.5        | 5      | 49.0(5.0)           |                            | 20                      |
| 1.3  | 17          | 6.3    | 61.8(6.3)           |                            | 25                      |
| 1.3  | 17          | 7.5    | 73.5(7.5)           |                            | 30                      |
| 1.4  | 24.5        | 8.8    | 86.3(8.8)           |                            | 35                      |
| 1.4  | 25.2        | 10     | 98.1(10.0)          |                            | 40                      |
| 1.5  | 32          | 11.3   | 110.8(11.3)         |                            | 45                      |
| 1.5  | 33          | 12.5   | 122.6(12.5)         | 50                         |                         |
| 1.5  | 36.5        | 13.8   | 135.3(13.8)         | 55                         |                         |
| 1.5  | 36.5        | 15     | 147.1(15.0)         | 60                         |                         |
| 1.6  | 48          | 16.3   | 159.8(16.3)         | 65                         |                         |
| 1.6  | 48          | 17.5   | 171.6(17.5)         | 70                         |                         |
| 1.6  | 55          | 20     | 196.1(20.0)         | 80                         |                         |