

Table 32. American National Standard Metric Plain Washers
ANSI B18.22M-1981, R1990

| Nominal Washer Size ^a | Washer Series | Inside Diameter, A | | Outside Diameter, B | | Thickness, C | |
|----------------------------------|---------------|--------------------|-------|---------------------|--------------------|--------------|------|
| | | Max | Min | Max | Min | Max | Min |
| 1.6 | Narrow | 2.09 | 1.95 | 4.00 | 3.70 | 0.70 | 0.50 |
| | Regular | 2.09 | 1.95 | 5.00 | 4.70 | 0.70 | 0.50 |
| | Wide | 2.09 | 1.95 | 6.00 | 5.70 | 0.90 | 0.60 |
| 2 | Narrow | 2.64 | 2.50 | 5.00 | 4.70 | 0.90 | 0.60 |
| | Regular | 2.64 | 2.50 | 6.00 | 5.70 | 0.90 | 0.60 |
| | Wide | 2.64 | 2.50 | 8.00 | 7.64 | 0.90 | 0.60 |
| 2.5 | Narrow | 3.14 | 3.00 | 6.00 | 5.70 | 0.90 | 0.60 |
| | Regular | 3.14 | 3.00 | 8.00 | 7.64 | 0.90 | 0.60 |
| | Wide | 3.14 | 3.00 | 10.00 | 9.64 | 1.20 | 0.80 |
| 3 | Narrow | 3.68 | 3.50 | 7.00 | 6.64 | 0.90 | 0.60 |
| | Regular | 3.68 | 3.50 | 10.00 | 9.64 | 1.20 | 0.80 |
| | Wide | 3.68 | 3.50 | 12.00 | 11.57 | 1.40 | 1.00 |
| 3.5 | Narrow | 4.18 | 4.00 | 9.00 | 8.64 | 1.20 | 0.80 |
| | Regular | 4.18 | 4.00 | 10.00 | 9.64 | 1.40 | 1.00 |
| | Wide | 4.18 | 4.00 | 15.00 | 14.57 | 1.75 | 1.20 |
| 4 | Narrow | 4.88 | 4.70 | 10.00 | 9.64 | 1.20 | 0.80 |
| | Regular | 4.88 | 4.70 | 12.00 | 11.57 | 1.40 | 1.00 |
| | Wide | 4.88 | 4.70 | 16.00 | 15.57 | 2.30 | 1.60 |
| 5 | Narrow | 5.78 | 5.50 | 11.00 | 10.57 | 1.40 | 1.00 |
| | Regular | 5.78 | 5.50 | 15.00 | 14.57 | 1.75 | 1.20 |
| | Wide | 5.78 | 5.50 | 20.00 | 19.48 | 2.30 | 1.60 |
| 6 | Narrow | 6.87 | 6.65 | 13.00 | 12.57 | 1.75 | 1.20 |
| | Regular | 6.87 | 6.65 | 18.80 | 18.37 | 1.75 | 1.20 |
| | Wide | 6.87 | 6.65 | 25.40 | 24.88 | 2.30 | 1.60 |
| 8 | Narrow | 9.12 | 8.90 | 18.80 ^b | 18.37 ^b | 2.30 | 1.60 |
| | Regular | 9.12 | 8.90 | 25.40 ^b | 24.48 ^b | 2.30 | 1.60 |
| | Wide | 9.12 | 8.90 | 32.00 | 31.38 | 2.80 | 2.00 |
| 10 | Narrow | 11.12 | 10.85 | 20.00 | 19.48 | 2.30 | 1.60 |
| | Regular | 11.12 | 10.85 | 28.00 | 27.48 | 2.80 | 2.00 |
| | Wide | 11.12 | 10.85 | 39.00 | 38.38 | 3.50 | 2.50 |
| 12 | Narrow | 13.57 | 13.30 | 25.40 | 24.88 | 2.80 | 2.00 |
| | Regular | 13.57 | 13.30 | 34.00 | 33.38 | 3.50 | 2.50 |
| | Wide | 13.57 | 13.30 | 44.00 | 43.38 | 3.50 | 2.50 |
| 14 | Narrow | 15.52 | 15.25 | 28.00 | 27.48 | 2.80 | 2.00 |
| | Regular | 15.52 | 15.25 | 39.00 | 38.38 | 3.50 | 2.50 |
| | Wide | 15.52 | 15.25 | 50.00 | 49.38 | 4.00 | 3.00 |
| 16 | Narrow | 17.52 | 17.25 | 32.00 | 31.38 | 3.50 | 2.50 |
| | Regular | 17.52 | 17.25 | 44.00 | 43.38 | 4.00 | 3.00 |
| | Wide | 17.52 | 17.25 | 56.00 | 54.80 | 4.60 | 3.50 |
| 20 | Narrow | 22.32 | 21.80 | 39.00 | 38.38 | 4.00 | 3.00 |
| | Regular | 22.32 | 21.80 | 50.00 | 49.38 | 4.60 | 3.50 |
| | Wide | 22.32 | 21.80 | 66.00 | 64.80 | 5.10 | 4.00 |

METRIC WASHERS

Table 32. (Continued) American National Standard Metric Plain Washers
ANSI B18.22M-1981, R1990

| Nominal Washer Size ^a | Washer Series | Inside Diameter, <i>A</i> | | Outside Diameter, <i>B</i> | | Thickness, <i>C</i> | |
|----------------------------------|---------------|---------------------------|-------|----------------------------|--------|---------------------|------|
| | | Max | Min | Max | Min | Max | Min |
| 24 | Narrow | 26.12 | 25.60 | 44.00 | 43.38 | 4.60 | 3.50 |
| | Regular | 26.12 | 25.60 | 56.00 | 54.80 | 5.10 | 4.00 |
| | Wide | 26.12 | 25.60 | 72.00 | 70.80 | 5.60 | 4.50 |
| 30 | Narrow | 33.02 | 32.40 | 56.00 | 54.80 | 5.10 | 4.00 |
| | Regular | 33.02 | 32.40 | 72.00 | 70.80 | 5.60 | 4.50 |
| | Wide | 33.02 | 32.40 | 90.00 | 88.60 | 6.40 | 5.00 |
| 36 | Narrow | 38.92 | 38.30 | 66.00 | 64.80 | 5.60 | 4.50 |
| | Regular | 38.92 | 38.30 | 90.00 | 88.60 | 6.40 | 5.00 |
| | Wide | 38.92 | 38.30 | 110.00 | 108.60 | 8.50 | 7.00 |

^aNominal washer sizes are intended for use with comparable screw and bolt sizes.

^bThe 18.80/18.37 and 25.40/24.48 mm outside diameters avoid washers which could be used in coin-operated devices.

All dimensions are in millimeters.