



ELEMENTY ZŁĄCZNE ZE STALI NIERDZIEWNEJ I KWASOODPORNEJ

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SPIS TRECI

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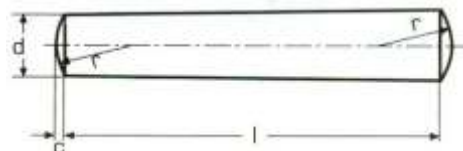
DIN 1 – ISO 2339 – PN 85020

Norma

A2/A4

Materiał

Kołek sto kowy



| | | | | | | | | | | |
|---|------|-----|------|-----|-----|-----|------|-----|-----|-----|
| c | 0,12 | 0,2 | 0,25 | 0,3 | 0,4 | 0,5 | 0,63 | 0,8 | 1,0 | 1,2 |
|---|------|-----|------|-----|-----|-----|------|-----|-----|-----|

| | | | | | | | | | | |
|----|---|-----|---|-----|---|---|---|---|---|----|
| d1 | 1 | 1,5 | 2 | 2,5 | 3 | 4 | 5 | 6 | 8 | 10 |
|----|---|-----|---|-----|---|---|---|---|---|----|

| | | | | | | | | | | |
|-----|----|--|--|----|----|----|----|----|--|--|
| 1 8 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 12 | | | | A2 | | | | | | |
| 14 | | | | | | | | | | |
| 16 | | | | | | A2 | A2 | | | |
| 18 | | | | | | | A2 | | | |
| 20 | A2 | | | | | | | A2 | | |
| 22 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 32 | | | | | | | | | | |
| 36 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |
| 60 | | | | | A2 | | | | | |
| 70 | | | | | | | | | | |
| 80 | | | | | | | | | | |
| 90 | | | | | | | | A2 | | |
| 100 | | | | | | | | A2 | | |

- brak w podstawowej ofercie A2 - tylko A2

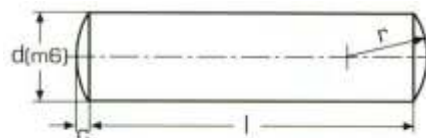
DIN 7 – ISO 2338 – PN 85021

Norma

A2/A4

Materiał

Kołek walcowy



| | | | | | | | | | | | | | | |
|----------|------|------|-----|-----|------|-----|------|-----|-----|------|------|------|------|------|
| c | 0,15 | 0,23 | 0,3 | 0,4 | 0,45 | 0,6 | 0,75 | 0,9 | 1,2 | 1,5 | 1,8 | 2,0 | 2,5 | 3,0 |
| r | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 |

| d | 1 | 1,5 | 2 | 2,5 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 |
|------------|----------|------------|----------|------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| I 3 | | | A2 | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | A2 | A2 | | | |
| 12 | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | A2 | | |
| 18 | A2 | | | | | | | | | | | A2 | | |
| 20 | A2 | | | | | | | | | | | A2 | | |
| 24 | | A4 | | | | | | | | | | A2 | | |
| 28 | | | | | | | | | | | | A2 | | |
| 30 | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | A2 | | |
| 36 | | | | | | | | | | | | A2 | | |
| 40 | | | A4 | | | | | | | | | A2 | | |
| 45 | | | | | | A2 | | | | | | A2 | | |
| 50 | | | | | | A2 | | | | | | | | |
| 55 | | | | | | | | A2 | A2 | A2 | A2 | A2 | | |
| 60 | | | | | | A2 | | | | | | | | |
| 70 | | | | | | | | A2 | | | | A2 | | |
| 80 | | | | | | | | | | | | A2 | | |
| 90 | | | | | | | | A2 | | | | A2 | | |
| 100 | | | | | | | | | | | | A2 | | |
| 120 | | | | | | | | | | | | A2 | | |

☐ - brak w podstawowej ofercie ■ A2 - tylko A2 ■ A4 - tylko A4

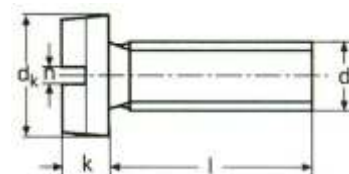
DIN 84 – ISO 1207 – PN 82215

Norma

A2/A4

Materiał

Wkręt z łbem walcowym,
nacięcie płaskie



| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| n | 0,2 | 0,3 | 0,3 | 0,4 | 0,4 | 0,5 | 0,6 | 0,6 | 0,6 | 0,8 | 1,0 | 1,2 | 1,2 | 1,6 | 2,0 | 2,5 |
| k | 0,7 | 0,8 | 0,9 | 1,0 | 1,2 | 1,3 | 1,5 | 1,6 | 1,7 | 2,0 | 2,4 | 2,6 | 3,3 | 3,9 | 5,0 | 6,0 |
| dk | 2,0 | 2,3 | 2,6 | 3,0 | 3,4 | 3,8 | 4,4 | 4,5 | 5,0 | 5,5 | 6,0 | 7,0 | 8,5 | 10,0 | 13,0 | 16,0 |

| d | M 1 | M 1,2 | M 1,4 | M 1,6 | M 1,7 | M 2 | M 2,3 | M 2,5 | M 2,6 | M 3 | M 3,5 | M 4 | M 5 | M 6 | M 8 | M 10 |
|-----|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| | waga 100szt./kg | | | | | | | | | | | | | | | |
| I 2 | A2 | A2 | | A2 | | | | | | | | | | | | |
| 3 | A2 | A2 | A2 | A2 | A2 | 0,016 | 0,024 | 0,027 | 0,034 | 0,047 | | | | | | |
| 4 | A2 | A2 | A2 | 0,009 | | 0,018 | 0,027 | 0,030 | 0,037 | 0,051 | | 0,10 | | | | |
| 5 | A2 | A2 | A2 | 0,010 | A2 | 0,020 | 0,029 | 0,033 | 0,040 | 0,056 | 0,079 | 0,11 | | | | |
| 6 | A2 | A2 | A2 | 0,012 | | 0,022 | 0,031 | 0,036 | 0,044 | 0,060 | 0,084 | 0,12 | 0,21 | 0,34 | | |
| 8 | A2 | A2 | A2 | 0,014 | | 0,025 | 0,037 | 0,042 | 0,050 | 0,069 | 0,10 | 0,13 | 0,22 | 0,36 | | |
| 10 | | A2 | A2 | 0,016 | A2 | 0,029 | 0,042 | 0,048 | 0,057 | 0,078 | 0,11 | 0,15 | 0,26 | 0,39 | 0,78 | |
| 12 | | | A2 | 0,018 | | 0,033 | 0,047 | 0,054 | 0,063 | 0,087 | 0,12 | 0,16 | 0,28 | 0,43 | 0,85 | |
| 14 | | | | 0,021 | | 0,037 | | 0,060 | | 0,096 | | 0,18 | 0,31 | 0,46 | 0,91 | A2 |
| 16 | | | | 0,023 | | 0,040 | 0,057 | 0,066 | 0,076 | 0,10 | 0,14 | 0,19 | 0,33 | 0,50 | 0,98 | 1,66 |
| 18 | | | | A2 | | 0,044 | | 0,072 | | 0,11 | A2 | 0,21 | 0,35 | 0,53 | 1,04 | |
| 20 | | | | A2 | | 0,048 | 0,067 | 0,078 | 0,090 | 0,12 | 0,17 | 0,22 | 0,38 | 0,57 | 1,10 | 1,86 |
| 22 | | | | | | 0,052 | | 0,084 | | 0,13 | A2 | 0,24 | 0,40 | 0,60 | 1,17 | |
| 25 | | | | | | 0,06 | | 0,09 | | 0,14 | 0,20 | 0,26 | 0,44 | 0,66 | 1,26 | 2,11 |
| 28 | | | | | | | | | | 0,16 | | 0,29 | 0,47 | 0,71 | | |
| 30 | | | | | | 0,07 | | 0,11 | | 0,17 | 0,23 | 0,30 | 0,50 | 0,74 | 1,42 | 2,36 |
| 35 | | | | | | | | A2 | | 0,19 | 0,26 | 0,34 | 0,56 | 0,82 | 1,58 | 2,61 |
| 40 | | | | | | A2 | | | | 0,21 | 0,29 | 0,38 | 0,62 | 0,92 | 1,74 | 2,86 |
| 45 | | | | | | | | | | 0,23 | A4 | 0,42 | 0,69 | 1,00 | 1,89 | 3,11 |
| 50 | | | | | | | | | | 0,25 | A2 | 0,46 | 0,75 | 1,09 | 2,06 | 3,36 |
| 55 | | | | | | | | | | 0,28 | | 0,50 | 0,81 | 1,18 | 2,21 | 3,61 |
| 60 | | | | | | | | | | 0,30 | | 0,54 | 0,87 | 1,27 | 2,36 | 3,86 |
| 65 | | | | | | | | | | | | 0,58 | 0,94 | 1,36 | 2,48 | 4,11 |
| 70 | | | | | | | | | | 0,34 | | 0,62 | 1,00 | 1,45 | 2,66 | 4,36 |
| 75 | | | | | | | | | | | | A2 | 1,06 | 1,54 | 2,79 | 4,61 |
| 80 | | | | | | | | | | 0,39 | | 0,70 | 1,12 | 1,63 | 2,96 | 4,86 |
| 85 | | | | | | | | | | | | | 1,19 | 1,72 | | |
| 90 | | | | | | | | | | | | 0,78 | 1,25 | 1,81 | 3,78 | 5,36 |
| 100 | | | | | | | | | | | | 0,86 | 1,37 | 1,99 | 4,08 | 5,85 |

- brak w podstawowej ofercie

A2 - tylko A2

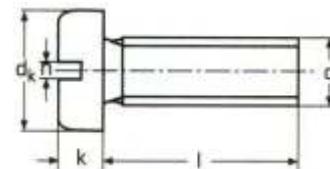
DIN 85 – ISO 1580 – PN 82219

Norma

A2/A4

Materiał

Wkręty z łbem walcowym,
nacięcia płaskie



| | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| n | 0,4 | 0,5 | 0,6 | 0,8 | 1,0 | 1,2 | 1,2 | 1,6 | 2,0 | 2,5 |
| k | 1,0 | 1,3 | 1,6 | 1,8 | 2,1 | 2,4 | 3,0 | 3,6 | 4,8 | 6,0 |
| dk | 3,2 | 4,0 | 5,0 | 6,0 | 7,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 3,5 | M 4 | M 5 | M 6 | M 8 | M 10 |
|---|----------|--------|----------|--------|----------|--------|--------|--------|--------|---------|
|---|----------|--------|----------|--------|----------|--------|--------|--------|--------|---------|

waga 100szt./kg

| | | | | | | | | | | |
|-----|----|-------|-------|-------|-------|------|------|------|------|------|
| I 3 | | 0,016 | 0,027 | A2 | | | | | | |
| 4 | | 0,018 | 0,030 | 0,051 | | | | | | |
| 5 | A2 | 0,020 | 0,033 | 0,056 | 0,079 | 0,11 | | | | |
| 6 | A2 | 0,022 | 0,036 | 0,060 | 0,084 | 0,12 | 0,21 | A2 | | |
| 8 | A2 | 0,025 | 0,042 | 0,069 | 0,096 | 0,13 | 0,22 | 0,36 | 0,73 | |
| 10 | A2 | 0,029 | 0,048 | 0,078 | 0,108 | 0,15 | 0,25 | 0,39 | 0,79 | |
| 12 | | 0,033 | 0,054 | 0,087 | 0,120 | 0,16 | 0,28 | 0,43 | 0,85 | |
| 14 | | 0,037 | 0,060 | 0,096 | | 0,18 | 0,30 | 0,46 | | A2 |
| 16 | | 0,040 | 0,066 | 0,104 | 0,144 | 0,19 | 0,33 | 0,50 | 0,98 | 1,66 |
| 18 | | | 0,072 | 0,113 | | 0,21 | 0,35 | 0,53 | A2 | |
| 20 | | 0,048 | 0,078 | 0,122 | 0,168 | 0,22 | 0,38 | 0,57 | 1,10 | 1,86 |
| 22 | | | | 0,131 | | 0,24 | 0,40 | 0,60 | | |
| 25 | | | 0,093 | 0,144 | 0,198 | 0,26 | 0,44 | 0,66 | 1,26 | 2,11 |
| 28 | | | | 0,157 | | 0,29 | 0,48 | 0,71 | | |
| 30 | | | | 0,166 | A2 | 0,30 | 0,50 | 0,74 | 1,42 | 2,36 |
| 35 | | | | 0,188 | A2 | 0,34 | 0,56 | 0,82 | 1,58 | 2,61 |
| 40 | | | | 0,210 | A2 | 0,38 | 0,62 | 0,92 | 1,74 | 2,86 |
| 45 | | | | 0,232 | | 0,42 | 0,69 | 1,00 | 1,89 | 3,11 |
| 50 | | | | 0,254 | | 0,46 | 0,75 | 1,09 | 2,06 | 3,36 |
| 55 | | | | | | 0,50 | 0,81 | 1,18 | 2,21 | 3,61 |
| 60 | | | | | | 0,54 | 0,87 | 1,27 | 2,36 | 3,86 |
| 65 | | | | | | | 0,94 | 1,36 | 2,48 | 4,11 |
| 70 | | | | | | | 1,00 | 1,45 | 2,66 | 4,36 |
| 75 | | | | | | | 1,06 | 1,54 | 2,79 | A2 |
| 80 | | | | | | | 1,12 | 1,63 | 2,96 | 4,86 |
| 90 | | | | | | | 1,25 | 1,81 | 3,78 | 5,36 |
| 100 | | | | | | | 1,37 | 1,99 | 4,08 | 5,85 |

- brak w podstawowej ofercie

A2 - tylko A2

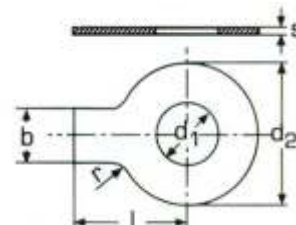
DIN 93 – PN 82021

Norma

A2/A4

Materiał

Podkładka odginana



| d1 | dla gwintu | waga 100szt./kg | b | d2 | l | s | r |
|------|------------|-----------------|------|-------|------|------|------|
| *3,2 | M 3 | 0,037 | 4,0 | 12,0 | 13,0 | 0,38 | 2,5 |
| *3,7 | M 3,5 | 0,036 | 4,0 | 12,0 | 13,0 | 0,38 | 2,5 |
| 4,3 | M 4 | 0,049 | 5,0 | 14,0 | 14,0 | 0,38 | 2,5 |
| 5,3 | M 5 | 0,10 | 6,0 | 17,0 | 16,0 | 0,5 | 2,5 |
| 6,4 | M 6 | 0,12 | 7,0 | 19,0 | 18,0 | 0,5 | 4,0 |
| 8,4 | M 8 | 0,23 | 8,0 | 22,0 | 20,0 | 0,75 | 4,0 |
| 10,5 | M 10 | 0,31 | 10,0 | 26,0 | 22,0 | 0,75 | 4,0 |
| 13 | M 12 | 0,60 | 12,0 | 30,0 | 28,0 | 1,0 | 6,0 |
| 15 | M 14 | 0,70 | 12,0 | 33,0 | 28,0 | 1,0 | 10,0 |
| 17 | M 16 | 0,85 | 15,0 | 36,0 | 32,0 | 1,0 | 10,0 |
| 19 | M 18 | 1,10 | 18,0 | 40,0 | 36,0 | 1,0 | 10,0 |
| 21 | M 20 | 1,10 | 18,0 | 42,0 | 36,0 | 1,0 | 10,0 |
| 23 | M 22 | 1,48 | 20,0 | 50,0 | 42,0 | 1,0 | 10,0 |
| 25 | M 24 | 1,42 | 20,0 | 50,0 | 42,0 | 1,0 | 10,0 |
| 28 | M 27 | 3,10 | 23,0 | 58,0 | 48,0 | 1,6 | 10,0 |
| 31 | M 30 | 3,63 | 26,0 | 63,0 | 52,0 | 1,6 | 16,0 |
| 34 | M 33 | 4,20 | 28,0 | 68,0 | 56,0 | 1,6 | 16,0 |
| 37 | M 36 | 5,13 | 30,0 | 75,0 | 60,0 | 1,6 | 16,0 |
| 40 | M 39 | 5,97 | 32,0 | 82,0 | 64,0 | 1,6 | 16,0 |
| *43 | M 35 | 6,95 | 35,0 | 88,0 | 70,0 | 1,6 | 16,0 |
| *46 | M 38 | 8,12 | 38,0 | 95,0 | 75,0 | 1,6 | 16,0 |
| *50 | M 40 | 8,90 | 40,0 | 100,0 | 80,0 | 1,6 | 16,0 |
| *54 | M 44 | 9,80 | 44,0 | 105,0 | 85,0 | 1,6 | 16,0 |

* - brak w podstawowej ofercie

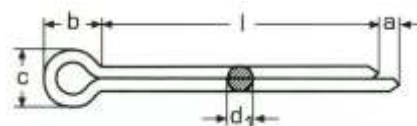
DIN 94 – ISO 1234 – PN 82001

Norma

A2/A4

Materiał

Zawlecзка



| | | | | | | | | | | | | |
|--------------|-----|------|------|------|------|-----|-----|------|------|------|------|------|
| a max | 1,6 | 2,5 | 2,5 | 2,5 | 2,5 | 3,2 | 4,0 | 4,0 | 4,0 | 4,0 | 6,3 | 6,3 |
| a min | 0,8 | 1,25 | 1,25 | 1,25 | 1,25 | 1,6 | 2,0 | 2,0 | 2,0 | 2,0 | 3,2 | 3,2 |
| b~ | 3,0 | 3,0 | 3,2 | 4,0 | 5,0 | 6,4 | 8,0 | 10,0 | 12,6 | 16,0 | 20,0 | 26,0 |
| c min | 1,6 | 1,7 | 2,4 | 3,2 | 4,0 | 5,1 | 6,5 | 8,0 | 10,3 | 13,1 | 16,6 | 21,7 |
| c max | 1,8 | 2,0 | 2,8 | 3,6 | 4,6 | 5,8 | 7,4 | 9,2 | 11,8 | 15,0 | 19,0 | 24,8 |

| d1 | 1,0 | 1,2 | 1,6 | 2,0 | 2,5 | 3,2 | 4,0 | 5,0 | 6,3 | 8,0 | 10,0 | 13,0 |
|------------|-----------------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| | waga 100szt./kg | | | | | | | | | | | |
| I 4 | 0,002 | 0,004 | 0,006 | 0,016 | | | | | | | | |
| 5 | 0,003 | 0,005 | 0,007 | 0,018 | | | | | | | | |
| 6 | 0,003 | 0,005 | 0,008 | 0,019 | | | | | | | | |
| 7 | 0,004 | 0,006 | 0,009 | 0,021 | | | | | | | | |
| 8 | 0,004 | 0,006 | 0,010 | 0,022 | | | | | | | | |
| 10 | 0,005 | 0,008 | 0,012 | 0,025 | 0,045 | A2 | | | | | | |
| 12 | 0,006 | 0,010 | 0,014 | 0,028 | 0,051 | A2 | | | | | | |
| 14 | 0,007 | 0,011 | 0,016 | 0,031 | 0,057 | | | | | | | |
| 16 | 0,008 | 0,013 | 0,018 | 0,034 | 0,063 | 0,09 | 0,20 | 0,31 | | | | |
| 18 | 0,010 | 0,015 | 0,020 | 0,037 | 0,069 | 0,10 | 0,21 | 0,33 | | | | |
| 20 | 0,012 | 0,017 | 0,022 | 0,040 | 0,075 | 0,11 | 0,22 | 0,35 | 0,69 | | | |
| 22 | 0,014 | 0,019 | 0,024 | 0,043 | 0,081 | 0,12 | 0,23 | 0,37 | 0,73 | | | |
| 25 | 0,017 | 0,023 | 0,027 | 0,047 | 0,09 | 0,13 | 0,25 | 0,40 | 0,77 | | | |
| 28 | 0,020 | 0,025 | 0,030 | 0,051 | 0,10 | 0,15 | 0,28 | 0,45 | 0,80 | | | |
| 32 | 0,024 | 0,029 | 0,034 | 0,056 | 0,11 | 0,17 | 0,31 | 0,50 | 0,89 | 1,46 | 2,70 | |
| 36 | 0,028 | 0,033 | 0,038 | 0,061 | 0,12 | 0,18 | 0,34 | 0,55 | 0,98 | 1,59 | 2,90 | |
| 40 | 0,032 | 0,037 | 0,042 | 0,066 | 0,13 | 0,20 | 0,37 | 0,60 | 1,06 | 1,72 | 3,10 | |
| 45 | 0,037 | 0,042 | 0,047 | 0,072 | 0,15 | 0,22 | 0,41 | 0,66 | 1,17 | 1,89 | 3,35 | |
| 50 | | | A2 | A2 | 0,16 | 0,24 | 0,45 | 0,72 | 1,28 | 2,06 | 3,60 | |
| 56 | | | | | | 0,27 | 0,50 | 0,80 | 1,40 | 2,26 | 3,80 | |
| 63 | | | | | | 0,30 | 0,55 | 0,87 | 1,56 | 2,50 | 4,18 | |
| 71 | | | | | | A2 | 0,62 | 0,99 | 1,73 | 2,77 | 4,62 | |
| 80 | | | | | | A2 | 0,69 | 1,10 | 1,93 | 3,07 | 5,12 | |
| 90 | | | | | | | 0,77 | 1,22 | 2,13 | 3,41 | 5,67 | 10,1 |
| 100 | | | | | | | 0,85 | 1,35 | 2,35 | 3,75 | 6,22 | 11,1 |
| 112 | | | | | | | | | 2,61 | 4,15 | 6,60 | 12,2 |
| 125 | | | | | | | | | 2,89 | 4,59 | 7,59 | 13,4 |
| 140 | | | | | | | | | | 5,10 | 8,42 | 14,8 |

- brak w podstawowej ofercie

A2 - tylko A2

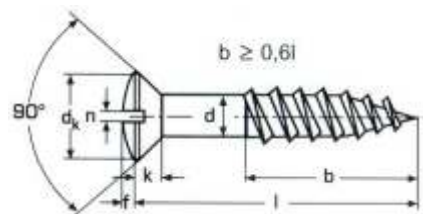
DIN 95 – PN 82504

Norma

A2/A4

Materiał

Wkręt do drewna z łbem soczewkowym, z nacięciem płaskim



| | | | | | | | | | | |
|-----------|-----|------|------|-----|------|------|------|------|------|------|
| n | 0,6 | 0,8 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 2,0 | 2,0 |
| f~ | 0,6 | 0,75 | 0,9 | 1,0 | 1,1 | 1,25 | 1,4 | 1,5 | 1,8 | 2,0 |
| k | 1,5 | 1,65 | 1,93 | 2,2 | 2,35 | 2,5 | 2,75 | 3,0 | 3,5 | 4,0 |
| dk | 4,7 | 5,6 | 6,5 | 7,5 | 8,3 | 9,2 | 10,2 | 11,0 | 12,5 | 14,5 |

| d | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 | 7,0 | 8,0 |
|-------------|-----------------|------|------|------|------|------|-----|------|-----|-----|
| | waga 100szt./kg | | | | | | | | | |
| I 10 | 0,039 | A2 | A2 | A2 | | | | | | |
| 12 | 0,045 | 0,07 | 0,10 | 0,13 | | | | | | |
| 16 | 0,057 | 0,09 | 0,12 | 0,16 | 0,19 | 0,23 | | | | |
| 20 | 0,069 | 0,11 | 0,15 | 0,19 | 0,23 | 0,28 | | 0,40 | | |
| 25 | 0,085 | 0,14 | 0,18 | 0,23 | 0,28 | 0,34 | | 0,49 | | |
| 30 | A2 | 0,16 | 0,21 | 0,27 | 0,33 | 0,40 | | 0,58 | | |
| 35 | | 0,18 | 0,24 | 0,30 | 0,37 | 0,46 | | 0,67 | | |
| 40 | | 0,21 | 0,27 | 0,34 | 0,42 | 0,52 | | 0,76 | | |
| 45 | | | 0,31 | 0,38 | 0,47 | 0,58 | | 0,85 | | |
| 50 | | | 0,34 | 0,42 | 0,52 | 0,63 | | 0,93 | | |
| 55 | | | | | | A2 | | A2 | | |
| 60 | | | | 0,50 | 0,62 | 0,76 | | 1,10 | | |
| 65 | | | | | 0,67 | 0,82 | | 1,19 | | |
| 70 | | | | 0,58 | 0,72 | 0,88 | | 1,27 | | |
| 75 | | | | | | 0,92 | | 1,36 | | |
| 80 | | | | | A2 | 1,00 | | 1,45 | | |
| 90 | | | | | | 1,12 | | 1,54 | | |
| 100 | | | | | | 1,24 | | 1,63 | | |
| 110 | | | | | | | | 1,72 | | |
| 120 | | | | | | | | 1,81 | | |

- brak w podstawowej ofercie

A2 - tylko A2

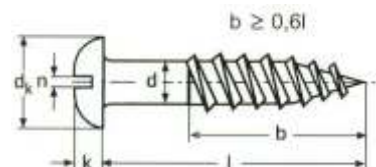
DIN 96 – PN 82505

Norma

A2/A4

Materiał

Wkręty do drewna z łbem kulistym, z nacięciami płaskimi



| | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|------|------|------|------|------|
| n | 0,6 | 0,8 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 2,0 | 2,0 |
| k | 1,7 | 2,1 | 2,4 | 2,8 | 3,1 | 3,5 | 3,8 | 4,2 | 4,9 | 5,6 |
| dk | 5,0 | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 11,0 | 12,0 | 14,0 | 16,0 |

| d | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 | 7,0 | 8,0 |
|-------------|-----------------|-------|------|------|------|------|-----|------|-----|-----|
| | waga 100szt./kg | | | | | | | | | |
| I 10 | 0,046 | A2 | A2 | | | | | | | |
| 12 | 0,052 | 0,086 | 0,12 | 0,16 | | | | | | |
| 16 | 0,064 | 0,104 | 0,14 | 0,19 | 0,25 | 0,33 | | | | |
| 20 | 0,076 | 0,123 | 0,17 | 0,22 | 0,29 | 0,38 | | 0,58 | | |
| 25 | 0,091 | 0,147 | 0,20 | 0,26 | 0,34 | 0,44 | | 0,67 | | |
| 30 | | 0,17 | 0,23 | 0,30 | 0,38 | 0,50 | | 0,75 | | |
| 35 | | 0,19 | 0,26 | 0,34 | 0,43 | 0,55 | | 0,83 | | |
| 40 | | 0,22 | 0,29 | 0,38 | 0,48 | 0,61 | | 0,92 | | |
| 45 | | | 0,32 | 0,41 | 0,53 | 0,67 | | 1,00 | | |
| 50 | | | 0,35 | 0,45 | 0,58 | 0,73 | | 1,08 | | |
| 55 | | | | | | A2 | | A2 | | |
| 60 | | | | 0,53 | 0,68 | 0,85 | | 1,25 | | |
| 65 | | | | | 0,73 | 0,91 | | 1,34 | | |
| 70 | | | | 0,61 | 0,78 | 0,97 | | 1,42 | | |
| 75 | | | | | | 1,03 | | 1,51 | | |
| 80 | | | | | | 1,09 | | 1,60 | | |
| 90 | | | | | | 1,21 | | 1,77 | | |
| 100 | | | | | | 1,33 | | 1,94 | | |
| 110 | | | | | | | | 2,11 | | |
| 120 | | | | | | | | 2,28 | | |

- brak w podstawowej ofercie

A2 - tylko A2

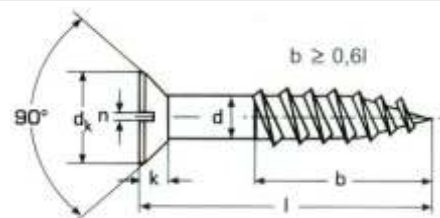
DIN 97 – PN 82503

Norma

A2/A4

Materiał

Wkręt do drewna z łbem stożkowym,
z nacięciami płaskimi



| | | | | | | | | | | | |
|----|-----|------|------|-----|------|-----|------|------|------|------|------|
| n | 0,6 | 0,8 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 2,0 | 2,0 | 2,5 |
| k | 1,5 | 1,65 | 1,93 | 2,2 | 2,35 | 2,5 | 2,75 | 3,0 | 3,5 | 4,0 | 5,0 |
| dk | 4,7 | 5,6 | 6,5 | 7,5 | 8,3 | 9,2 | 10,2 | 11,0 | 12,5 | 14,5 | 18,0 |

| d | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 | 7,0 | 8,0 | 10,0 |
|-----------------|-------|------|------|------|------|------|-----|------|-----|------|------|
| waga 100szt./kg | | | | | | | | | | | |
| I 10 | 0,037 | 0,06 | A2 | A2 | | | | | | | |
| 12 | 0,043 | 0,07 | 0,09 | 0,12 | | | | | | | |
| 16 | 0,055 | 0,09 | 0,12 | 0,15 | 0,18 | 0,23 | | | | | |
| 20 | 0,067 | 0,11 | 0,14 | 0,18 | 0,22 | 0,28 | | 0,41 | | | |
| 25 | 0,082 | 0,13 | 0,17 | 0,22 | 0,27 | 0,34 | | 0,50 | | | |
| 30 | | 0,15 | 0,20 | 0,25 | 0,32 | 0,40 | | 0,58 | | 1,02 | |
| 35 | | 0,18 | 0,23 | 0,29 | 0,37 | 0,46 | | 0,66 | | 1,18 | |
| 40 | | 0,20 | 0,27 | 0,33 | 0,42 | 0,51 | | 0,75 | | 1,34 | |
| 45 | | A2 | 0,30 | 0,37 | 0,46 | 0,57 | | 0,83 | | 1,50 | |
| 50 | | | 0,33 | 0,40 | 0,51 | 0,63 | | 0,91 | | 1,65 | |
| 60 | | | | 0,48 | 0,61 | 0,75 | | 1,08 | | 1,96 | |
| 65 | | | | | 0,66 | 0,81 | | 1,17 | | | |
| 70 | | | | 0,56 | 0,71 | 0,87 | | 1,25 | | 2,27 | |
| 75 | | | | | | 0,93 | | 1,34 | | 2,42 | |
| 80 | | | | | 0,81 | 0,99 | | 1,43 | | 2,57 | |
| 90 | | | | | | 1,11 | | 1,60 | | 2,87 | |
| 100 | | | | | | 1,23 | | 1,77 | | 3,17 | |
| 110 | | | | | | | | 1,94 | | 3,47 | |
| 120 | | | | | | | | 2,11 | | 3,77 | |
| 130 | | | | | | | | | | 4,07 | |
| 140 | | | | | | | | | | 4,37 | |
| 150 | | | | | | | | | | 4,67 | |

- brak w podstawowej ofercie

A2 - tylko A2

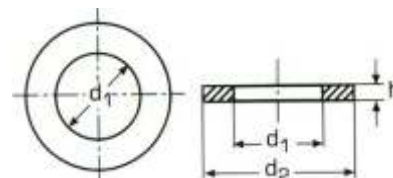
DIN 125 – ISO 7089 – PN 82006

Norma

A2/A4

Materiał

Podkładka płaska Forma A



| d1 | dla gwintu | waga 100szt./kg | d2 | h |
|------|------------|-----------------|------|-----|
| 1,7 | M 1,6 | 0,003 | 4,0 | 0,3 |
| 1,8 | M 1,7 | 0,003 | 5,0 | 0,3 |
| 2,2 | M 2 | 0,004 | 5,0 | 0,3 |
| 2,5 | M 2,3 | 0,009 | 6,0 | 0,5 |
| 2,7 | M 2,5 | 0,009 | 6,0 | 0,5 |
| 2,8 | M 2,6 | 0,013 | 7,0 | 0,5 |
| 3,2 | M 3 | 0,012 | 7,0 | 0,5 |
| 3,7 | M 3,5 | 0,016 | 8,0 | 0,5 |
| 4,3 | M 4 | 0,031 | 9,0 | 0,8 |
| 5,3 | M 5 | 0,044 | 10,0 | 1,0 |
| 6,4 | M 6 | 0,100 | 12,0 | 1,6 |
| 7,4 | M 7 | 0,104 | 14,0 | 1,6 |
| 8,4 | M 8 | 0,108 | 16,0 | 1,6 |
| 10,5 | M 10 | 0,36 | 20,0 | 2,0 |
| 13,0 | M 12 | 0,63 | 24,0 | 2,5 |
| 15,0 | M 14 | 0,86 | 28,0 | 2,5 |
| 17,0 | M 16 | 1,13 | 30,0 | 3,0 |
| 19,0 | M 18 | 1,47 | 34,0 | 3,0 |
| 21,0 | M 20 | 1,72 | 37,0 | 3,0 |
| 23,0 | M 22 | 1,83 | 39,0 | 3,0 |
| 25,0 | M 24 | 3,23 | 44,0 | 4,0 |
| 28,0 | M 27 | 4,23 | 50,0 | 4,0 |
| 31,0 | M 30 | 5,36 | 56,0 | 4,0 |
| 34,0 | M 33 | 7,53 | 60,0 | 5,0 |
| 37,0 | M 36 | 9,21 | 66,0 | 5,0 |
| 40,0 | M 39 | 13,3 | 72,0 | 6,0 |
| 43,0 | M 42 | 18,3 | 78,0 | 7,0 |
| 46,0 | M 45 | 22,0 | 85,0 | 7,0 |
| 50,0 | M 48 | 29,4 | 92,0 | 8,0 |
| 52,0 | M 50 | 28,4 | 92,0 | 8,0 |
| 54,0 | M 52 | 33,0 | 98,0 | 8,0 |

DIN 127 – PN 82008

Norma

A2/A4

Materiał

Podkładka sprężysta Forma B

| d1 | dla gwintu | waga 100szt./kg | d2 | h min. | b | s |
|------|------------|-----------------|------|--------|------|-----|
| 2,1 | M 2 | 0,005 | 4,4 | 1,0 | 0,9 | 0,5 |
| 2,3 | M 2,2 | 0,005 | 4,8 | 1,2 | 1,0 | 0,6 |
| 2,6 | M 2,5 | 0,005 | 5,1 | 1,2 | 1,0 | 0,6 |
| 3,1 | M 3 | 0,011 | 6,2 | 1,6 | 1,3 | 0,8 |
| 3,6 | M 3,5 | 0,014 | 6,7 | 1,6 | 1,3 | 0,8 |
| 4,1 | M 4 | 0,018 | 7,6 | 1,8 | 1,5 | 0,9 |
| 5,1 | M 5 | 0,035 | 9,2 | 2,4 | 1,8 | 1,2 |
| 6,1 | M 6 | 0,07 | 11,8 | 3,2 | 2,5 | 1,6 |
| 7,1 | M 7 | A2 | 12,8 | 3,5 | 2,5 | 1,6 |
| 8,1 | M 8 | 0,14 | 14,8 | 4,0 | 3,0 | 2,0 |
| 10,2 | M 10 | 0,21 | 18,1 | 4,4 | 3,5 | 2,2 |
| 12,2 | M 12 | 0,33 | 21,1 | 5,0 | 4,0 | 2,5 |
| 14,2 | M 14 | 0,36 | 24,1 | 6,0 | 4,5 | 3,0 |
| 16,2 | M 16 | 0,60 | 27,4 | 7,0 | 5,0 | 3,5 |
| 18,2 | M 18 | 0,97 | 29,4 | 7,0 | 5,0 | 3,5 |
| 20,2 | M 20 | 1,50 | 33,6 | 8,0 | 6,0 | 4,0 |
| 22,5 | M 22 | 1,70 | 35,9 | 8,0 | 6,0 | 4,0 |
| 24,5 | M 24 | 2,60 | 40,0 | 10,0 | 7,0 | 5,0 |
| 27,5 | M 27 | 2,90 | 43,0 | 10,0 | 7,0 | 5,0 |
| 30,5 | M 30 | 4,40 | 48,2 | 12,0 | 8,0 | 6,0 |
| 33,5 | M 33 | 6,30 | 55,2 | 12,0 | 10,0 | 6,0 |
| 36,5 | M 36 | 6,70 | 58,2 | 12,0 | 10,0 | 6,0 |
| 39,5 | M 39 | A2 | 61,2 | 12,0 | 10,0 | 6,0 |
| 42,5 | M 42 | A2 | 68,2 | 14,0 | 12,0 | 7,0 |
| 45,5 | M 45 | A2 | 71,2 | 14,0 | 12,0 | 7,0 |
| 49,0 | M 48 | A2 | 75,0 | 14,0 | 12,0 | 7,0 |

A2 - tylko A2

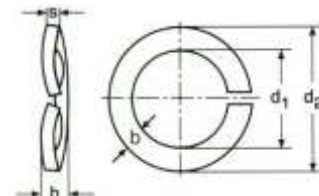
DIN 128

Norma

A2/A4

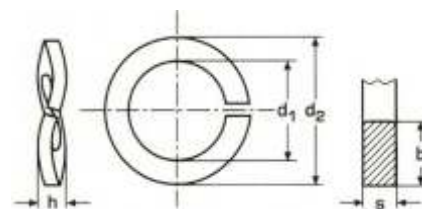
Materiał

Podkładka sprężysta (wypukła) Forma A



| dla gwintu | waga 100szt./kg | d1 min | d2 max | h min. | h max | s | b |
|------------|--------------------|--------|--------|--------|-------|-----|------|
| A 2 | 0,003 | 2,1 | 4,4 | 0,7 | 0,9 | 0,5 | 0,9 |
| A 2,3 | 0,004 | 2,4 | 4,9 | 0,9 | 1,1 | 0,6 | 1,0 |
| A 2,5 | 0,006 | 2,6 | 5,1 | 0,9 | 1,1 | 0,6 | 1,0 |
| A 2,6 | 0,007 | 2,7 | 5,2 | 0,9 | 1,1 | 0,6 | 1,0 |
| A 3 | 0,009 | 3,1 | 6,2 | 1,1 | 1,3 | 0,7 | 1,3 |
| A 3,5 | 0,010 | 3,6 | 6,7 | 1,1 | 1,3 | 0,7 | 1,3 |
| A 4 | 0,015 | 4,1 | 7,6 | 1,2 | 1,4 | 0,8 | 1,4 |
| A 5 | 0,03 | 5,1 | 9,2 | 1,5 | 1,7 | 1,0 | 1,8 |
| A 6 | 0,07 | 5,1 | 11,8 | 2,0 | 2,2 | 1,3 | 2,5 |
| A 8 | 0,13 | 8,1 | 14,8 | 2,45 | 2,75 | 1,6 | 3,0 |
| A 10 | 0,21 | 10,2 | 18,1 | 2,85 | 3,15 | 1,8 | 3,5 |
| A 12 | 0,32 | 12,2 | 21,1 | 3,35 | 3,65 | 2,1 | 4,0 |
| A 14 | 0,48 | 14,2 | 24,1 | 3,9 | 4,3 | 2,4 | 4,9 |
| A 16 | 0,70 | 16,2 | 27,4 | 4,5 | 5,1 | 2,8 | 5,0 |
| A 18 | 0,78 | 18,2 | 29,4 | 4,5 | 5,1 | 2,8 | 5,0 |
| A 20 | 1,22 | 20,2 | 33,6 | 5,1 | 5,9 | 3,2 | 6,0 |
| A 22 | 1,33 | 22,5 | 35,9 | 5,1 | 5,9 | 3,2 | 6,0 |
| A 24 | 2,15 | 24,5 | 40,0 | 6,5 | 7,5 | 4,0 | 7,0 |
| A 27 | 2,37 | 27,5 | 43,0 | 6,5 | 7,5 | 4,0 | 7,0 |
| A 30 | 4,25 | 30,5 | 48,2 | 9,5 | 10,5 | 6,0 | 8,0 |
| A 36 | 6,80 | 36,5 | 58,2 | 10,3 | 11,3 | 6,0 | 10,0 |

Podkładka sprężysta (falista) Forma B



| dla gwintu | waga 100szt./kg | d1 min | d2 max | h min. | h max | s | b |
|------------|--------------------|--------|--------|--------|-------|-----|-----|
| B 4 | 0,020 | 4,1 | 7,6 | 1,2 | 1,4 | 0,8 | 1,4 |
| B 5 | 0,029 | 5,1 | 9,2 | 1,5 | 1,7 | 1,0 | 1,8 |
| B 6 | 0,032 | 6,1 | 11,8 | 2,0 | 2,2 | 1,3 | 2,5 |
| B 8 | 0,076 | 8,2 | 14,9 | 2,45 | 2,75 | 1,6 | 3,0 |
| B 10 | 0,20 | 10,2 | 18,1 | 2,85 | 3,15 | 1,8 | 3,5 |
| B 12 | 0,30 | 12,2 | 21,1 | 3,35 | 3,65 | 2,1 | 4,0 |
| B 16 | 0,60 | 16,2 | 27,4 | 4,5 | 5,1 | 2,8 | 5,0 |

DIN 137 – PN 82037– PN 82038

Norma

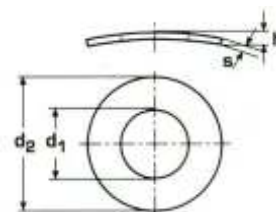
Forma A

Forma B

A2

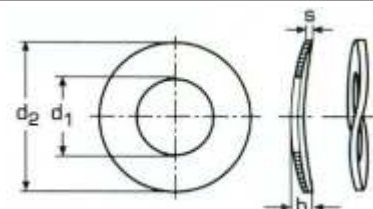
Materiał

Podkładka podatna (wypukła) Forma A



| dla gwintu | d1 | d2 | h min. | h max | s |
|------------|------|------|--------|-------|------|
| A 1,2 | 1,3 | 3,0 | 0,35 | 0,7 | 0,2 |
| A 1,4 | 1,5 | 3,0 | 0,4 | 0,8 | 0,25 |
| A 1,7 | 1,8 | 4,0 | 0,45 | 0,9 | 0,25 |
| A 2 | 2,2 | 4,5 | 0,5 | 1,0 | 0,3 |
| A 2,3 | 2,5 | 5,0 | 0,5 | 1,0 | 0,3 |
| A 2,6 | 2,8 | 5,5 | 0,55 | 1,1 | 0,3 |
| A 3 | 3,2 | 6,0 | 0,65 | 1,3 | 0,4 |
| A 3,5 | 3,7 | 7,0 | 0,7 | 1,4 | 0,4 |
| A 4 | 4,3 | 8,0 | 0,8 | 1,6 | 0,5 |
| A 5 | 5,3 | 10,0 | 0,9 | 1,8 | 0,5 |
| A 6 | 6,4 | 11,0 | 1,1 | 2,2 | 0,5 |
| A 7 | 7,4 | 12,0 | 1,2 | 2,4 | 0,5 |
| A 8 | 8,4 | 15,0 | 1,7 | 3,4 | 0,5 |
| A 10 | 10,5 | 18,0 | 2,0 | 4,0 | 0,8 |

Podkładka podatna (falista) Forma B



| dla gwintu | waga 100szt./kg | h min. | h max | s |
|------------|--------------------|--------|-------|-----|
| B 3 | 0,017 | 0,8 | 1,6 | 0,5 |
| B 3,5 | 0,016 | 0,9 | 1,8 | 0,5 |
| B 4 | 0,019 | 1,0 | 2,0 | 0,5 |
| B 5 | 0,029 | 1,1 | 2,2 | 0,5 |
| B 6 | 0,032 | 1,3 | 2,6 | 0,5 |
| B 7 | 0,070 | 1,5 | 3,0 | 0,8 |
| B 8 | 0,076 | 1,5 | 3,0 | 0,8 |
| B 10 | 0,20 | 2,1 | 4,2 | 1,0 |
| B 12 | 0,30 | 2,5 | 5,0 | 1,2 |
| B 14 | 0,55 | 3,0 | 6,0 | 1,6 |
| B 16 | 0,60 | 3,2 | 6,4 | 1,6 |
| B 18 | 0,78 | 3,3 | 6,6 | 1,6 |
| B 20 | 0,84 | 3,7 | 7,4 | 1,6 |
| B 22 | 1,19 | 3,9 | 7,8 | 1,8 |
| B 24 | 1,45 | 4,1 | 8,2 | 1,8 |
| B 27 | 2,11 | 4,7 | 9,4 | 2,0 |

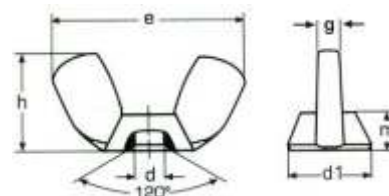
DIN 315 – PN 82439

Norma

A2/A4

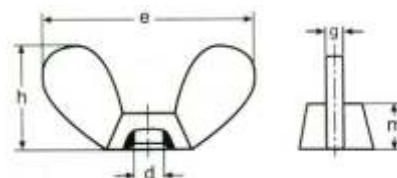
Materiał

Nakrętka skrzydełkowa, forma amerykańska



| d | d1 | e | h | m | g |
|------|------|------|------|------|-----|
| M 3 | 7,8 | 18,5 | 8,8 | 3,0 | 2,0 |
| M 4 | 7,8 | 18,5 | 8,8 | 3,0 | 2,0 |
| M 5 | 9,5 | 22,0 | 10,5 | 4,0 | 2,6 |
| M 6 | 11,9 | 16,8 | 12,9 | 4,9 | 3,0 |
| M 8 | 13,5 | 30,3 | 14,8 | 5,4 | 3,3 |
| M 10 | 15,3 | 35,3 | 17,3 | 6,3 | 4,0 |
| M 12 | 20,5 | 47,5 | 22,3 | 7,9 | 5,0 |
| M 14 | 25,0 | 65,0 | 30,8 | 10,6 | 6,5 |
| M 16 | 25,0 | 65,0 | 30,8 | 10,6 | 6,5 |
| M 18 | 29,3 | 66,5 | 31,2 | 12,2 | 7,2 |
| M 20 | 29,3 | 66,5 | 31,2 | 12,2 | 7,2 |

Nakrętka skrzydełkowa



| d | e | h | m | g |
|------|------|------|------|-----|
| M 4 | 18,0 | 8,5 | 3,2 | 1,7 |
| M 5 | 24,0 | 11,0 | 4,0 | 2,3 |
| M 6 | 30,0 | 15,0 | 5,0 | 2,7 |
| M 8 | 36,0 | 18,0 | 6,5 | 3,6 |
| M 10 | 48,0 | 23,0 | 8,0 | 4,6 |
| M 12 | 62,0 | 31,0 | 10,0 | 5,6 |
| M 14 | 70,0 | 35,0 | 13,0 | 6,5 |
| M 16 | 70,0 | 35,0 | 13,0 | 6,5 |
| M 20 | 86,0 | 44,0 | 16,0 | 6,9 |

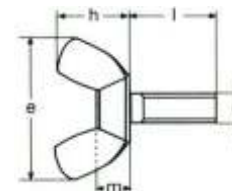
DIN 316 – PN 82436

Norma

A2/A4

Materiał

rubka skrzydełkowa, forma
ameryka ska



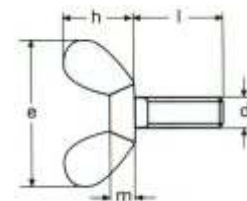
| | | | | | | | |
|----------|------|------|------|------|------|------|------|
| h | 8,8 | 10,5 | 10,5 | 12,9 | 14,8 | 17,3 | 22,3 |
| e | 18,5 | 22,0 | 22,0 | 26,8 | 30,3 | 35,3 | 47,5 |
| m | 2,9 | 2,9 | 4,1 | 5,1 | 5,6 | 6,8 | 9,0 |

| | | | | | | | |
|----------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|----------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|

| | | | | | | | |
|----------|----|--|--|--|--|----|----|
| I | 10 | | | | | A2 | |
| | 12 | | | | | A2 | |
| | 16 | | | | | | A4 |
| | 20 | | | | | | |
| | 25 | | | | | | |
| | 30 | | | | | | |
| | 35 | | | | | | |
| | 40 | | | | | | |
| | 45 | | | | | | |
| | 50 | | | | | | |
| | 55 | | | | | | |
| | 60 | | | | | | |

- brak w podstawowej ofercie A2 - tylko A2 A4 - tylko A4

rubka skrzydełkowa



| | | | | | | |
|--------------|------|------|------|------|------|------|
| h min | 8,5 | 11,0 | 15,0 | 18,0 | 23,0 | 31,0 |
| e min | 18,0 | 24,0 | 30,0 | 36,0 | 48,0 | 62,0 |
| m min | 3,2 | 4,0 | 5,0 | 6,5 | 8,0 | 10,0 |

| | | | | | | |
|----------|---------------|---------------|---------------|---------------|----------------|----------------|
| d | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|----------|---------------|---------------|---------------|---------------|----------------|----------------|

| | | | | | | |
|----------|----|----|--|----|----|----|
| I | 10 | A4 | | | | |
| | 12 | A4 | | | | |
| | 16 | | | | | |
| | 20 | | | | | |
| | 25 | | | | | |
| | 30 | | | | | |
| | 35 | | | A2 | A2 | A2 |
| | 40 | | | | | A4 |
| | 50 | | | | A4 | |

- brak w podstawowej ofercie A2 - tylko A2 A4 - tylko A4

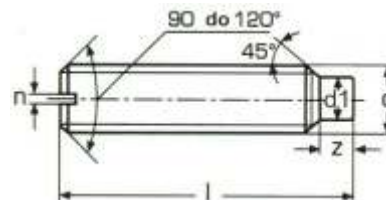
DIN 417 – ISO 7435 – PN 82276

Norma

A2/A4

Materiał

Wkręt dociskowy z czopem walcowym, z nacięciem płaskim



| | | | | | | | | |
|-----------|------|-----|-----|-----|-----|-----|-----|-----|
| n | 0,4 | 0,4 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 |
| z | 1,25 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 |
| d1 | 1,5 | 2,0 | 2,5 | 3,5 | 4,0 | 5,5 | 7,0 | 8,5 |

| d | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|----------|--------------|------------|------------|------------|------------|------------|-------------|-------------|
|----------|--------------|------------|------------|------------|------------|------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|----|
| I 3 | 0,005 | 0,009 | | | | | | |
| 4 | 0,008 | 0,013 | 0,018 | | | | | |
| 5 | 0,011 | 0,017 | 0,026 | 0,038 | 0,041 | | | |
| 6 | 0,014 | 0,021 | 0,034 | 0,051 | 0,062 | | | |
| 8 | 0,020 | 0,029 | 0,050 | 0,076 | 0,102 | 0,192 | | |
| 10 | 0,026 | 0,038 | 0,066 | 0,101 | 0,142 | 0,251 | 0,335 | |
| 12 | 0,036 | 0,047 | 0,082 | 0,126 | 0,182 | 0,310 | 0,435 | A2 |
| 16 | 0,044 | 0,065 | 0,114 | 0,176 | 0,262 | 0,428 | 0,635 | A2 |
| 18 | | 0,074 | 0,130 | 0,201 | 0,302 | 0,487 | 0,735 | A2 |
| 20 | | 0,083 | 0,146 | 0,226 | 0,342 | 0,546 | 0,835 | A2 |
| 25 | | 0,103 | 0,182 | 0,289 | 0,442 | 0,694 | 1,09 | A2 |
| 30 | | | | 0,351 | 0,542 | 0,841 | 1,34 | A2 |
| 35 | | | | A2 | 0,642 | 0,989 | 1,59 | A2 |
| 40 | | | | | | 1,14 | 1,84 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

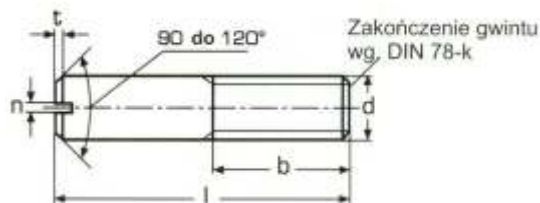
DIN 427 – ISO 2342 – PN 82271

Norma

A2/A4

Materiał

Wkr. t dociskowy z kołcem płaskim, nacięcie płaskie



| | | | | | | |
|--------------|------|------|------|-----|-----|------|
| b | 3,6 | 4,8 | 6,0 | 7,2 | 9,6 | 12,0 |
| n | 0,4 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 |
| t min | 0,8 | 1,12 | 1,28 | 1,6 | 2,0 | 2,4 |
| t max | 1,05 | 1,42 | 1,63 | 2,0 | 2,5 | 3,0 |

| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 |
|---|-----|-----|-----|-----|-----|------|
|---|-----|-----|-----|-----|-----|------|

waga 100szt./kg

| | | | | | | |
|------------|-------|-------|------|------|------|------|
| I 6 | 0,027 | | | | | |
| 8 | 0,038 | 0,063 | A2 | | | |
| 10 | 0,049 | 0,083 | 0,13 | | | |
| 12 | 0,060 | 0,103 | 0,16 | 0,22 | | |
| 16 | 0,082 | 0,123 | 0,22 | 0,30 | 0,50 | |
| 20 | 0,104 | 0,143 | 0,28 | 0,39 | 0,66 | 1,01 |
| 25 | A2 | A2 | 0,36 | 0,47 | 0,86 | 1,31 |
| 30 | A2 | A2 | 0,44 | A2 | 1,06 | 1,61 |
| 35 | | A2 | A2 | A2 | A2 | A2 |
| 40 | | A2 | A2 | A2 | A2 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

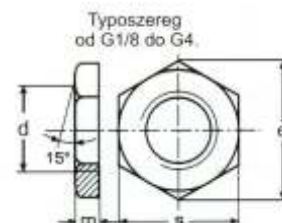
DIN 431

Norma

A2/A4

Materiał

Nakrętka rurowa



| d | waga 100szt./kg | s max | e min | m min |
|---------|-----------------|-------|-------|-------|
| G 1/8 | 1,16 | 19,0 | 20,88 | 6,0 |
| G 1/4 | 1,42 | 22,0 | 23,91 | 6,0 |
| G 3/8 | 2,61 | 27,0 | 29,56 | 7,0 |
| G 1/2 | 3,64 | 32,0 | 35,03 | 8,0 |
| G 5/8 | 3,10 | 32,0 | 35,03 | 8,0 |
| G 3/4 | 4,36 | 36,0 | 39,55 | 9,0 |
| G 7/8 | 5,40 | 41,0 | 45,20 | 9,0 |
| G 1 | 8,13 | 46,0 | 50,85 | 10,0 |
| G 1 1/4 | 11,7 | 55,0 | 60,79 | 11,0 |
| G 1 1/2 | 13,4 | 60,0 | 66,44 | 12,0 |
| G 2 | 27,7 | 75,0 | 82,60 | 13,0 |

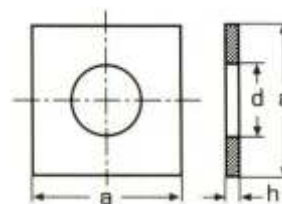
DIN 436 – PN 82010

Norma

A2/A4

Materiał

Podkładka kwadratowa



| wymiar | waga 100szt./kg | d | a | h |
|--------|-----------------|------|------|-----|
| M 10 | 2,0 | 11,0 | 30,0 | 3,0 |
| M 12 | 4,6 | 13,5 | 40,0 | 4,0 |
| M 16 | 8,9 | 17,5 | 50,0 | 5,0 |
| M 20 | 13,0 | 22,0 | 60,0 | 5,0 |
| M 22 | 20,9 | 24,0 | 70,0 | 6,0 |
| M 24 | 28,0 | 26,0 | 80,0 | 6,0 |

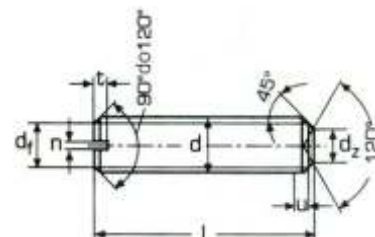
DIN 438 – ISO 7436 – PN 82274

Norma

A2/A4

Materiał

**Wkręt dociskowy z kołcem
w głębi bionym, z nacięciem
płaskim**



| | | | | | | | | |
|---------------|------|-----|------|------|-----|-----|-----|-----|
| n | 0,4 | 0,4 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 |
| t min | 0,72 | 0,8 | 1,12 | 1,28 | 1,6 | 2,0 | 2,4 | 2,8 |
| dz max | 1,2 | 1,4 | 2,0 | 2,5 | 3,0 | 5,0 | 6,0 | 8,0 |

| d | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|---|----------|--------|--------|--------|--------|--------|---------|---------|
|---|----------|--------|--------|--------|--------|--------|---------|---------|

waga 100szt./kg

| | | | | | | | | |
|------------|----|-------|-------|-------|-------|------|------|----|
| I 3 | A1 | 0,011 | | | | | | |
| 4 | A1 | 0,015 | 0,025 | | | | | |
| 5 | A1 | 0,019 | 0,033 | 0,051 | 0,06 | | | |
| 6 | A1 | 0,023 | 0,041 | 0,063 | 0,09 | | | |
| 8 | A1 | 0,031 | 0,056 | 0,087 | 0,12 | 0,22 | | |
| 10 | A1 | 0,040 | 0,072 | 0,111 | 0,16 | 0,29 | 0,40 | |
| 12 | A1 | 0,048 | 0,088 | 0,135 | 0,19 | 0,36 | 0,50 | A1 |
| 14 | A1 | 0,056 | 0,104 | 0,159 | 0,23 | 0,43 | 0,60 | A1 |
| 16 | A1 | 0,064 | 0,120 | 0,183 | 0,26 | 0,50 | 0,70 | A1 |
| 18 | | 0,072 | 0,136 | 0,207 | 0,29 | 0,57 | 0,80 | A1 |
| 20 | | 0,080 | 0,152 | 0,231 | 0,332 | 0,64 | 0,90 | A1 |
| 22 | | 0,088 | 0,168 | 0,255 | 0,37 | 0,71 | 1,00 | A1 |
| 25 | | 0,099 | 0,92 | 0,291 | 0,42 | 0,81 | 1,15 | A1 |
| 30 | | | | 0,351 | 0,51 | 0,99 | 1,40 | A1 |
| 35 | | | | | 0,59 | 1,17 | 1,65 | A1 |
| 40 | | | | | | 1,34 | 1,90 | A1 |

- brak w podstawowej ofercie

A1 - tylko A1

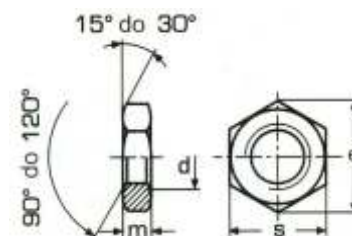
DIN 439 – ISO 4035 – PN 82153

Norma

A2/A4

Materiał

Nakrętka sześciokątna niska Forma B



| d | waga 100szt./kg | s | m | e min |
|--------|-----------------|------|------|-------|
| BM 1,6 | 0,006 | 3,2 | 1,0 | 3,48 |
| BM 2,0 | 0,011 | 4,0 | 1,2 | 4,38 |
| BM 2,3 | 0,013 | 4,5 | 1,2 | 5,2 |
| BM 2,5 | 0,022 | 5,0 | 1,6 | 5,51 |
| BM 2,6 | 0,027 | 5,0 | 1,6 | 5,8 |
| BM 3 | 0,029 | 5,5 | 1,8 | 6,08 |
| BM 4 | 0,057 | 7,0 | 2,2 | 7,74 |
| BM 5 | 0,083 | 8,0 | 2,7 | 8,87 |
| BM 6 | 0,16 | 10,0 | 3,2 | 11,05 |
| BM 8 | 0,32 | 13,0 | 4,0 | 14,38 |
| BM 10 | 0,72 | 17,0 | 5,0 | 18,9 |
| BM 12 | 1,04 | 19,0 | 6,0 | 21,1 |
| BM 14 | 1,59 | 22,0 | 7,0 | 24,49 |
| BM 16 | 2,05 | 24,0 | 8,0 | 26,75 |
| BM 18 | 2,96 | 27,0 | 9,0 | 30,14 |
| BM 20 | 4,00 | 30,0 | 10,0 | 33,53 |
| BM 22 | 4,83 | 32,0 | 11,0 | 35,72 |
| BM 24 | 6,95 | 36,0 | 12,0 | 39,98 |
| BM 27 | 10,1 | 41,0 | 13,5 | 45,63 |
| BM 30 | 13,9 | 46,0 | 15,0 | 51,28 |
| BM 33 | 18,3 | 50,0 | 16,5 | 55,8 |
| BM 36 | 24,4 | 55,0 | 18,0 | 61,31 |
| BM 39 | 31,6 | 60,0 | 19,5 | 66,96 |
| BM 42 | 40,3 | 65,0 | 21,0 | 72,61 |
| BM 45 | 50,0 | 70,0 | 22,5 | 78,26 |
| BM 48 | 61,7 | 75,0 | 24,0 | 83,91 |

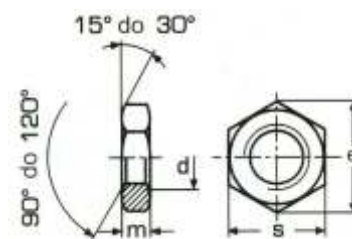
DIN 439 – ISO 4035 – PN 82153

Norma

A2/A4

Materiał

Nakrętka sześciokrotna niską Forma B



| d | s | m | e min |
|--------------|------|------|-------|
| BM 8 x 0,75 | 13,0 | 4,0 | 14,38 |
| BM 8 x 1 | 13,0 | 4,0 | 14,38 |
| BM 10 x 1 | 17,0 | 5,0 | 18,90 |
| BM 10 x 1,25 | 17,0 | 5,0 | 18,90 |
| BM 12 x 1 | 19,0 | 6,0 | 21,10 |
| BM 12 x 1,25 | 19,0 | 6,0 | 21,10 |
| BM 12 x 1,5 | 19,0 | 6,0 | 21,10 |
| BM 14 x 1,5 | 22,0 | 7,0 | 24,49 |
| BM 16 x 1,25 | 24,0 | 8,0 | 26,75 |
| BM 16 x 1,5 | 24,0 | 8,0 | 26,75 |
| BM 18 x 1,5 | 27,0 | 9,0 | 30,14 |
| BM 20 x 1,5 | 30,0 | 10,0 | 33,53 |
| BM 20 x 2 | 30,0 | 10,0 | 33,53 |
| BM 22 x 1,5 | 32,0 | 11,0 | 35,72 |
| BM 22 x 2 | 32,0 | 11,0 | 35,72 |
| BM 24 x 1,5 | 36,0 | 12,0 | 39,98 |
| BM 24 x 2 | 36,0 | 12,0 | 39,98 |
| BM 27 x 1,5 | 41,0 | 13,5 | 45,63 |
| BM 27 x 2 | 41,0 | 13,5 | 45,63 |
| BM 30 x 1,5 | 46,0 | 15,0 | 51,28 |
| BM 30 x 2 | 46,0 | 15,0 | 51,28 |
| BM 33 x 2 | 50,0 | 16,5 | 55,80 |

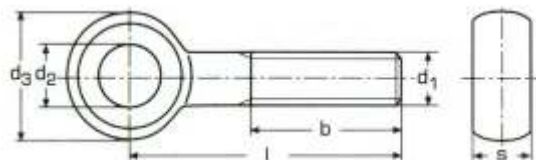
DIN 444 – PN 82425

Norma

A2/A4

Material

rubka oczkowa Forma B



| | | | | | | | |
|--------------------|------|------|-------|-------|-------|-------|-------|
| b- l<125 | 18,0 | 22,0 | 26,0 | 30,0 | 38,0 | 46,0 | 54,0 |
| b- l>125 | - | 28,0 | 32,0 | 36,0 | 44,0 | 52,0 | 60,0 |
| d2 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 18,0 | 22,0 |
| d3 | 14,0 | 18,0 | 20,0 | 25,0 | 32,0 | 40,0 | 45,0 |
| s min | 6,85 | 8,85 | 11,82 | 13,82 | 16,82 | 21,79 | 24,79 |

| d1 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 | M 24 |
|----|--------|--------|---------|---------|---------|---------|---------|
|----|--------|--------|---------|---------|---------|---------|---------|

waga 100szt./kg

| I | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1,20 | 1,26 | 1,37 | 1,48 | 1,59 | 1,70 | 1,81 | | A2 | | | | | | | | |
| | | 2,10 | 2,50 | 2,69 | 2,89 | 3,09 | 3,28 | 3,48 | 3,68 | 4,07 | 4,47 | 4,86 | | | | | |
| | | | 3,30 | 3,60 | 3,91 | 4,22 | 4,53 | 4,84 | 5,15 | 5,76 | 6,38 | 7,00 | 7,61 | 8,23 | | | |
| | | | | | 6,30 | 6,70 | 7,14 | 7,58 | 8,03 | 8,92 | 9,81 | 10,6 | 11,5 | 12,4 | 13,3 | 14,2 | 15,1 |
| | | | | | | | 14,0 | 14,5 | 14,9 | 16,4 | 18,0 | 19,6 | 21,2 | 22,8 | 24,4 | 25,9 | 27,5 |
| | | | | | | | | | 26,0 | 28,0 | 31,0 | 33,4 | 35,9 | 38,3 | 40,8 | 43,3 | 45,7 |
| | | | | | | | | | | 38,4 | 41,9 | 45,4 | 48,9 | 52,4 | 56,0 | 59,6 | 63,1 |

- brak w podstawowej ofercie

A2 - tylko A2

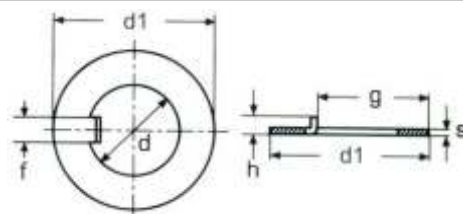
DIN 462 – PN 82016

Norma

A2/A4

Materiał

Podkładka odginana z noskiem wewn trznym



| d | d1 | h | g | f | s |
|----|------|-----|------|-----|-----|
| 6 | 16,0 | 2,5 | 3,9 | 3,0 | 0,8 |
| 8 | 20,0 | 2,5 | 5,9 | 3,0 | 0,8 |
| 10 | 25,0 | 3,0 | 7,4 | 4,0 | 0,8 |
| 12 | 28,0 | 3,0 | 9,3 | 5,0 | 0,8 |
| 14 | 30,0 | 3,0 | 11,4 | 5,0 | 0,8 |
| 16 | 32,0 | 3,0 | 13,5 | 5,0 | 1,0 |
| 18 | 34,0 | 4,0 | 15,4 | 6,0 | 1,0 |
| 20 | 36,0 | 4,0 | 17,5 | 6,0 | 1,0 |
| 22 | 40,0 | 4,0 | 19,5 | 6,0 | 1,0 |
| 24 | 42,0 | 4,0 | 21,6 | 6,0 | 1,0 |
| 26 | 45,0 | 5,0 | 23,5 | 7,0 | 1,0 |
| 28 | 50,0 | 5,0 | 25,5 | 7,0 | 1,0 |
| 30 | 50,0 | 5,0 | 27,5 | 7,0 | 1,2 |
| 32 | 52,0 | 5,0 | 29,6 | 7,0 | 1,2 |
| 35 | 55,0 | 5,0 | 32,6 | 7,0 | 1,2 |
| 38 | 58,0 | 5,0 | 35,3 | 8,0 | 1,2 |
| 40 | 62,0 | 5,0 | 37,3 | 8,0 | 1,2 |

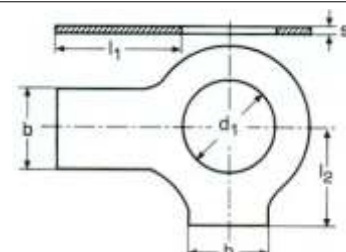
DIN 463 – PN 82022

Norma

A2/A4

Materiał

Podkładka odginana dwułapkowa



| wymiar | waga 100szt./kg | d1 | l1 | l2 | b | s |
|--------|--------------------|------|------|------|------|------|
| M 4 | 0,033 | 4,3 | 14,0 | 6,5 | 5,0 | 0,38 |
| M 5 | 0,055 | 5,3 | 16,0 | 8,0 | 6,0 | 0,5 |
| M 6 | 0,08 | 6,4 | 18,0 | 9,0 | 7,0 | 0,5 |
| M 8 | 0,17 | 8,4 | 20,0 | 11,0 | 8,0 | 0,75 |
| M 10 | 0,25 | 10,5 | 22,0 | 13,0 | 10,0 | 0,75 |
| M 12 | 0,44 | 13,0 | 28,0 | 15,0 | 12,0 | 1,0 |
| M 14 | 0,51 | 15,0 | 28,0 | 16,0 | 12,0 | 1,0 |
| M 16 | 0,63 | 17,0 | 32,0 | 18,0 | 15,0 | 1,0 |
| M 18 | 0,82 | 19,0 | 36,0 | 20,0 | 18,0 | 1,0 |
| M 20 | 0,90 | 21,0 | 36,0 | 21,0 | 18,0 | 1,0 |
| M 22 | 1,00 | 23,0 | 42,0 | 23,0 | 20,0 | 1,0 |
| M 24 | 1,20 | 25,0 | 42,0 | 25,0 | 20,0 | 1,0 |
| M 27 | 2,53 | 28,0 | 48,0 | 29,0 | 23,0 | 1,6 |
| M 30 | 3,14 | 31,0 | 52,0 | 32,0 | 26,0 | 1,6 |
| M 33 | 3,56 | 34,0 | 56,0 | 34,0 | 28,0 | 1,6 |
| M 36 | 4,25 | 37,0 | 60,0 | 38,0 | 30,0 | 1,6 |
| M 39 | 4,97 | 40,0 | 64,0 | 41,0 | 32,0 | 1,6 |

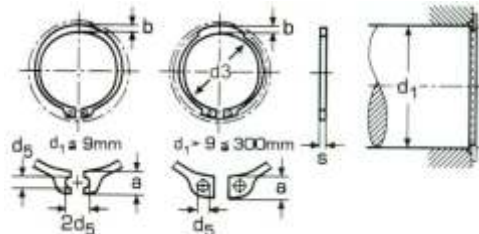
DIN 471 – PN 85111

Norma

1.4122

Materiał

Pierścień zabezpieczający zewnętrzny



| d1 | waga 100szt./kg | d3 | s | a max | b~ | d5 min |
|-------|--------------------|-------|------|-------|------|--------|
| A 3 | 0,0017 | 2,7 | 0,4 | 1,9 | 0,8 | 1,0 |
| A 4 | 0,0022 | 3,7 | 0,4 | 2,2 | 0,9 | 1,0 |
| A 5 | 0,0066 | 4,7 | 0,6 | 2,5 | 1,1 | 1,0 |
| A 6 | 0,0084 | 5,6 | 0,7 | 2,7 | 1,3 | 1,2 |
| A 7 | 0,0121 | 6,5 | 0,8 | 3,1 | 1,4 | 1,2 |
| A 8 | 0,016 | 7,4 | 0,8 | 3,2 | 1,5 | 1,2 |
| A 9 | 0,030 | 8,4 | 1,0 | 3,3 | 1,7 | 1,2 |
| A 10 | 0,034 | 9,3 | 1,0 | 3,3 | 1,8 | 1,5 |
| A 11 | 0,041 | 10,2 | 1,0 | 3,3 | 1,8 | 1,5 |
| A 12 | 0,050 | 11,0 | 1,0 | 3,3 | 1,8 | 1,7 |
| A 13 | 0,053 | 11,9 | 1,0 | 3,4 | 2,0 | 1,7 |
| A 14 | 0,064 | 12,9 | 1,0 | 3,5 | 2,1 | 1,7 |
| A 15 | 0,067 | 13,8 | 1,0 | 3,6 | 2,2 | 1,7 |
| A 16 | 0,070 | 14,7 | 1,0 | 3,7 | 2,2 | 1,7 |
| A 17 | 0,082 | 15,7 | 1,0 | 3,8 | 2,3 | 1,7 |
| A 18 | 0,11 | 16,5 | 1,2 | 3,9 | 2,4 | 2,0 |
| A 19 | 0,12 | 17,5 | 1,2 | 3,9 | 2,5 | 2,0 |
| A 20 | 0,13 | 18,5 | 1,2 | 4,0 | 2,6 | 2,0 |
| A 21 | 0,14 | 19,5 | 1,2 | 4,1 | 2,7 | 2,0 |
| A 22 | 0,15 | 20,5 | 1,2 | 4,2 | 2,8 | 2,0 |
| A 23 | 0,16 | 21,4 | 1,2 | 4,3 | 2,9 | 2,0 |
| A 24 | 0,18 | 22,2 | 1,2 | 4,4 | 3,0 | 2,0 |
| A 25 | 0,19 | 23,2 | 1,2 | 4,4 | 3,0 | 2,0 |
| A 26 | 0,20 | 24,2 | 1,2 | 4,5 | 3,1 | 2,0 |
| A 27 | 0,24 | 25,1 | 1,2 | 4,6 | 3,1 | 2,0 |
| A 28 | 0,29 | 25,9 | 1,5 | 4,7 | 3,2 | 2,0 |
| A 29 | 0,32 | 26,9 | 1,5 | 4,8 | 3,4 | 2,0 |
| A 30 | 0,33 | 27,9 | 1,5 | 5,0 | 3,5 | 2,0 |
| A 32 | 0,35 | 29,6 | 1,5 | 5,2 | 3,6 | 2,5 |
| A 34 | 0,38 | 31,5 | 1,5 | 5,4 | 3,8 | 2,5 |
| A 35 | 0,40 | 32,2 | 1,5 | 5,6 | 3,9 | 2,5 |
| A 36 | 0,50 | 33,2 | 1,75 | 5,6 | 4,0 | 2,5 |
| A 38 | 0,56 | 35,2 | 1,75 | 5,8 | 4,2 | 2,5 |
| A 39 | 0,58 | 36,0 | 1,75 | 5,9 | 4,3 | 2,5 |
| A 40 | 0,60 | 36,5 | 1,75 | 6,0 | 4,4 | 2,5 |
| A 42 | 0,62 | 38,5 | 1,75 | 6,5 | 4,5 | 2,5 |
| A 45 | 0,75 | 41,5 | 1,75 | 6,7 | 4,7 | 2,5 |
| A 48 | 0,79 | 44,5 | 1,75 | 6,9 | 5,0 | 2,5 |
| A 50 | 1,02 | 45,8 | 2,0 | 6,9 | 5,1 | 2,5 |
| A 55 | 1,14 | 50,8 | 2,0 | 7,2 | 5,4 | 2,5 |
| A 60 | 1,29 | 55,8 | 2,5 | 7,4 | 5,8 | 2,5 |
| A 65 | 1,82 | 60,8 | 2,5 | 7,8 | 6,3 | 3,0 |
| A 70 | 2,20 | 65,5 | 2,5 | 8,1 | 6,6 | 3,0 |
| A 75 | 2,46 | 70,5 | 2,5 | 8,4 | 7,0 | 3,0 |
| A 80 | 2,73 | 74,5 | 2,5 | 8,6 | 7,4 | 3,0 |
| A 85 | 3,64 | 79,5 | 3,0 | 8,7 | 7,8 | 3,5 |
| A 90 | 4,45 | 84,5 | 3,0 | 8,8 | 8,2 | 3,5 |
| A 95 | 4,90 | 89,5 | 3,0 | 9,4 | 8,6 | 3,5 |
| A 100 | 5,37 | 94,5 | 3,0 | 9,6 | 9,0 | 3,5 |
| A 105 | 8,00 | 98,0 | 4,0 | 9,9 | 9,3 | 3,5 |
| A 110 | 8,20 | 103,0 | 4,0 | 10,1 | 9,6 | 3,5 |
| A 120 | 8,60 | 113,0 | 4,0 | 11,0 | 10,2 | 3,5 |

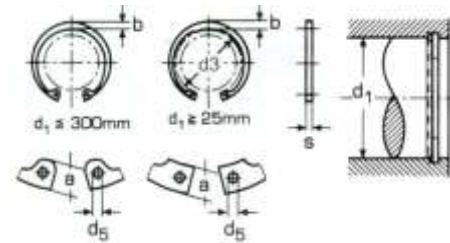
DIN 472 – PN 85111

Norma

1.4122

Materiał

Pierścień zabezpieczający wewnętrzny



| d1 | waga 100szt./kg | d3 | s | a max | b~ | d5 min |
|------|--------------------|------|------|-------|-----|--------|
| I 8 | 0,014 | 8,7 | 0,8 | 2,4 | 1,1 | 1,0 |
| I 9 | 0,015 | 9,8 | 0,8 | 2,5 | 1,3 | 1,0 |
| I 10 | 0,018 | 10,8 | 1,0 | 3,2 | 1,4 | 1,2 |
| I 11 | 0,031 | 11,8 | 1,0 | 3,3 | 1,5 | 1,2 |
| I 12 | 0,037 | 13,0 | 1,0 | 3,4 | 1,7 | 1,7 |
| I 13 | 0,042 | 14,1 | 1,0 | 3,6 | 1,8 | 1,5 |
| I 14 | 0,052 | 15,1 | 1,0 | 3,7 | 1,9 | 1,7 |
| I 15 | 0,056 | 16,2 | 1,0 | 3,7 | 2,0 | 1,7 |
| I 16 | 0,060 | 17,3 | 1,0 | 3,8 | 2,0 | 1,7 |
| I 17 | 0,065 | 18,3 | 1,0 | 3,9 | 2,1 | 1,7 |
| I 18 | 0,074 | 19,5 | 1,0 | 4,1 | 2,2 | 2,0 |
| I 19 | 0,083 | 20,5 | 1,0 | 4,1 | 2,2 | 2,0 |
| I 20 | 0,09 | 21,5 | 1,0 | 4,2 | 2,3 | 2,0 |
| I 21 | 0,10 | 22,5 | 1,0 | 4,2 | 2,4 | 2,0 |
| I 22 | 0,11 | 23,5 | 1,0 | 4,2 | 2,5 | 2,0 |
| I 23 | 0,13 | 24,5 | 1,2 | 4,3 | 2,5 | 2,0 |
| I 24 | 0,14 | 25,9 | 1,2 | 4,4 | 2,6 | 2,0 |
| I 25 | 0,15 | 26,9 | 1,2 | 4,5 | 2,7 | 2,0 |
| I 26 | 0,16 | 27,9 | 1,2 | 4,7 | 2,8 | 2,0 |
| I 27 | 0,17 | 28,9 | 1,2 | 4,7 | 2,8 | 2,0 |
| I 28 | 0,18 | 30,1 | 1,2 | 4,8 | 2,9 | 2,0 |
| I 29 | 0,19 | 31,1 | 1,2 | 4,8 | 3,0 | 2,0 |
| I 30 | 0,20 | 32,1 | 1,2 | 4,8 | 3,0 | 2,0 |
| I 31 | 0,21 | 33,4 | 1,2 | 5,2 | 3,2 | 2,5 |
| I 32 | 0,22 | 34,4 | 1,2 | 5,4 | 3,2 | 2,5 |
| I 33 | 0,23 | 35,5 | 1,2 | 5,4 | 3,3 | 2,5 |
| I 34 | 0,32 | 36,5 | 1,5 | 5,4 | 3,3 | 2,5 |
| I 35 | 0,35 | 37,8 | 1,5 | 5,4 | 3,4 | 2,5 |
| I 36 | 0,37 | 38,8 | 1,5 | 5,4 | 3,5 | 2,5 |
| I 37 | 0,37 | 39,8 | 1,5 | 5,5 | 3,6 | 2,5 |
| I 38 | 0,39 | 40,8 | 1,5 | 5,5 | 3,7 | 2,5 |
| I 39 | 0,42 | 42,0 | 1,5 | 5,6 | 3,8 | 2,5 |
| I 40 | 0,47 | 43,5 | 1,75 | 5,8 | 3,9 | 2,5 |
| I 41 | 0,50 | 44,5 | 1,75 | 5,9 | 4,0 | 2,5 |
| I 42 | 0,54 | 45,5 | 1,75 | 5,9 | 4,1 | 2,5 |
| I 43 | 0,56 | 46,5 | 1,75 | 5,9 | 4,2 | 2,5 |
| I 44 | 0,58 | 47,5 | 1,75 | 6,0 | 4,2 | 2,5 |
| I 45 | 0,60 | 48,5 | 1,75 | 6,2 | 4,3 | 2,5 |
| I 47 | 0,61 | 50,5 | 1,75 | 6,4 | 4,4 | 2,5 |
| I 48 | 0,67 | 51,5 | 1,75 | 6,4 | 4,5 | 2,5 |
| I 50 | 0,73 | 54,2 | 2,0 | 6,5 | 4,6 | 2,5 |
| I 52 | 0,82 | 56,2 | 2,0 | 6,7 | 4,7 | 2,5 |
| I 55 | 0,85 | 59,2 | 2,0 | 6,8 | 5,0 | 2,5 |
| I 58 | 1,05 | 62,2 | 2,0 | 6,9 | 5,2 | 2,5 |
| I 60 | 1,11 | 64,2 | 2,0 | 7,3 | 5,4 | 2,5 |
| I 62 | 1,12 | 66,2 | 2,0 | 7,3 | 5,5 | 2,5 |
| I 65 | 1,43 | 69,2 | 2,5 | 7,6 | 5,8 | 3,0 |
| I 68 | 1,60 | 72,5 | 2,5 | 7,8 | 6,1 | 3,0 |
| I 70 | 1,65 | 74,5 | 2,5 | 7,8 | 6,2 | 3,0 |
| I 72 | 1,81 | 76,5 | 2,5 | 7,8 | 6,4 | 3,0 |

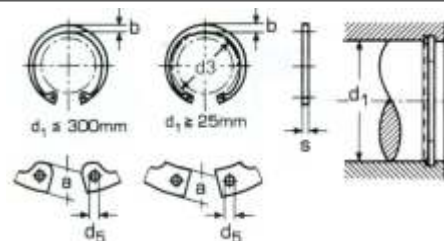
DIN 472 – PN 85111

Norma

1.4122

Materiał

**Pierścień zabezpieczający
wewnętrzny**



| d1 | waga 100szt./kg | d3 | s | a max | b~ | d5 min |
|-------|--------------------|-------|-----|-------|------|--------|
| I 75 | 1,88 | 79,5 | 2,5 | 7,8 | 6,6 | 3,0 |
| I 80 | 2,20 | 85,5 | 2,5 | 8,5 | 7,0 | 3,0 |
| I 85 | 2,53 | 90,5 | 3,0 | 8,6 | 7,2 | 3,5 |
| I 90 | 3,10 | 95,5 | 3,0 | 8,6 | 7,6 | 3,5 |
| I 95 | 3,50 | 100,5 | 3,0 | 8,8 | 8,1 | 3,5 |
| I 100 | 3,80 | 105,5 | 3,0 | 9,2 | 8,4 | 3,5 |
| I 105 | 5,60 | 112,0 | 4,0 | 9,5 | 8,7 | 3,5 |
| I 110 | 6,45 | 117,0 | 4,0 | 10,4 | 9,0 | 3,5 |
| I 120 | 7,70 | 127,0 | 4,0 | 11,0 | 9,7 | 3,5 |
| I 130 | 8,20 | 137,0 | 4,0 | 11,0 | 10,2 | 4,0 |
| I 140 | 8,75 | 147,0 | 4,0 | 11,2 | 10,7 | 4,0 |

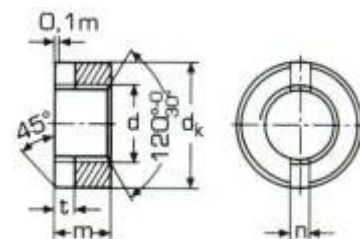
DIN 546 – PN 82463

Norma

A2/A4

Materiał

Nakrętka okrągła z nacięciem



| d | waga 100szt./kg | dk | m | n | t min |
|-------|--------------------|------|------|-----|-------|
| M 1,6 | 0,010 | 3,5 | 1,6 | 0,5 | 0,6 |
| M 2 | 0,021 | 4,5 | 2,0 | 1,0 | 0,8 |
| M 2,5 | 0,034 | 5,5 | 2,2 | 1,2 | 0,9 |
| M 3 | 0,043 | 6,0 | 2,5 | 1,2 | 1,0 |
| M 4 | 0,11 | 8,0 | 3,5 | 1,4 | 1,2 |
| M 5 | 0,18 | 9,0 | 4,2 | 2,0 | 1,5 |
| M 6 | 0,27 | 11,0 | 5,0 | 2,5 | 2,0 |
| M 8 | 0,56 | 14,0 | 6,5 | 3,0 | 2,5 |
| M 10 | 1,15 | 18,0 | 8,0 | 3,5 | 3,2 |
| M 12 | 2,15 | 21,0 | 10,0 | 4,0 | 3,8 |
| M 16 | 3,68 | 26,0 | 12,0 | 4,0 | 3,8 |
| M 20 | 5,72 | 32,0 | 14,0 | 5,0 | 4,8 |

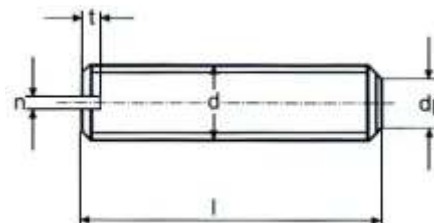
DIN 551 – ISO 4766 – PN 82272

Norma

A2/A4

Material

**Wkręt dociskowy z kołkiem
płaskim, z nacięciem płaskim**



| | | | | | | | | | | |
|---------------|------|------|------|------|------|------|-----|-----|------|------|
| n | 0,25 | 0,25 | 0,4 | 0,4 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 |
| t min | 0,56 | 0,64 | 0,72 | 0,8 | 1,12 | 1,28 | 1,6 | 2,0 | 2,4 | 2,8 |
| t max | 0,74 | 0,84 | 0,95 | 1,05 | 1,42 | 1,63 | 2,0 | 2,5 | 3,0 | 3,6 |
| dp max | 0,7 | 0,75 | 1,25 | 1,75 | 2,25 | 3,2 | 3,7 | 5,2 | 6,64 | 8,14 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|

waga 100szt./kg

| I 2 | A2 | A2 | | | | | | | | |
|-----|----|----|-------|-------|-------|-------|-------|------|------|----|
| 3 | A2 | A2 | 0,007 | 0,012 | | | | | | |
| 4 | A2 | A2 | 0,011 | 0,016 | 0,026 | A2 | | | | |
| 5 | A2 | A2 | 0,015 | 0,020 | 0,034 | 0,052 | | | | |
| 6 | A2 | A2 | 0,019 | 0,024 | 0,042 | 0,065 | 0,090 | | | |
| 8 | A2 | A2 | 0,023 | 0,032 | 0,058 | 0,090 | 0,125 | 0,23 | | |
| 10 | A2 | A2 | 0,030 | 0,041 | 0,074 | 0,115 | 0,160 | 0,30 | 0,42 | |
| 12 | | A2 | 0,037 | 0,050 | 0,090 | 0,140 | 0,195 | 0,37 | 0,52 | A2 |
| 16 | | A2 | 0,044 | 0,059 | 0,106 | 0,165 | 0,230 | 0,44 | 0,62 | A2 |
| 20 | | | | 0,068 | 0,122 | 0,190 | 0,265 | 0,51 | 0,72 | A2 |
| 25 | | | | | 0,154 | 0,240 | 0,335 | 0,65 | 0,92 | A2 |
| 30 | | | | | 0,186 | 0,303 | 0,423 | 0,82 | 1,17 | A2 |
| 35 | | | | | 0,218 | 0,350 | 0,510 | 1,00 | 1,42 | A2 |
| 40 | | | | | 0,250 | 0,400 | 0,598 | 1,18 | 1,67 | A2 |
| 45 | | | | | 0,282 | 0,450 | 0,686 | 1,35 | 1,92 | |
| 50 | | | | | 0,314 | 0,500 | 0,774 | 1,54 | 2,17 | |
| 55 | | | | | | | | | 2,42 | |
| 60 | | | | | | | 0,95 | 1,90 | 2,67 | |
| 70 | | | | | | | | A2 | | |

- brak w podstawowej ofercie

A2 - tylko A2

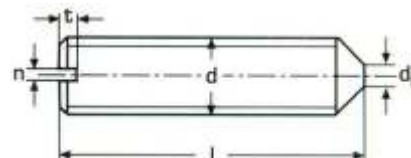
DIN 553 – ISO 7434 – PN 82273

Norma

A2/A4

Materiał

**Wkr. t. dociskowy z kołcem
st. kowym, z nacięciem płaskim**



| | | | | | | | | | | |
|--------------|------|------|------|------|------|------|-----|-----|-----|-----|
| n | 0,25 | 0,25 | 0,4 | 0,4 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 |
| t min | 0,56 | 0,64 | 0,72 | 0,8 | 1,12 | 1,28 | 1,6 | 2,0 | 2,4 | 2,8 |
| t max | 0,74 | 0,84 | 0,95 | 1,03 | 1,42 | 1,63 | 2,0 | 2,5 | 3,0 | 3,6 |
| dt | 0,16 | 0,2 | 0,25 | 0,3 | 0,4 | 0,5 | 1,5 | 2,0 | 2,5 | 3,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|----------|--------------|------------|--------------|------------|------------|------------|------------|------------|-------------|-------------|
|----------|--------------|------------|--------------|------------|------------|------------|------------|------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | | | |
|------------|----|----|-------|-------|-------|-------|-------|-------|------|----|
| I 2 | A1 | A1 | | | | | | | | |
| 3 | A1 | A1 | A1 | A1 | | | | | | |
| 4 | A1 | A1 | A1 | A2 | A2 | | | | | |
| 5 | A1 | A2 | 0,013 | 0,017 | 0,029 | 0,040 | | | | |
| 6 | A1 | A2 | 0,016 | 0,021 | 0,036 | 0,052 | 0,064 | | | |
| 8 | A1 | A2 | 0,022 | 0,029 | 0,051 | 0,077 | 0,104 | 0,201 | | |
| 10 | A1 | A2 | 0,028 | 0,037 | 0,066 | 0,102 | 0,144 | 0,265 | 0,36 | |
| 12 | | A2 | 0,034 | 0,045 | 0,082 | 0,127 | 0,184 | 0,325 | 0,46 | |
| 16 | | A2 | 0,040 | 0,061 | 0,112 | 0,176 | 0,264 | 0,445 | 0,66 | A2 |
| 20 | | | | 0,077 | 0,142 | 0,225 | 0,344 | 0,565 | 0,86 | A2 |
| 25 | | | | | 0,182 | 0,288 | 0,444 | 0,715 | 1,11 | A2 |
| 30 | | | | | 0,222 | 0,351 | 0,544 | 0,865 | 1,36 | A2 |
| 35 | | | | | 0,261 | 0,414 | 0,644 | 1,02 | 1,61 | |
| 40 | | | | | 0,302 | 0,477 | 0,743 | 1,17 | 1,86 | |
| 45 | | | | | 0,342 | 0,540 | 0,844 | 1,32 | 2,11 | |
| 50 | | | | | 0,382 | 0,603 | 0,944 | 1,47 | 2,36 | |
| 60 | | | | | | | 1,144 | 1,77 | 2,86 | |

- brak w podstawowej ofercie

A1 - tylko A1

A2 - tylko A2

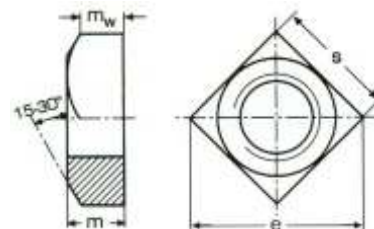
DIN 557 – PN 82151

Norma

A2/A4

Materiał

Nakrętka kwadratowa



| d | waga 100szt./kg | m | s | e~ | mw |
|------|--------------------|------|------|------|-----|
| M 5 | 0,13 | 4,0 | 8,0 | 11,3 | 2,5 |
| M 6 | 0,28 | 5,0 | 10,0 | 14,1 | 3,2 |
| M 8 | 0,55 | 6,5 | 13,0 | 18,4 | 4,1 |
| M 10 | 1,30 | 8,0 | 17,0 | 24,0 | 5,2 |
| M 12 | 1,91 | 10,0 | 19,0 | 26,9 | 6,6 |
| M 16 | 3,82 | 13,0 | 24,0 | 33,9 | 8,6 |

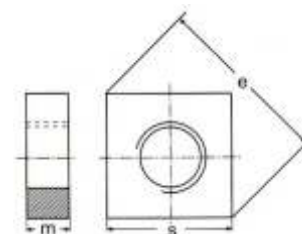
DIN 562 – PN 82151

Norma

A2/A4

Materiał

Nakrętka kwadratowa niska



| d | waga 100szt./kg | m | s | E |
|-------|-----------------|-----|------|------|
| M 2 | 0,013 | 1,2 | 4,0 | 5,0 |
| M 2,5 | 0,027 | 1,6 | 5,0 | 6,3 |
| M 3 | 0,035 | 1,8 | 5,5 | 7,0 |
| M 4 | 0,064 | 2,2 | 7,0 | 8,9 |
| M 5 | 0,11 | 2,7 | 8,0 | 10,2 |
| M 6 | 0,19 | 3,2 | 10,0 | 12,7 |
| M 8 | 0,40 | 4,0 | 13,0 | 16,5 |
| M 10 | 0,88 | 5,0 | 17,0 | 21,5 |

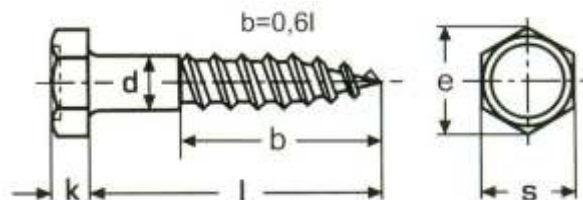
DIN 571 – PN 82501

Norma

A2/A4

Materiał

Wkręty do drewna z łbem sześciokątnym



| | | | | | | | | |
|---|-----|------|-------|-------|------|-------|-------|-------|
| k | 2,8 | 3,5 | 4,0 | 5,0 | 5,5 | 7,0 | 8,0 | 10,0 |
| e | 7,5 | 8,63 | 10,89 | 13,07 | 14,2 | 18,72 | 20,88 | 26,17 |
| s | 7,0 | 8,0 | 10,0 | 12,0 | 13,0 | 17,0 | 19,0 | 24,0 |

| d | M 4 | M 5 | M 6 | M 7 | M 8 | M 10 | M 12 | M 16 |
|------|-----------------|------|------|------|------|------|------|------|
| | waga 100szt./kg | | | | | | | |
| I 20 | 0,20 | A2 | A2 | | | | | |
| 25 | 0,24 | 0,40 | 0,58 | | 1,15 | | | |
| 30 | 0,28 | 0,46 | 0,66 | 0,97 | 1,29 | | | |
| 35 | 0,31 | 0,51 | 0,74 | 1,08 | 1,42 | | | |
| 40 | 0,35 | 0,58 | 0,82 | 1,19 | 1,56 | 2,80 | | |
| 45 | 0,39 | 0,64 | 0,89 | 1,29 | 1,69 | 3,00 | | |
| 50 | 0,43 | 0,70 | 0,96 | 1,39 | 1,82 | 3,21 | 4,54 | A2 |
| 55 | | 0,76 | 1,05 | 1,49 | 1,96 | 3,43 | | |
| 60 | | 0,82 | 1,12 | 1,60 | 2,09 | 3,65 | 5,18 | 9,49 |
| 65 | | | 1,20 | A2 | 2,22 | 3,85 | A4 | |
| 70 | | 0,94 | 1,30 | 1,81 | 2,36 | 4,07 | 5,78 | 10,7 |
| 80 | | A2 | 1,60 | 2,12 | 2,65 | 4,52 | 6,45 | 11,8 |
| 90 | | | 1,80 | 2,37 | 2,94 | 5,00 | 7,10 | 13,0 |
| 100 | | | 2,10 | 2,87 | 3,70 | 6,20 | 7,71 | 14,1 |
| 110 | | | 2,40 | 3,25 | 4,10 | 6,70 | 8,34 | 15,2 |
| 120 | | | 2,70 | 3,60 | 4,50 | 7,20 | 8,95 | 16,3 |
| 130 | | | 3,00 | 3,95 | 4,90 | 7,70 | 9,70 | 17,5 |
| 140 | | | A2 | 4,30 | 5,30 | 8,20 | 11,5 | 18,7 |
| 150 | | | | 4,65 | 5,70 | 8,70 | 12,4 | 19,8 |
| 160 | | | | A2 | 6,10 | 9,20 | 13,1 | 20,9 |
| 170 | | | | A2 | | A2 | | |
| 180 | | | | A2 | 6,90 | 10,0 | 13,9 | 23,1 |
| 200 | | | | | A2 | 10,8 | 15,5 | 25,3 |
| 220 | | | | | | | 17,1 | |
| 240 | | | | | | | 18,7 | |
| 250 | | | | | | | 19,5 | |
| 260 | | | | | | | 20,3 | |
| 280 | | | | | | | 21,9 | |
| 300 | | | | | | | 23,5 | |

- brak w podstawowej ofercie

A2 - tylko A2

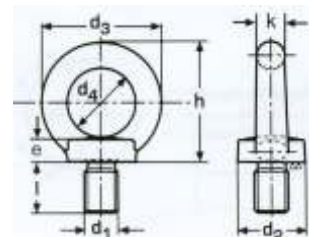
DIN 580 – ISO 3266 – PN 82472

Norma

A2/A4

Materiał

rubka z uchem



| d1 | waga 100szt./kg | l | d2 | d3 | d4 | h | e | k |
|------|--------------------|------|------|-------|------|-------|------|------|
| M 8 | 6,0 | 13,0 | 20,0 | 36,0 | 20,0 | 36,0 | 6,0 | 8,0 |
| M 10 | 11,0 | 17,0 | 25,0 | 45,0 | 25,0 | 45,0 | 8,0 | 10,0 |
| M 12 | 18,0 | 20,5 | 30,0 | 54,0 | 30,0 | 53,0 | 10,0 | 12,0 |
| M 16 | 28,0 | 27,0 | 35,0 | 63,0 | 35,0 | 62,0 | 12,0 | 14,0 |
| M 20 | 45,0 | 30,0 | 40,0 | 72,0 | 40,0 | 71,0 | 14,0 | 16,0 |
| M 24 | 74,0 | 36,0 | 50,0 | 90,0 | 50,0 | 90,0 | 18,0 | 20,0 |
| M 27 | 120,0 | 45,0 | 65,0 | 108,0 | 65,0 | 109,0 | 22,0 | 22,0 |
| M 30 | 166,0 | 45,0 | 65,0 | 108,0 | 65,0 | 109,0 | 22,0 | 24,0 |
| M 36 | 265,0 | 54,0 | 75,0 | 126,0 | 75,0 | 128,0 | 26,0 | 28,0 |

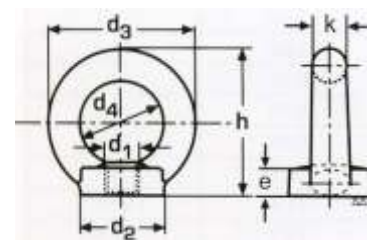
DIN 582

Norma

A2/A4

Materiał

Nakrętka z uchem



| d1 | waga 100szt./kg | d2 | d3 | d4 | h | e | k |
|------|--------------------|------|-------|------|-------|------|------|
| M 8 | 5,0 | 20,0 | 36,0 | 20,0 | 36,0 | 8,5 | 8,0 |
| M 10 | 9,0 | 25,0 | 45,0 | 25,0 | 45,0 | 10,0 | 10,0 |
| M 12 | 16,0 | 30,0 | 54,0 | 30,0 | 53,0 | 11,0 | 12,0 |
| M 16 | 24,0 | 35,0 | 63,0 | 35,0 | 62,0 | 13,0 | 14,0 |
| M 20 | 36,0 | 40,0 | 72,0 | 40,0 | 71,0 | 16,0 | 16,0 |
| M 24 | 72,0 | 50,0 | 90,0 | 50,0 | 90,0 | 20,0 | 20,0 |
| M 27 | 102,0 | 65,0 | 108,0 | 65,0 | 109,0 | 22,0 | 22,0 |
| M 30 | 132,0 | 65,0 | 108,0 | 65,0 | 109,0 | 25,0 | 24,0 |
| M 36 | 208,0 | 75,0 | 126,0 | 75,0 | 128,0 | 30,0 | 28,0 |

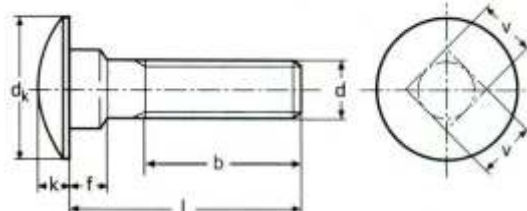
DIN 603 – ISO 8677 – PN 82406

A2/A4

Norma

Materiał

ruba zamkowa



| | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|------|
| b- l<125 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 38,0 |
| b- l>125 < 200 | - | 24,0 | 28,0 | 32,0 | 36,0 | 44,0 |
| b- l>200 | - | - | 41,0 | 45,0 | 49,0 | 57,0 |
| f max | 4,1 | 4,6 | 5,6 | 6,6 | 8,75 | 12,9 |
| k max | 3,3 | 3,88 | 4,88 | 5,38 | 6,95 | 8,95 |
| dk max | 13,55 | 16,55 | 20,65 | 24,65 | 30,65 | 38,8 |
| v max | 5,48 | 6,48 | 8,58 | 10,58 | 12,7 | 16,7 |

| d | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 |
|----------|----------------|----------------|----------------|-----------------|-----------------|-----------------|
|----------|----------------|----------------|----------------|-----------------|-----------------|-----------------|

waga 100szt./kg

| | | | | | | |
|-------------|------|------|------|------|------|------|
| I 12 | A2 | A2 | A2 | | | |
| 16 | 0,40 | 0,69 | 1,22 | 2,05 | | |
| 20 | 0,45 | 0,76 | 1,38 | 2,27 | | |
| 25 | 0,51 | 0,85 | 1,54 | 2,52 | 4,30 | |
| 30 | 0,59 | 0,96 | 1,70 | 2,77 | 4,57 | 9,11 |
| 35 | 0,67 | 1,07 | 1,90 | 3,02 | 4,94 | 9,83 |
| 40 | 0,75 | 1,18 | 2,10 | 3,27 | 5,31 | 10,5 |
| 45 | 0,83 | 1,29 | 2,30 | 3,58 | 5,68 | 11,2 |
| 50 | 0,91 | 1,40 | 2,50 | 3,89 | 6,12 | 11,9 |
| 55 | 0,99 | 1,51 | 2,69 | 4,20 | 6,56 | 12,6 |
| 60 | 1,07 | 1,62 | 2,89 | 4,51 | 7,00 | 13,3 |
| 65 | 1,15 | 1,73 | 3,09 | 4,82 | 7,44 | 14,1 |
| 70 | 1,23 | 1,84 | 3,29 | 5,13 | 7,88 | 14,9 |
| 75 | 1,31 | 1,95 | 3,50 | 5,44 | 8,32 | 15,7 |
| 80 | 1,39 | 2,06 | 3,68 | 5,75 | 8,70 | 16,5 |
| 90 | A2 | 2,28 | 4,08 | 6,37 | 9,60 | 18,1 |
| 100 | A2 | 2,50 | 4,48 | 6,99 | 10,5 | 19,7 |
| 110 | A2 | 2,72 | 4,88 | 7,61 | 11,4 | 21,3 |
| 120 | | 2,94 | 5,28 | 8,23 | 12,3 | 22,9 |
| 130 | | A2 | 5,68 | 8,85 | 13,2 | 24,5 |
| 140 | | A2 | 6,08 | 9,50 | 14,1 | 26,1 |
| 150 | | A2 | 6,48 | 10,1 | 15,0 | 27,7 |
| 160 | | | A2 | A2 | A2 | A2 |
| 170 | | | A2 | | | |
| 180 | | | A2 | A2 | A2 | A2 |
| 190 | | | A2 | A2 | A2 | |
| 200 | | | A2 | A2 | A2 | A2 |
| 220 | | | | A2 | A2 | A2 |
| 240 | | | | A2 | A2 | A2 |
| 260 | | | | A2 | A2 | A2 |
| 280 | | | | A2 | A2 | A2 |
| 300 | | | | | A2 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

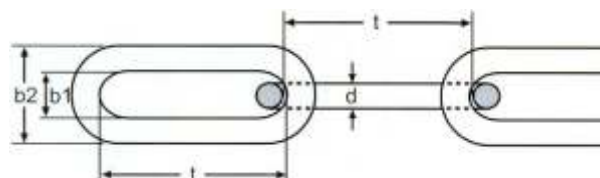
DIN 763

Norma

A4

Materiał

Ła cuch



| d | wytrzymałość kg | t | b1 | b2 |
|-----|--------------------|------|------|------|
| 1,5 | - | 12,0 | 2,7 | 6,3 |
| 2 | - | 22,0 | 3,6 | 8,4 |
| 3 | 120 | 26,0 | 5,4 | 12,6 |
| 4 | 210 | 32,0 | 7,2 | 16,8 |
| 5 | 320 | 35,0 | 9,0 | 21,0 |
| 6 | 450 | 42,0 | 10,8 | 25,2 |
| 8 | 840 | 52,0 | 14,4 | 33,6 |
| 10 | 1260 | 65,0 | 18,0 | 42,0 |

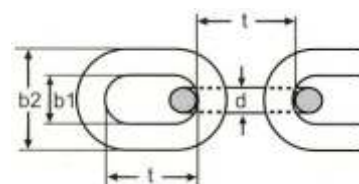
DIN 766

Norma

A4

Materiał

Ła cuch



| d | wytrzymałość kg | t | b1 | b2 |
|----|--------------------|------|------|------|
| 2 | - | 12,0 | 3,4 | 8,0 |
| 3 | 175 | 16,0 | 3,6 | 10,2 |
| 4 | 315 | 16,0 | 4,8 | 13,6 |
| 5 | 490 | 18,5 | 6,0 | 17,0 |
| 6 | 700 | 18,5 | 7,2 | 20,4 |
| 8 | 1200 | 24,0 | 9,6 | 27,2 |
| 10 | 1950 | 28,0 | 12,0 | 36,0 |

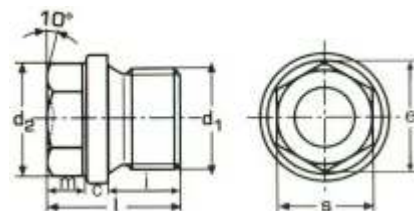
DIN 910

Norma

A2/A4

Materiał

Korek walcowy z łbem sześciokątnym



| d1 | waga 100szt./kg | d2 | s | e | m ~ | c | i | l ~ |
|-------------------|--------------------|------|------|-------|------|-----|------|------|
| G 1/8A | 1,20 | 14,0 | 10,0 | 10,89 | 6,0 | 3,0 | 8,0 | 17,0 |
| G 1/4A | 2,38 | 18,0 | 13,0 | 14,2 | 6,0 | 3,0 | 12,0 | 21,0 |
| G 3/8A | 3,81 | 22,0 | 17,0 | 18,72 | 6,0 | 3,0 | 12,0 | 21,0 |
| G 1/2A | 6,66 | 26,0 | 19,0 | 20,88 | 8,0 | 4,0 | 14,0 | 26,0 |
| G 5/8A | 7,34 | 28,0 | 19,0 | 21,9 | 8,0 | 4,0 | 14,0 | 26,0 |
| G 3/4A | 12,7 | 32,0 | 24,0 | 26,17 | 10,0 | 4,0 | 16,0 | 30,0 |
| G 1A | 19,5 | 39,0 | 27,0 | 29,56 | 11,0 | 5,0 | 16,0 | 32,0 |
| G 1 1/8A | 23,8 | 44,0 | 27,0 | 29,56 | 11,0 | 5,0 | 16,0 | 32,0 |
| G 1 1/4A | 30,0 | 49,0 | 30,0 | 32,95 | 12,0 | 5,0 | 16,0 | 33,0 |
| G 1 1/2A | 37,5 | 55,0 | 30,0 | 32,95 | 12,0 | 5,0 | 16,0 | 33,0 |
| G 1 3/4A | 57,2 | 62,0 | 36,0 | 39,55 | 15,0 | 5,0 | 20,0 | 40,0 |
| G 2A | 69,5 | 68,0 | 36,0 | 39,55 | 15,0 | 5,0 | 20,0 | 40,0 |
| M 10 x 1 | 1,20 | 14,0 | 10,0 | 10,89 | 6,0 | 3,0 | 8,0 | 17,0 |
| M 12 x 1,5 | 2,03 | 17,0 | 13,0 | 14,2 | 6,0 | 3,0 | 12,0 | 21,0 |
| M 14 x 1,5 | 2,50 | 19,0 | 13,0 | 14,2 | 6,0 | 3,0 | 12,0 | 21,0 |
| M 16 x 1,5 | 3,52 | 21,0 | 17,0 | 18,72 | 6,0 | 3,0 | 12,0 | 21,0 |
| M 18 x 1,5 | 4,86 | 23,0 | 17,0 | 18,72 | 8,0 | 4,0 | 12,0 | 24,0 |
| M 20 x 1,5 | 6,45 | 25,0 | 19,0 | 20,88 | 8,0 | 4,0 | 14,0 | 26,0 |
| M 22 x 1,5 | 7,34 | 27,0 | 19,0 | 20,88 | 8,0 | 4,0 | 14,0 | 26,0 |
| M 24 x 1,5 | 9,35 | 29,0 | 22,0 | 23,91 | 9,0 | 4,0 | 14,0 | 27,0 |
| M 26 x 1,5 | 12,0 | 31,0 | 24,0 | 26,17 | 10,0 | 4,0 | 16,0 | 30,0 |
| M 27 x 2 | 12,7 | 32,0 | 24,0 | 26,17 | 10,0 | 4,0 | 16,0 | 30,0 |
| M 30 x 1,5 | 14,8 | 36,0 | 24,0 | 26,17 | 10,0 | 4,0 | 16,0 | 30,0 |
| M 30 x 2 | 14,8 | 36,0 | 24,0 | 26,17 | 10,0 | 4,0 | 16,0 | 30,0 |

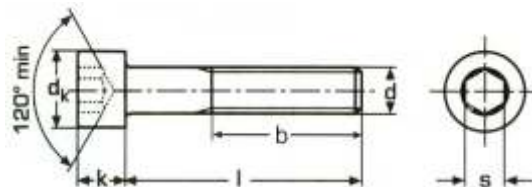
DIN 912 – ISO 4762 – PN 82302

Norma

A2/A4

Material

rubka imbusowa



| | | | | | | | | | | | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| b | 15,0 | 16,0 | 17,0 | 18,0 | 20,0 | 22,0 | 24,0 | 28,0 | 32,0 | 36,0 | 40,0 | 44,0 | 48,0 | 52,0 | 56,0 | 60,0 | 66,0 | 72,0 |
| s | 1,5 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 14,0 | 17,0 | 17,0 | 19,0 | 19,0 | 22,0 |
| k max | 1,6 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 18,0 | 20,0 | 22,0 | 24,0 | 27,0 | 30,0 |
| dk | 3,0 | 3,8 | 4,5 | 5,5 | 7,0 | 8,5 | 10,0 | 13,0 | 16,0 | 18,0 | 21,0 | 24,0 | 27,0 | 30,0 | 33,0 | 36,0 | 40,0 | 45,0 |

| | | | | | | | | | | | | | | | | | | |
|----------|------------|----------|------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| d | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M |
| | 1,6 | 2 | 2,5 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 27 | 30 |

waga 100szt./kg

| | | | | | | | | | | | | | | | | | | |
|------------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|----|------|------|------|
| I 3 | 0,009 | 0,016 | | | | | | | | | | | | | | | | |
| 4 | 0,010 | 0,018 | 0,035 | 0,06 | | | | | | | | | | | | | | |
| 5 | 0,011 | 0,020 | 0,038 | 0,07 | 0,13 | | | | | | | | | | | | | |
| 6 | 0,012 | 0,022 | 0,041 | 0,07 | 0,14 | 0,23 | 0,39 | | | | | | | | | | | |
| 8 | 0,014 | 0,026 | 0,047 | 0,08 | 0,16 | 0,25 | 0,43 | | | | | | | | | | | |
| 10 | | 0,030 | 0,053 | 0,09 | 0,17 | 0,28 | 0,47 | 1,03 | | | | | | | | | | |
| 12 | | 0,036 | 0,059 | 0,09 | 0,19 | 0,31 | 0,51 | 1,09 | 1,99 | | | | | | | | | |
| 14 | | 0,039 | 0,067 | 0,11 | 0,20 | 0,34 | 0,52 | 1,15 | | | | | | | | | | |
| 16 | | 0,042 | 0,075 | 0,12 | 0,22 | 0,37 | 0,57 | 1,21 | 2,09 | 2,93 | | | | | | | | |
| 18 | | 0,046 | 0,079 | 0,13 | 0,24 | 0,39 | 0,61 | 1,27 | 2,19 | | | | | | | | | |
| 20 | | 0,050 | 0,083 | 0,14 | 0,25 | 0,40 | 0,65 | 1,34 | 2,29 | 3,21 | 4,30 | 6,46 | | | | | | |
| 22 | | | | 0,15 | 0,29 | 0,42 | 0,69 | 1,40 | | | | | | | | | | |
| 25 | | | | 0,16 | 0,30 | 0,46 | 0,76 | 1,50 | 2,54 | 3,57 | 4,80 | 7,13 | | | | | | |
| 30 | | | | 0,19 | 0,34 | 0,57 | 0,83 | 1,69 | 2,79 | 3,93 | 5,30 | 7,78 | A2 | 12,8 | | | | |
| 35 | | | | 0,21 | 0,38 | 0,64 | 0,99 | 1,89 | 3,04 | 4,29 | 5,80 | 8,44 | A2 | 13,9 | | | | |
| 40 | | | | 0,24 | 0,42 | 0,72 | 1,10 | 2,09 | 3,29 | 4,65 | 6,30 | 9,10 | 12,9 | 15,0 | A2 | 27,0 | | |
| 45 | | | | 0,27 | 0,46 | 0,79 | 1,21 | 2,29 | 3,61 | 5,01 | 6,80 | 9,76 | 13,8 | 16,1 | A2 | 28,5 | | |
| 50 | | | | 0,30 | 0,50 | 0,87 | 1,32 | 2,49 | 3,93 | 5,45 | 7,30 | 10,6 | 14,7 | 17,2 | A2 | 30,0 | 35,2 | 52,7 |
| 55 | | | | | 0,54 | 0,94 | 1,43 | 2,69 | 4,25 | 5,89 | 7,80 | 11,4 | 15,6 | 18,3 | A2 | 31,6 | | |
| 60 | | | | A2 | 0,58 | 1,00 | 1,54 | 2,89 | 4,57 | 6,34 | 8,40 | 12,2 | 16,5 | 19,4 | A2 | 33,0 | 39,6 | 58,1 |
| 65 | | | | | | 1,10 | 1,64 | 3,10 | 4,89 | 6,78 | 9,00 | 13,0 | 17,4 | 20,5 | A2 | 34,5 | | |
| 70 | | | | A2 | 0,76 | 1,20 | 1,73 | 3,30 | 5,21 | 7,13 | 9,60 | 13,8 | 18,3 | 21,6 | A2 | 36,3 | 44,0 | 63,5 |
| 75 | | | | | | 1,30 | 1,84 | 3,50 | 5,58 | 7,81 | 10,5 | 14,6 | 19,2 | 23,2 | A2 | 38,1 | | |
| 80 | | | | | A2 | 1,40 | 1,93 | 3,70 | 5,85 | 8,02 | 10,5 | 15,4 | 20,3 | 24,1 | A2 | 39,9 | 48,4 | 69,0 |
| 90 | | | | | A2 | 1,50 | 2,13 | 4,10 | 6,49 | 8,91 | 12,0 | 17,0 | 22,3 | 26,6 | A2 | 43,5 | 52,9 | 74,5 |
| 100 | | | | | A2 | 1,60 | 2,33 | 4,50 | 7,12 | 9,80 | 13,2 | 18,6 | 24,3 | 29,1 | A2 | 47,1 | 57,4 | 80,0 |
| 110 | | | | | | 1,70 | 2,53 | 4,90 | 7,74 | 10,7 | 14,4 | 20,2 | 26,3 | 31,6 | A2 | 50,7 | 61,9 | 85,5 |
| 120 | | | | | | 1,80 | 2,73 | 5,30 | 8,86 | 11,6 | 15,6 | 21,8 | 28,3 | 34,1 | A2 | 54,3 | 66,4 | 91,0 |
| 130 | | | | | | | 2,93 | 5,70 | 8,98 | 12,7 | 16,8 | 23,4 | 30,3 | 36,6 | A2 | 57,9 | 70,9 | 96,5 |
| 140 | | | | | | | 3,13 | 6,10 | 9,60 | 13,6 | 18,0 | 25,0 | 32,3 | 39,1 | A2 | 61,5 | 75,4 | 102 |
| 150 | | | | | | | 3,33 | 6,50 | 10,2 | 14,5 | 19,2 | 26,6 | 34,3 | 41,6 | A2 | 65,1 | 79,9 | 108 |
| 160 | | | | | | | 3,53 | 6,90 | 10,8 | 15,4 | | 28,2 | | 44,1 | | 68,7 | | A2 |
| 170 | | | | | | | 3,73 | 7,30 | 11,4 | 16,3 | | 29,8 | | 46,6 | A2 | 72,3 | | A2 |
| 180 | | | | | | | 3,93 | 7,70 | 12,1 | 17,2 | | 29,2 | | 49,1 | | 75,9 | | A2 |
| 200 | | | | | | | 4,33 | 8,50 | A4 | 19,0 | | 31,4 | | 54,1 | A2 | 83,1 | | A2 |
| 220 | | | | | | | 4,73 | 9,30 | 14,5 | 20,8 | | | | | | | | A2 |
| 240 | | | | | | | | 10,1 | 15,7 | 22,6 | | | | | | | | A2 |
| 260 | | | | | | | | 10,9 | 16,9 | 24,4 | | | | | | | | A2 |
| 280 | | | | | | | | 11,7 | 18,1 | A4 | | | | | | | | A2 |
| 300 | | | | | | | | 12,5 | 19,3 | A4 | | | | | | | | A2 |

☐ - brak w podstawowej ofercie A2 - tylko A2 A4 - tylko A4

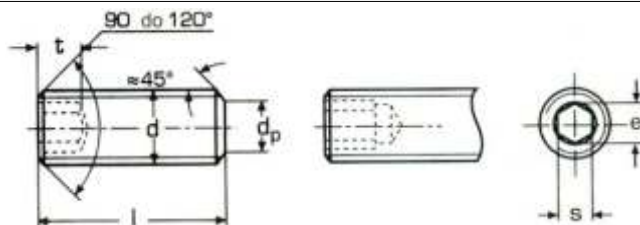
DIN 913 – ISO 4026 – PN 82314

Norma

A2/A4

Materiał

**Wkręt dociskowy z kołcem
płaskim, z gniazdem
sześciokątnym**



| | | | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|------|------|-------|
| dp | 0,8 | 1,0 | 1,5 | 2,0 | 2,5 | 3,5 | 4,0 | 5,5 | 7,0 | 8,5 | 12,0 | 15,0 |
| t | 0,7 | 0,8 | 1,2 | 1,2 | 1,5 | 2,0 | 2,0 | 3,0 | 4,0 | 4,8 | 6,4 | 8,0 |
| e | 0,803 | 1,003 | 1,427 | 1,73 | 2,3 | 2,87 | 3,44 | 4,58 | 5,72 | 6,86 | 9,15 | 11,43 |
| s | 0,7 | 0,9 | 1,3 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 |
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|

waga 100szt./kg

| | | | | | | | | | | | | |
|-----|----|----|----|-------|-------|-------|-------|------|------|------|-------|------|
| I 2 | A2 | A2 | | | | | | | | | | |
| 3 | A2 | A2 | A2 | 0,010 | 0,014 | | | | | | | |
| 4 | A2 | A2 | A2 | 0,014 | 0,022 | | A2 | | | | | |
| 5 | A2 | A2 | A2 | 0,018 | 0,030 | 0,044 | A2 | | | | | |
| 6 | A2 | A2 | A2 | 0,022 | 0,038 | 0,056 | 0,076 | A2 | | | | |
| 8 | A2 | A2 | A2 | 0,031 | 0,053 | 0,08 | 0,11 | 0,19 | | | | |
| 10 | | A2 | A2 | 0,040 | 0,068 | 0,10 | 0,15 | 0,25 | 0,38 | | | |
| 12 | | A2 | A2 | 0,049 | 0,083 | 0,13 | 0,18 | 0,32 | 0,48 | 0,84 | | |
| 14 | | | | A2 | A2 | A2 | A2 | A2 | | | | |
| 16 | | A2 | A2 | 0,067 | 0,11 | 0,18 | 0,25 | 0,44 | 0,68 | 0,96 | 1,70 | |
| 20 | | | | 0,085 | 0,14 | 0,22 | 0,32 | 0,57 | 0,88 | 1,24 | 2,15 | 3,23 |
| 25 | | | | A2 | 0,19 | 0,28 | 0,41 | 0,73 | 1,10 | 1,60 | 2,80 | 4,26 |
| 30 | | | | A2 | 0,22 | 0,40 | 0,50 | 0,89 | 1,40 | 1,96 | 3,46 | 5,29 |
| 35 | | | | | A2 | A2 | 0,58 | 1,00 | 1,60 | 2,32 | 4,11 | 6,32 |
| 40 | | | | A2 | A2 | 0,64 | 0,67 | 1,20 | 1,90 | 2,68 | 4,77 | 7,35 |
| 45 | | | | | | | A2 | 1,40 | 2,10 | 3,10 | 6,10 | 8,38 |
| 50 | | | | | | A2 | A2 | 1,60 | 2,40 | 3,40 | 7,40 | 9,41 |
| 55 | | | | | | | A2 | | A2 | A2 | | |
| 60 | | | | | | | A2 | 2,00 | 2,90 | 3,90 | 10,00 | 12,5 |
| 70 | | | | | | | A2 | 2,40 | 3,40 | 4,30 | 13,00 | 14,5 |
| 80 | | | | | | | | A2 | A2 | 4,70 | 15,00 | 16,5 |
| 90 | | | | | | | | A2 | A2 | 5,10 | 17,00 | 18,5 |
| 100 | | | | | | | | | | A2 | 19,00 | 20,5 |

- brak w podstawowej ofercie

A2 - tylko A2

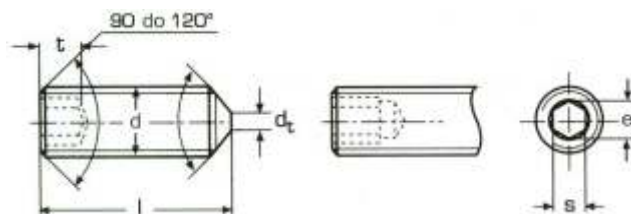
DIN 914 – ISO 4027 – PN 82315

Norma

A2/A4

Materiał

**Wkręty dociskowe z kołkami
metalowymi, z gniazdem
szesnastokątnym**



| | | | | | | | | | | | |
|----|-------|-------|------|-----|------|------|------|------|------|------|-------|
| dt | - | - | - | - | - | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 |
| t | 0,8 | 1,2 | 1,2 | 1,5 | 2,0 | 2,0 | 3,0 | 4,0 | 4,8 | 6,4 | 8,0 |
| e | 1,003 | 1,427 | 1,73 | 2,3 | 2,87 | 3,44 | 4,58 | 5,72 | 6,86 | 9,15 | 11,43 |
| s | 0,9 | 1,3 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 |

| d | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 |
|---|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|
|---|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|

waga 100szt./kg

| | | | | | | | | | | | |
|------------|----|----|-------|-------|-------|------|------|------|------|------|------|
| I 3 | A2 | A2 | 0,009 | 0,010 | | | | | | | |
| 4 | A2 | A2 | 0,013 | 0,018 | | A2 | | | | | |
| 5 | A2 | A2 | 0,017 | 0,026 | 0,037 | A2 | | | | | |
| 6 | A2 | A2 | 0,021 | 0,034 | 0,049 | 0,06 | A2 | | | | |
| 8 | A2 | A2 | 0,030 | 0,049 | 0,073 | 0,10 | 0,18 | | | | |
| 10 | A2 | A2 | 0,039 | 0,064 | 0,097 | 0,14 | 0,24 | 0,34 | | | |
| 12 | A2 | A2 | 0,048 | 0,079 | 0,12 | 0,17 | 0,30 | 0,44 | 0,61 | | |
| 14 | | | A2 | A2 | 0,14 | 0,20 | A2 | | | | |
| 16 | A2 | A2 | 0,066 | 0,109 | 0,17 | 0,24 | 0,42 | 0,64 | 0,89 | 1,49 | |
| 20 | | | 0,084 | 0,139 | 0,22 | 0,31 | 0,55 | 0,84 | 1,17 | 2,01 | 3,04 |
| 25 | | | 0,106 | 0,176 | 0,28 | 0,40 | 0,71 | 1,08 | 1,53 | 2,66 | 4,07 |
| 30 | | | 0,126 | 0,212 | 0,34 | 0,49 | 0,87 | 1,33 | 1,89 | 3,32 | 5,10 |
| 35 | | | | A2 | 0,40 | 0,58 | 1,03 | 1,58 | 2,25 | 3,97 | 6,13 |
| 40 | | | | A2 | 0,46 | 0,67 | 1,19 | 1,83 | 2,61 | 4,63 | 7,16 |
| 45 | | | | | A2 | 0,76 | 1,35 | 2,08 | 2,97 | 5,29 | 8,19 |
| 50 | | | | | A2 | 0,85 | 1,51 | 2,33 | 3,33 | 5,95 | 9,22 |
| 55 | | | | | | A2 | | A2 | 3,69 | | |
| 60 | | | | | | 1,03 | 1,83 | 2,83 | 4,05 | 7,27 | 11,3 |
| 70 | | | | | | A2 | 1,99 | A2 | 4,77 | 8,59 | 13,3 |
| 80 | | | | | | | A2 | 3,83 | 5,49 | 9,91 | A2 |
| 90 | | | | | | | | 4,33 | 6,21 | 11,2 | A2 |
| 100 | | | | | | | | A4 | A2 | 12,6 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

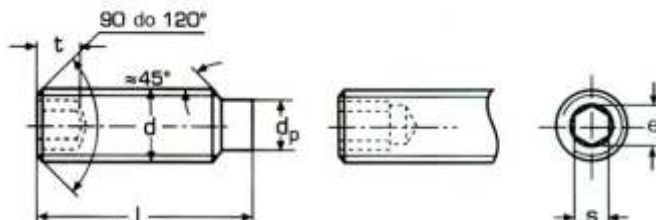
DIN 915 – ISO 4028 – PN 82316

Norma

A2/A4

Materiał

Wkręty dociskowe z kołecem walcowym, z gniazdem sześciokątnym



| | | | | | | | | | | | |
|----|-------|-------|------|-----|------|------|------|------|------|------|-------|
| dp | 1,0 | 1,5 | 2,0 | 2,5 | 3,5 | 4,0 | 5,5 | 7,0 | 8,5 | 12,0 | 15,0 |
| t | 0,8 | 1,2 | 1,2 | 1,5 | 2,0 | 2,0 | 3,0 | 4,0 | 4,8 | 6,4 | 8,0 |
| e | 1,003 | 1,427 | 1,73 | 2,3 | 2,87 | 3,44 | 4,58 | 5,72 | 6,86 | 9,15 | 11,43 |
| s | 0,9 | 1,3 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 |

| d | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 |
|---|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|
|---|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|

waga 100szt./kg

| | | | | | | | | | | | |
|-----|----|----|-------|------|------|------|------|------|------|------|------|
| I 3 | A2 | A2 | 0,010 | | | | | | | | |
| 4 | A2 | A2 | 0,013 | 0,02 | | | | | | | |
| 5 | A2 | A2 | 0,016 | 0,03 | 0,04 | | | | | | |
| 6 | A2 | A2 | 0,019 | 0,03 | 0,05 | 0,07 | | | | | |
| 8 | A2 | A2 | 0,028 | 0,04 | 0,07 | 0,10 | 0,19 | | | | |
| 10 | A2 | A2 | 0,037 | 0,06 | 0,09 | 0,13 | 0,23 | 0,34 | | | |
| 12 | A2 | A2 | 0,046 | 0,07 | 0,12 | 0,16 | 0,27 | 0,44 | 0,52 | | |
| 14 | | | | | 0,15 | 0,19 | | | | | |
| 16 | A2 | A2 | 0,064 | 0,10 | 0,17 | 0,23 | 0,39 | 0,60 | 0,89 | 1,61 | A2 |
| 20 | | | 0,082 | 0,13 | 0,21 | 0,30 | 0,52 | 0,80 | 1,10 | 2,01 | 3,23 |
| 25 | | | 0,104 | 0,17 | 0,27 | 0,39 | 0,68 | 1,05 | 1,46 | 2,51 | 3,89 |
| 30 | | | 0,127 | 0,20 | 0,33 | 0,48 | 0,84 | 1,30 | 1,82 | 3,19 | 4,55 |
| 35 | | | | | 0,39 | 0,57 | 0,99 | 1,55 | 2,18 | 3,82 | 5,58 |
| 40 | | | | | 0,45 | 0,66 | 1,16 | 1,80 | 2,54 | 4,49 | 6,61 |
| 45 | | | | | | 0,75 | 1,33 | 2,05 | 2,90 | 5,16 | 7,64 |
| 50 | | | | | | 0,84 | 1,50 | 2,30 | 3,26 | 5,83 | 8,67 |
| 60 | | | | | | 1,02 | 1,84 | 2,80 | 3,98 | 7,17 | 10,7 |
| 70 | | | | | | | A2 | | 4,70 | 8,51 | 12,8 |
| 80 | | | | | | | | | 5,42 | 9,85 | 14,9 |
| 90 | | | | | | | | | 6,14 | 11,2 | |
| 100 | | | | | | | | | | 12,5 | |

- brak w podstawowej ofercie

A2 - tylko A2

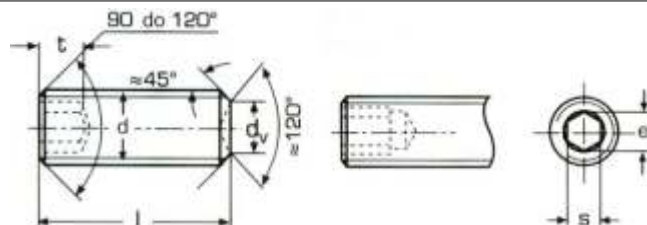
DIN 916 – ISO 4029 – PN 82317

Norma

A2/A4

Materiał

**Wkręt dociskowy z kołcem
włóknistym, z gniazdem
sześciokątnym**



| | | | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|------|------|-------|
| dv | 0,8 | 1,0 | 1,2 | 1,4 | 2,0 | 2,5 | 3,0 | 5,0 | 6,0 | 8,0 | 10,0 | 14,0 |
| t | 0,7 | 0,8 | 1,2 | 1,2 | 1,5 | 2,0 | 2,0 | 3,0 | 4,0 | 4,8 | 6,4 | 8,0 |
| e | 0,803 | 1,003 | 1,427 | 1,73 | 2,3 | 2,87 | 3,44 | 4,58 | 5,72 | 6,86 | 9,15 | 11,43 |
| s | 0,7 | 0,9 | 1,3 | 1,5 | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 |
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|
|---|-------|-----|-------|-----|-----|-----|-----|-----|------|------|------|------|

waga 100szt./kg

| I 2 | A2 | | | | | | | | | | | |
|-----|----|----|----|-------|-------|-------|------|------|------|------|------|------|
| 3 | A2 | A2 | A2 | A2 | A2 | | | | | | | |
| 4 | A2 | A2 | A2 | 0,014 | 0,022 | A2 | | | | | | |
| 5 | A2 | A2 | A2 | 0,018 | 0,026 | 0,042 | | | | | | |
| 6 | A2 | A2 | A2 | 0,022 | 0,038 | 0,054 | 0,07 | A2 | | | | |
| 8 | A2 | A2 | A2 | 0,031 | 0,053 | 0,078 | 0,11 | 0,18 | | | | |
| 10 | | A2 | A2 | 0,040 | 0,068 | 0,10 | 0,14 | 0,25 | 0,26 | 0,46 | | |
| 12 | | A2 | A2 | 0,049 | 0,083 | 0,12 | 0,18 | 0,31 | 0,47 | 0,67 | | |
| 14 | | | | | | 0,14 | 0,22 | | | | | |
| 16 | | A2 | A2 | 0,067 | 0,11 | 0,17 | 0,25 | 0,44 | 0,67 | 0,95 | 1,60 | |
| 20 | | | | 0,085 | 0,14 | 0,22 | 0,32 | 0,57 | 0,87 | 1,23 | 2,09 | 3,00 |
| 25 | | | | 0,108 | 0,22 | 0,28 | 0,41 | 0,73 | 1,12 | 1,60 | 2,74 | 4,14 |
| 30 | | | | 0,130 | 0,30 | 0,44 | 0,50 | 0,88 | 1,37 | 2,00 | 3,40 | 5,17 |
| 35 | | | | | A2 | 0,60 | 0,58 | 1,00 | 1,60 | 2,31 | 4,05 | 6,20 |
| 40 | | | | | A2 | 0,76 | 0,66 | 1,20 | 1,87 | 2,67 | 4,71 | 7,23 |
| 45 | | | | | | | 0,74 | 1,40 | 2,10 | 3,00 | 5,35 | 8,26 |
| 50 | | | | | | | 0,82 | 1,50 | 2,40 | 3,40 | 5,90 | 9,29 |
| 55 | | | | | | | A2 | | A2 | A2 | A2 | |
| 60 | | | | | | | 0,98 | 1,80 | 2,60 | 3,80 | 6,50 | 11,0 |
| 70 | | | | | | | | A2 | | 4,10 | 7,70 | 12,7 |
| 80 | | | | | | | | A2 | | 4,80 | 8,90 | 14,4 |
| 90 | | | | | | | | | | 5,50 | 10,0 | 16,1 |
| 100 | | | | | | | | | | | 11,2 | 17,8 |

- brak w podstawowej ofercie

A2 - tylko A2

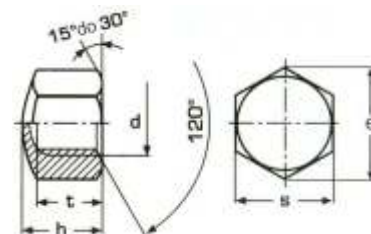
DIN 917 – PN 82182

Norma

A2/A4

Materiał

Nakrętka sześciokrotna niską – „lepa”



| d | waga 100szt./kg | h | s | e | t |
|------|--------------------|------|------|-------|------|
| M 3 | - | - | 5,5 | 6,01 | - |
| M 4 | 0,13 | 5,5 | 7,0 | 7,66 | 4,4 |
| M 5 | 0,22 | 7,0 | 8,0 | 8,79 | 5,2 |
| M 6 | 0,43 | 9,0 | 10,0 | 11,05 | 7,0 |
| M 8 | 0,95 | 12,0 | 13,0 | 14,38 | 9,5 |
| M 10 | 1,93 | 14,0 | 17,0 | 18,9 | 11,0 |
| M 12 | 2,55 | 16,0 | 19,0 | 21,1 | 13,5 |
| M 14 | 3,70 | 18,0 | 22,0 | 24,49 | 15,0 |
| M 16 | 4,81 | 20,0 | 24,0 | 26,75 | 17,0 |
| M 18 | 7,00 | 22,0 | 27,0 | 29,56 | 19,0 |
| M 20 | 9,41 | 25,0 | 30,0 | 32,95 | 21,0 |
| M 22 | 11,9 | 28,0 | 32,0 | 35,03 | 22,0 |
| M 24 | 16,5 | 30,0 | 36,0 | 39,55 | 24,0 |
| M 27 | 22,9 | 32,0 | 41,0 | 45,2 | 26,0 |
| M 30 | 31,0 | 34,0 | 46,0 | 50,85 | 28,0 |

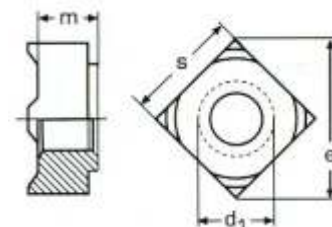
DIN 928

Norma

A2/A4

Materiał

Nakrętka kwadratowa do zgrzewania



| d1 | waga 100szt./kg | m | s | e |
|-----|-----------------|-----|------|------|
| M 5 | 0,17 | 4,2 | 9,0 | 12,0 |
| M 6 | 0,24 | 5,0 | 10,0 | 13,0 |
| M 8 | 0,65 | 6,5 | 14,0 | 18,0 |

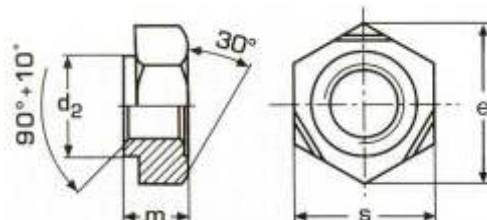
DIN 929 – PN 82169

Norma

A2/A4

Materiał

Nakrętka sześciokątna do zgrzewania



| d1 | waga 100szt./kg | d2 | m | s | e |
|------|-----------------|------|------|------|-------|
| M 3 | 0,08 | 4,5 | 3,0 | 7,5 | 8,15 |
| M 4 | 0,11 | 6,0 | 3,5 | 9,0 | 9,83 |
| M 5 | 0,17 | 7,0 | 4,0 | 10,0 | 10,95 |
| M 6 | 0,25 | 8,0 | 5,0 | 11,0 | 12,02 |
| M 8 | 0,53 | 10,5 | 6,5 | 14,0 | 15,38 |
| M 10 | 0,96 | 12,5 | 8,0 | 17,0 | 18,74 |
| M 12 | 1,37 | 14,8 | 10,0 | 19,0 | 20,91 |
| M 16 | 2,85 | 18,8 | 13,0 | 24,0 | 26,51 |

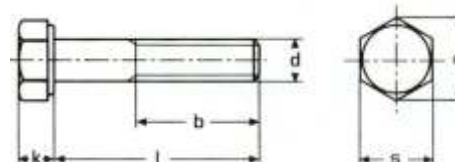
DIN 931 – ISO 4014 – PN 82101

Norma

A2/A4

Materiał

**rubka z łbem sześciokątnym,
z gwintem niepełnym**



| | | | | | | | | | | | | | | | |
|---------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| b- l<120 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 34,0 | 38,0 | 42,0 | 46,0 | 50,0 | 54,0 | 60,0 | 66,0 | 72,0 | 78,0 |
| b- l>130<200 | - | 24,0 | 28,0 | 32,0 | 36,0 | 40,0 | 44,0 | 48,0 | 52,0 | 56,0 | 60,0 | 66,0 | 72,0 | 78,0 | 84,0 |
| b- l>200 | - | - | 28,0 | 45,0 | 49,0 | - | 57,0 | - | 65,0 | - | 73,0 | 79,0 | 85,0 | 91,0 | 97,0 |
| k | 3,5 | 4,0 | 5,3 | 6,4 | 7,5 | 8,8 | 10,0 | 11,5 | 12,5 | 14,0 | 15,0 | 17,0 | 18,7 | 21,0 | 22,5 |
| e | 8,79 | 11,05 | 14,38 | 17,77 | 20,03 | 24,49 | 26,75 | 30,14 | 33,53 | 35,72 | 39,98 | 45,2 | 50,85 | 55,37 | 60,79 |
| s | 8,0 | 10,0 | 13,0 | 16,0 | 18,0 | 22,0 | 24,0 | 27,0 | 30,0 | 32,0 | 36,0 | 41,0 | 46,0 | 50,0 | 55,0 |

| d | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 22 | M 24 | M 27 | M 30 | M 33 | M 36 |
|----------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|----------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| I 25 | 0,48 | A2 | | | | | | | | | | | | | |
| 30 | 0,56 | 0,81 | 1,64 | | | | | | | | | | | | |
| 35 | 0,64 | 0,91 | 1,82 | A2 | | | | | | | | | | | |
| 40 | 0,72 | 1,02 | 2,03 | 3,40 | 4,91 | | | | | | | | | | |
| 45 | 0,80 | 1,13 | 2,22 | 3,80 | 5,36 | | | | | | | | | | |
| 50 | 0,88 | 1,23 | 2,42 | 4,11 | 5,81 | 8,20 | 10,7 | | | | | | | | |
| 55 | 0,96 | 1,34 | 2,58 | 4,38 | 6,26 | 8,81 | 11,5 | | | | | | | | |
| 60 | 1,10 | 1,44 | 2,78 | 4,69 | 6,70 | 9,41 | 12,3 | A2 | 20,7 | | | | | | |
| 65 | 1,15 | 1,55 | 2,98 | 5,00 | 7,03 | 9,88 | 13,1 | 17,1 | 21,9 | | | | | | |
| 70 | 1,20 | 1,65 | 3,11 | 5,31 | 7,47 | 10,5 | 13,9 | 18,1 | 23,1 | A2 | | | | | |
| 75 | | 1,76 | 3,37 | 5,62 | 4,91 | 11,1 | 14,7 | 19,1 | 24,3 | | 36,4 | A4 | | | |
| 80 | 1,36 | 1,86 | 3,57 | 5,93 | 8,36 | 11,7 | 15,5 | 20,0 | 25,5 | 31,1 | 39,2 | 51,1 | 65,7 | | |
| 85 | | A2 | 3,77 | 6,24 | 8,81 | | 16,3 | | 26,7 | | 41,0 | | | | |
| 90 | 1,52 | 2,08 | 3,96 | 6,55 | 9,24 | 12,7 | 17,1 | 22,0 | 27,9 | 34,1 | 42,8 | 55,7 | 71,2 | 88,0 | |
| 100 | 1,68 | 2,30 | 4,36 | 7,17 | 10,1 | 13,9 | 18,6 | 24,0 | 30,3 | 37,0 | 46,4 | 60,3 | 76,7 | 95,1 | 116,0 |
| 110 | | 2,52 | 4,75 | 8,39 | 10,9 | 15,1 | 20,2 | 26,0 | 32,7 | 40,0 | 50,0 | 65,0 | 82,3 | 102,0 | 124,0 |
| 120 | | 2,74 | 5,04 | 9,00 | 11,8 | 16,4 | 21,8 | 28,0 | 35,1 | 43,0 | 53,5 | 69,5 | 88,0 | 109,0 | 132,0 |
| 130 | | 2,90 | 5,33 | 9,62 | 12,7 | 17,4 | 23,0 | 29,6 | 37,4 | 45,0 | 56,0 | 72,0 | 92,0 | 115,0 | 139,0 |
| 140 | | 3,10 | 5,62 | 10,2 | 13,6 | 18,5 | 24,6 | 31,6 | 39,8 | 48,0 | 59,5 | 76,5 | 97,5 | 122,0 | 147,0 |
| 150 | | 3,30 | 5,91 | 10,8 | 14,5 | 20,0 | 26,2 | 33,6 | 42,2 | 51,0 | 63,0 | 81,0 | 103,0 | 129,0 | 155,0 |
| 160 | | 3,50 | 6,20 | 11,4 | 15,3 | 20,3 | 27,8 | 35,6 | 44,6 | 54,0 | 66,5 | 85,5 | 108,5 | 135,0 | 163,0 |
| 170 | | 3,70 | 6,90 | 12,0 | 16,1 | 21,3 | 29,4 | 37,7 | 47,0 | | 70,0 | 90,0 | 114,0 | 141,0 | 171,0 |
| 180 | | 3,90 | 7,40 | 12,6 | 17,1 | 22,2 | 31,0 | 39,8 | 49,5 | 60,0 | 73,5 | 94,5 | 120,0 | 148,0 | 179,0 |
| 190 | | | 7,70 | 13,2 | 18,0 | 23,3 | 32,6 | 41,8 | 51,8 | | 77,0 | 99,0 | 125,0 | 154,0 | 187,0 |
| 200 | | A4 | 8,20 | 13,8 | 19,0 | 24,4 | 34,2 | 43,8 | 54,5 | 66,0 | 80,5 | 103,0 | 131,0 | 161,0 | 195,0 |
| 210 | | | A2 | 14,4 | 19,9 | | 35,8 | | 56,7 | | 84,0 | 108,0 | 137,0 | 168,0 | 203,0 |
| 220 | | | 9,20 | 15,0 | 20,7 | | 37,4 | | 59,0 | | 87,5 | 113,0 | 142,0 | 175,0 | 211,0 |
| 230 | | | | 15,6 | 21,6 | | 39,0 | | 61,4 | | 91,0 | 117,5 | 148,0 | 182,0 | 219,0 |
| 240 | | | A2 | 16,2 | 22,4 | | 40,6 | | 63,5 | | 94,5 | 122,0 | 153,0 | 188,0 | 227,0 |
| 250 | | | | | 23,2 | | 42,2 | | 66,3 | | 98,0 | 126,5 | 158,0 | 195,0 | 235,0 |
| 260 | | | | A2 | 24,0 | | 43,8 | | 68,0 | | 101,5 | | | | |
| 270 | | | | | | | 45,4 | | 71,0 | | 105,0 | | | | |
| 280 | | | | A2 | 25,6 | | 47,0 | | 73,4 | | 108,0 | | | | |
| 290 | | | | | | | 48,6 | | 75,8 | | 112,0 | | | | |
| 300 | | | | A2 | 27,2 | | 50,2 | | 78,2 | | 115,0 | | | | |

☐ - brak w podstawowej ofercie

☐ A2 - tylko A2

☐ A4 - tylko A4

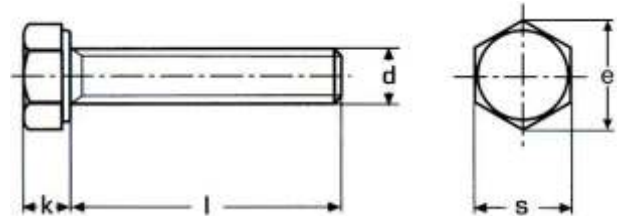
DIN 933 – ISO 4017 – PN 82105

Norma

A2/A4

Materiał

ruba z łbem sześciokątnym, z
gwintem na całej długości




| | | | | | | | | | | | | | | | | | | | |
|----------|-----|-----|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| k | 1,4 | 1,7 | 2,0 | 2,8 | 3,5 | 4,0 | 5,3 | 6,4 | 7,5 | 8,8 | 10,0 | 11,5 | 12,5 | 14,0 | 15,0 | 17,0 | 18,7 | 21,0 | 22,5 |
| e | 4,3 | 5,4 | 6,01 | 7,66 | 8,79 | 11,05 | 14,38 | 17,77 | 20,03 | 24,49 | 26,75 | 30,14 | 33,53 | 35,72 | 39,98 | 45,2 | 50,85 | 55,37 | 60,79 |
| s | 4,0 | 5,0 | 5,5 | 7,0 | 8,0 | 10,0 | 13,0 | 16,0 | 18,0 | 22,0 | 23,7 | 27,0 | 30,0 | 32,0 | 36,0 | 41,0 | 46,0 | 50,0 | 55,0 |

| | | | | | | | | | | | | | | | | | | |
|----------|-----------------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| d | M 2 i M2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 22 | M 24 | M 27 | M 30 | M 33 | M 36 |
|----------|-----------------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | | | | | | | | | | | | |
|------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| I 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | 0,05 | | | | | | | | | | | | | | | | | |
| 6 | | 0,06 | 0,14 | 0,22 | A2 | | | | | | | | | | | | | | |
| 8 | | 0,07 | 0,15 | 0,24 | 0,37 | A2 | | | | | | | | | | | | | |
| 10 | | 0,08 | 0,16 | 0,27 | 0,44 | 0,90 | 1,62 | | | | | | | | | | | | |
| 12 | | 0,08 | 0,18 | 0,29 | 0,46 | 0,94 | 1,70 | | | | | | | | | | | | |
| 14 | | 0,09 | 0,20 | 0,32 | 0,50 | 1,00 | 1,80 | | | | | | | | | | | | |
| 16 | | 0,10 | 0,21 | 0,35 | 0,53 | 1,10 | 1,90 | 2,80 | | | | | | | | | | | |
| 18 | | A2 | 0,22 | 0,37 | 0,57 | 1,15 | 2,00 | | | | | | | | | | | | |
| 20 | | 0,12 | 0,24 | 0,39 | 0,60 | 1,20 | 2,10 | 3,20 | 4,80 | 6,40 | | | | | | | | | |
| 22 | | A2 | A2 | 0,41 | 0,61 | 1,25 | 2,24 | 3,32 | | | | | | | | | | | |
| 25 | | 0,14 | 0,28 | 0,46 | 0,69 | 1,32 | 2,40 | 3,50 | 5,30 | 7,70 | A2 | | | | | | | | |
| 30 | | 0,16 | 0,31 | 0,55 | 0,75 | 1,45 | 2,70 | 3,80 | 5,80 | 8,30 | 10,4 | 13,0 | 17,5 | | | | | | |
| 35 | | 0,18 | 0,36 | 0,63 | 0,84 | 1,57 | 2,90 | 4,20 | 6,30 | 8,60 | 11,2 | 15,0 | 19,5 | A2 | | | | | |
| 40 | | 0,20 | 0,40 | 0,65 | 0,92 | 1,70 | 3,20 | 4,50 | 6,80 | 9,00 | 12,0 | 16,0 | 20,0 | 24,0 | | | | | |
| 45 | | | 0,43 | 0,70 | 1,00 | 1,83 | 3,40 | 4,90 | 7,30 | 9,70 | 13,0 | 17,0 | 21,5 | 26,0 | | | | | |
| 50 | | 0,24 | 0,47 | 0,76 | 1,08 | 1,95 | 3,70 | 5,30 | 7,80 | 10,0 | 14,0 | 18,0 | 22,5 | 27,0 | 36,0 | A2 | | | A2 |
| 55 | | | A2 | 0,82 | 1,16 | 2,08 | 3,90 | 5,50 | 8,30 | 11,0 | 14,5 | 19,0 | 24,0 | 29,0 | 37,0 | A2 | | | |
| 60 | | | 0,55 | 0,88 | 1,24 | 2,20 | 4,10 | 5,90 | 8,80 | 12,0 | 15,0 | 20,0 | 25,0 | 30,0 | 41,0 | 54,0 | | | A2 |
| 65 | | | | | 1,32 | 2,33 | 4,35 | 6,30 | 9,30 | 12,4 | 16,0 | 21,0 | 26,5 | 32,0 | 43,0 | 57,5 | | | |
| 70 | | | A2 | 1,00 | 1,40 | 2,50 | 4,60 | 6,70 | 9,80 | 13,0 | 17,0 | 22,0 | 27,5 | 33,0 | 45,0 | 59,5 | 81,0 | | A2 |
| 75 | | | | | 1,48 | 2,63 | 4,90 | 7,00 | 10,2 | 13,5 | 18,0 | 23,0 | 29,0 | 35,0 | A2 | A2 | 83,0 | 95,0 | |
| 80 | | | | 1,13 | 1,56 | 2,75 | 5,15 | 7,36 | 10,7 | 14,0 | 19,0 | 24,0 | 30,0 | 36,0 | 49,0 | 64,0 | 86,0 | 99,0 | |
| 90 | | | | | 1,64 | 3,00 | 5,60 | 8,10 | 11,7 | 16,0 | 20,2 | 26,0 | 32,0 | 39,0 | 53,0 | 68,5 | 91,0 | 106 | |
| 100 | | | | | 1,72 | 3,25 | 6,10 | 8,80 | 12,7 | 17,0 | 21,8 | 28,0 | 34,0 | 42,0 | 57,0 | 73,0 | 96,0 | 114 | |
| 110 | | | | | 1,80 | 3,50 | 6,60 | 9,52 | 13,7 | 18,0 | 23,5 | 30,0 | 37,0 | 45,0 | 61,0 | 77,5 | 101 | 120 | |
| 120 | | | | | 1,88 | 3,75 | 7,10 | 10,2 | 17,7 | 19,0 | 25,1 | 32,0 | 40,0 | 48,0 | 65,0 | 82,0 | 106 | 127 | |
| 130 | | | | | | 4,00 | 7,60 | 10,9 | 15,7 | 20,0 | 26,8 | 34,0 | 43,0 | 51,0 | 69,0 | 86,5 | 111 | 134 | |
| 140 | | | | | | 4,25 | 8,10 | 11,6 | 16,7 | 21,0 | 28,4 | 36,0 | 46,0 | 54,0 | 73,0 | 91,0 | 116 | 141 | |
| 150 | | | | | | 4,50 | 8,60 | 12,3 | 17,7 | 22,0 | 30,0 | 38,0 | 49,0 | 57,0 | 77,0 | 95,4 | 121 | 148 | |
| 160 | | | | | | 4,75 | 9,10 | 13,0 | | 23,0 | | 40,0 | | 60,0 | | | | | |
| 170 | | | | | | 5,00 | 9,60 | 13,7 | | 24,0 | | 42,0 | | 63,0 | | | | | |
| 180 | | | | | | 5,25 | 10,1 | 14,4 | | 25,0 | | 44,0 | | 66,0 | | | | | |
| 190 | | | | | | | 10,6 | 15,1 | | 26,0 | | 46,0 | | 69,0 | | | | | |
| 200 | | | | | | | 11,1 | 15,8 | | 27,0 | | 48,0 | | 72,0 | | | | | |

 - brak podstawowej oferty

 A2 - tylko A2

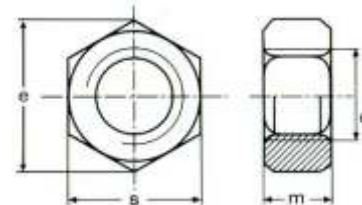
DIN 934 – ISO 4032 – PN 82144

Norma

A2/A4

Material

Nakrętka sześciokątna



| d | waga 100szt./kg | s | e | m |
|-------|-----------------|------|-------|------|
| M 1 | 0,003 | 2,5 | 2,71 | 0,8 |
| M 1,2 | 0,005 | 3,0 | 3,28 | 1,0 |
| M 1,4 | 0,006 | 3,0 | 3,28 | 1,2 |
| M 1,6 | 0,007 | 3,2 | 3,41 | 1,3 |
| M 1,7 | 0,009 | 3,5 | 3,82 | 1,4 |
| M 2 | 0,014 | 4,0 | 4,32 | 1,6 |
| M 2,3 | 0,020 | 4,5 | 4,88 | 1,8 |
| M 2,5 | 0,028 | 5,0 | 5,45 | 2,0 |
| M 2,6 | 0,03 | 5,0 | 5,45 | 2,0 |
| M 3 | 0,04 | 5,5 | 6,01 | 2,4 |
| M 3,5 | 0,05 | 6,0 | 6,58 | 2,8 |
| M 4 | 0,08 | 7,0 | 7,66 | 3,2 |
| M 5 | 0,12 | 8,0 | 8,79 | 4,0 |
| M 6 | 0,25 | 10,0 | 11,05 | 5,0 |
| M 7 | 0,31 | 11,0 | 12,12 | 5,5 |
| M 8 | 0,48 | 13,0 | 14,38 | 6,5 |
| M 10 | 1,10 | 17,0 | 18,90 | 8,0 |
| M 12 | 1,50 | 19,0 | 21,10 | 10,0 |
| M 14 | 2,30 | 22,0 | 24,49 | 11,0 |
| M 16 | 2,90 | 24,0 | 26,75 | 13,0 |
| M 18 | 4,70 | 27,0 | 29,56 | 15,0 |
| M 20 | 5,70 | 30,0 | 32,95 | 16,0 |
| M 22 | 7,90 | 32,0 | 35,03 | 18,0 |
| M 24 | 11,0 | 36,0 | 39,55 | 19,0 |
| M 27 | 16,0 | 41,0 | 45,20 | 22,0 |
| M 30 | 22,0 | 46,0 | 50,85 | 24,0 |
| M 33 | 29,0 | 50,0 | 55,37 | 26,0 |
| M 36 | 39,0 | 55,0 | 60,79 | 29,0 |
| M 39 | 50,2 | 60,0 | 66,44 | 31,0 |
| M 42 | 65,2 | 65,0 | 71,30 | 34,0 |
| M 45 | 80,0 | 70,0 | 76,95 | 36,0 |
| M 48 | 97,7 | 75,0 | 82,60 | 38,0 |
| M 52 | 122,0 | 80,0 | 88,25 | 42,0 |

DIN 935 – ISO 7035 – PN 82148

Norma

A2/A4

Materiał

Nakrętka koronowa

| d | waga 100szt./kg | s | e | m | n | de |
|-------|--------------------|------|-------|------|-----|-------|
| M 5 | 0,23 | 8,0 | 8,79 | 6,0 | 1,4 | - |
| M 6 | 0,32 | 10,0 | 11,05 | 7,5 | 2,0 | - |
| M 8 | 0,73 | 13,0 | 14,38 | 9,5 | 2,5 | - |
| M 10 | 1,58 | 17,0 | 18,90 | 12,0 | 2,8 | - |
| M 12 | 2,00 | 19,0 | 21,10 | 15,0 | 3,5 | 15,57 |
| M 14 | 2,70 | 22,0 | 24,49 | 16,0 | 3,5 | 17,57 |
| M 16 | 3,89 | 24,0 | 26,75 | 19,0 | 4,5 | 21,48 |
| M 18 | 5,75 | 27,0 | 29,56 | 21,0 | 4,5 | 24,3 |
| M 20 | 7,52 | 30,0 | 32,95 | 22,0 | 4,5 | 27,3 |
| M 22 | 9,30 | 34,0 | 37,29 | 26,0 | 5,5 | 29,3 |
| M 24 | 13,1 | 36,0 | 39,55 | 27,0 | 5,5 | 33,0 |
| M 27 | 19,2 | 41,0 | 45,20 | 30,0 | 5,5 | 37,0 |
| M 30 | 26,4 | 46,0 | 50,85 | 33,0 | 7,0 | 41,0 |
| M 36* | 33,3 | 55,0 | 60,79 | 37,0 | 7,0 | 49,0 |

* - tylko A2

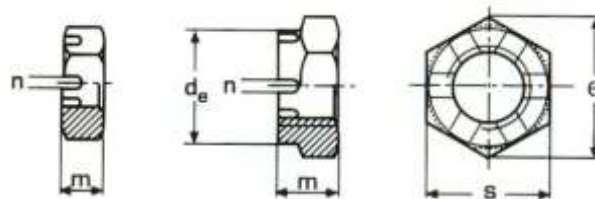
DIN 937 – PN 82159

Norma

A2/A4

Materiał

Nakrętka koronowa niska



| d | waga 100szt./kg | s | e | m | n | de |
|------|--------------------|------|-------|------|-----|------|
| M 6 | 0,25 | 10,0 | 11,05 | 6,0 | 2,0 | - |
| M 8 | 0,54 | 13,0 | 14,38 | 8,0 | 2,5 | - |
| M 10 | 1,13 | 17,0 | 18,90 | 9,0 | 2,8 | - |
| M 12 | 1,47 | 19,0 | 20,10 | 10,0 | 3,5 | 17,0 |
| M 14 | 1,79 | 22,0 | 24,49 | 11,0 | 3,5 | 19,0 |
| M 16 | 2,27 | 24,0 | 26,75 | 12,0 | 4,5 | 22,0 |
| M 18 | 3,32 | 27,0 | 29,56 | 13,0 | 4,5 | 25,0 |
| M 20 | 4,11 | 30,0 | 32,95 | 13,0 | 4,5 | 28,0 |
| M 22 | 4,98 | 32,0 | 35,03 | 15,0 | 5,5 | 30,0 |
| M 24 | 6,78 | 36,0 | 39,55 | 15,0 | 5,5 | 34,0 |
| M 27 | 10,3 | 41,0 | 45,20 | 17,0 | 5,5 | 38,0 |
| M 30 | 13,3 | 46,0 | 50,85 | 18,0 | 7,0 | 42,0 |

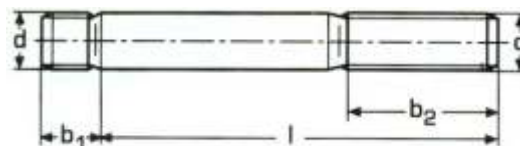
DIN 938 – PN 82125

A2/A4

Norma

Materiał

rubka dwustronna ~ 1d



| | | | | | | | | | | | | |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| b1 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 18,0 | 20,0 | 22,0 | 24,0 | 30,0 |
| b2-l<125 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 34,0 | 38,0 | 42,0 | 46,0 | 50,0 | 54,0 | 66,0 |
| b2-l>125 | - | - | - | 32,0 | - | 40,0 | 44,0 | - | - | - | 60,0 | 72,0 |

| d | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 22 | M 24 | M 30 |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| waga 100szt./kg | | | | | | | | | | | | |
| I 25 | 0,39 | 0,57 | 1,02 | | | | | | | | | |
| 30 | 0,47 | 0,68 | 1,25 | 2,00 | 2,90 | | | | | | | |
| 35 | A4 | 0,79 | 1,48 | 2,32 | 3,40 | 4,80 | | | | | | |
| 40 | A4 | 0,90 | 1,64 | 2,63 | 3,88 | 5,40 | 7,20 | | | | | |
| 45 | 0,70 | 1,01 | 1,84 | 2,94 | 4,32 | 6,00 | 8,10 | 10,3 | | | | |
| 50 | 0,78 | 1,12 | 2,04 | 3,24 | 4,77 | 6,60 | 8,96 | 11,3 | 14,2 | | | |
| 55 | 0,86 | 1,23 | 2,24 | 3,55 | 5,21 | 7,21 | 9,75 | 12,3 | 15,7 | 19,6 | | |
| 60 | 0,94 | 1,34 | 2,43 | 3,86 | 5,66 | 7,81 | 10,5 | 13,3 | 17,0 | 21,1 | 25,1 | |
| 65 | 1,02 | 1,45 | 2,63 | 4,17 | 6,10 | 8,42 | 11,3 | 14,3 | 18,2 | 22,6 | 26,9 | |
| 70 | 1,10 | 1,55 | 2,83 | 4,48 | 6,54 | 9,02 | 12,1 | 15,3 | 19,5 | 24,1 | 28,7 | 36,0 |
| 75 | 1,18 | 1,66 | 3,03 | 4,79 | 6,99 | 9,63 | 12,9 | 16,3 | 20,7 | 25,6 | 30,5 | |
| 80 | 1,26 | 1,77 | 3,22 | 5,09 | 7,43 | 10,2 | 13,7 | 17,3 | 21,9 | 27,1 | 32,3 | 47,0 |
| 85 | 1,34 | 1,88 | 3,42 | 5,40 | 7,88 | 10,8 | 14,5 | 18,3 | 23,2 | 28,6 | 34,0 | |
| 90 | 1,42 | 1,99 | 3,62 | 5,71 | 8,32 | 11,4 | 15,3 | 19,3 | 24,4 | 30,1 | 35,8 | 58,0 |
| 95 | 1,50 | 2,10 | 3,82 | 6,02 | 8,76 | 12,0 | 16,1 | 20,3 | 25,6 | 31,6 | 37,6 | |
| 100 | 1,58 | 2,21 | 4,02 | 6,33 | 9,21 | 12,6 | 16,9 | 21,3 | 26,9 | 33,0 | 39,4 | 63,6 |
| 110 | 1,66 | 2,32 | 4,22 | 6,63 | 10,1 | 13,9 | 18,4 | 23,3 | 29,3 | 36,0 | 42,9 | 69,1 |
| 120 | 1,74 | 2,43 | 4,42 | 6,95 | 11,0 | 15,1 | 20,0 | 25,3 | 31,8 | 39,0 | 46,5 | 74,7 |
| 130 | | | | A2 | | | | | | | 50,0 | 80,2 |
| 140 | | | | | | A4 | A4 | | | | 53,6 | 85,8 |
| 150 | | | | | | A2 | A2 | | | | 57,1 | 91,3 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

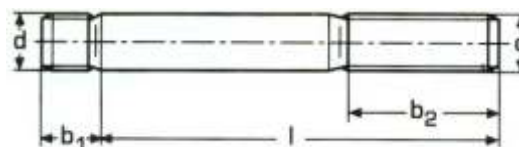
DIN 939 – PN 82131

Norma

A2/A4

Materiał

rubka dwustronna ~ 1,25d



| | | | | | | | | | | | | |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| b1 | 6,5 | 7,5 | 10,0 | 12,0 | 15,0 | 18,0 | 20,0 | 22,0 | 25,0 | 28,0 | 30,0 | 38,0 |
| b2-l<125 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 34,0 | 38,0 | 42,0 | 46,0 | 50,0 | 54,0 | 66,0 |
| b2-l>125 | - | - | - | 32,0 | - | 40,0 | 44,0 | - | - | - | 60,0 | 72,0 |

| d | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 22 | M 24 | M 30 |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|

waga 100szt./kg

| | | | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| I 16 | 0,25 | | | | | | | | | | | |
| 20 | 0,36 | 0,47 | | | | | | | | | | |
| 25 | 0,41 | 0,58 | 1,11 | | | | | | | | | |
| 30 | 0,49 | 0,70 | 1,31 | 2,11 | 3,21 | | | | | | | |
| 35 | A4 | 0,81 | 1,51 | 2,42 | 3,66 | 5,20 | | | | | | |
| 40 | A4 | 0,92 | 1,70 | 2,72 | 4,10 | 5,80 | 7,90 | | | | | |
| 45 | 0,72 | 1,02 | 1,90 | 3,03 | 4,54 | 6,40 | 8,70 | 11,0 | | | | |
| 50 | 0,80 | 1,14 | 2,10 | 3,33 | 4,99 | 7,00 | 9,49 | 12,0 | 15,4 | | | |
| 55 | 0,88 | 1,25 | 2,29 | 3,64 | 5,43 | 7,61 | 10,3 | 13,0 | 16,7 | 21,2 | | |
| 60 | 0,96 | 1,36 | 2,49 | 3,95 | 5,88 | 8,21 | 11,1 | 14,0 | 18,0 | 22,7 | 26,9 | |
| 65 | 1,04 | 1,47 | 2,69 | 4,26 | 6,32 | 8,82 | 11,9 | 15,0 | 19,2 | 24,2 | 28,7 | |
| 70 | 1,12 | 1,58 | 2,89 | 4,57 | 6,76 | 9,42 | 12,6 | 16,0 | 20,5 | 25,7 | 30,5 | 39,5 |
| 75 | 1,20 | 1,69 | 3,08 | 4,88 | 7,21 | 10,0 | 13,4 | 17,0 | 21,7 | 27,2 | 32,3 | |
| 80 | 1,28 | 1,80 | 3,28 | 5,18 | 7,65 | 10,6 | 14,2 | 18,0 | 22,9 | 28,7 | 34,1 | 50,7 |
| 85 | 1,36 | 1,91 | 3,45 | 5,49 | 8,10 | 11,2 | 15,0 | 19,0 | 24,1 | 30,2 | 35,8 | |
| 90 | 1,44 | 2,02 | 3,68 | 5,80 | 8,54 | 11,8 | 15,8 | 19,9 | 25,4 | 31,7 | 37,6 | 61,9 |
| 95 | 1,52 | 2,13 | A4 | 6,11 | 8,98 | 12,4 | 16,6 | 21,0 | 26,6 | 33,2 | 39,4 | |
| 100 | 1,60 | 2,24 | 4,08 | 6,42 | 9,43 | 13,0 | 17,4 | 22,0 | 27,9 | 34,6 | 41,2 | 67,4 |
| 110 | 1,68 | 2,35 | A4 | 6,73 | 10,3 | 14,3 | 19,0 | 24,0 | 30,3 | 37,6 | 44,7 | 73,0 |
| 120 | 1,76 | 2,46 | 4,48 | 7,04 | 11,2 | 15,5 | 20,5 | 26,0 | 32,8 | 40,6 | 48,3 | 78,5 |
| 130 | | | | A2 | | | | | | | 51,8 | 84,1 |
| 140 | | | | | | A4 | A4 | | | | 55,4 | 89,6 |
| 150 | | | | | | A2 | A2 | | | | 58,9 | 95,2 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

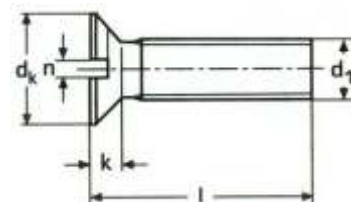
DIN 963 – ISO 2009 – PN 82207

Norma

A2/A4

Materiał

**Wkręty z łbem stożkowym,
z nacięciami płaskimi**



| | | | | | | | | | | | | | | | | | |
|-----------|------|------|-----|-----|-----|------|------|-----|-----|------|------|------|------|------|------|------|------|
| n | 0,3 | 0,4 | 0,5 | 0,6 | 0,6 | 0,8 | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 | 2,5 | 3,0 | 3,0 | 4,0 | 4,0 | 5,0 |
| k | 0,72 | 0,96 | 1,2 | 1,5 | 1,5 | 1,65 | 1,93 | 2,2 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 |
| dk | 2,3 | 3,0 | 3,8 | 4,7 | 5,0 | 5,6 | 6,5 | 7,5 | 9,2 | 11,0 | 14,5 | 18,0 | 22,0 | 25,0 | 29,0 | 33,0 | 36,0 |

| d1 | M 1 | M 1,6 | M 2 | M 2,5 | M 2,6 | M 3 | M 3,5 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 |
|-----------|------------|--------------|------------|--------------|--------------|------------|--------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
|-----------|------------|--------------|------------|--------------|--------------|------------|--------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | | | | | | | | | | |
|------------|----|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|--|--|
| I 3 | A4 | A2 | A2 | | | | | | | | | | | | | | |
| 4 | A4 | 0,007 | 0,012 | 0,021 | A2 | 0,028 | | | | | | | | | | | |
| 5 | A4 | 0,008 | 0,014 | 0,024 | 0,027 | 0,033 | A2 | 0,07 | | | | | | | | | |
| 6 | | 0,009 | 0,015 | 0,027 | A2 | 0,038 | 0,07 | 0,09 | 0,12 | | | | | | | | |
| 8 | | 0,012 | 0,019 | 0,033 | A2 | 0,047 | 0,08 | 0,11 | 0,15 | 0,24 | | | | | | | |
| 10 | | 0,014 | 0,023 | 0,039 | 0,044 | 0,055 | 0,09 | 0,12 | 0,17 | 0,27 | 0,57 | | | | | | |
| 12 | | A2 | 0,027 | 0,045 | 0,050 | 0,064 | 0,10 | 0,14 | 0,20 | 0,31 | 0,63 | | | | | | |
| 14 | | A2 | A2 | 0,051 | | 0,073 | A2 | 0,15 | 0,22 | 0,34 | 0,70 | | | | | | |
| 16 | | A2 | 0,034 | 0,057 | A2 | 0,082 | 0,11 | 0,17 | 0,24 | 0,38 | 0,76 | 1,16 | | | | | |
| 18 | | | A2 | | | 0,091 | | 0,18 | 0,27 | 0,41 | 0,82 | | | | | | |
| 20 | | | 0,042 | 0,069 | | 0,10 | 0,15 | 0,20 | 0,29 | 0,45 | 0,89 | 1,36 | 2,08 | 3,10 | 4,10 | | |
| 22 | | | | | | 0,11 | | 0,22 | 0,32 | 0,46 | 0,96 | | | | | | |
| 25 | | | 0,052 | 0,084 | | 0,12 | A2 | 0,24 | 0,35 | 0,54 | 1,05 | 1,61 | 2,44 | 3,60 | 4,77 | | |
| 28 | | | | | | | | A2 | A2 | | | | | | | | |
| 30 | | | A2 | A2 | | 0,14 | A2 | 0,28 | 0,41 | 0,62 | 1,21 | 1,87 | 2,81 | 4,12 | 5,44 | | |
| 35 | | | | | | 0,16 | | 0,32 | 0,47 | 0,71 | 1,37 | 2,12 | 3,17 | 4,64 | 6,11 | | |
| 40 | | | | | | 0,18 | | 0,36 | 0,53 | 0,80 | 1,53 | 2,37 | 3,53 | 5,25 | 6,78 | | |
| 45 | | | | | | 0,21 | | 0,40 | 0,59 | 0,89 | 1,69 | 2,62 | 3,90 | 5,86 | 7,45 | | |
| 50 | | | | | | 0,23 | | 0,41 | 0,65 | 0,97 | 1,85 | 2,88 | 4,26 | 6,46 | 8,11 | | |
| 55 | | | | | | A2 | | A2 | 0,72 | 1,06 | 2,01 | 3,13 | 4,62 | 7,10 | 8,78 | | |
| 60 | | | | | | 0,27 | | 0,49 | 0,79 | 1,15 | 2,17 | 3,38 | 4,98 | 7,70 | 9,44 | | |
| 65 | | | | | | | | | 0,86 | 1,23 | 2,33 | 3,63 | 5,33 | 8,30 | 10,1 | | |
| 70 | | | | | | | | 0,56 | 0,92 | 1,31 | 2,49 | 3,89 | 5,69 | 8,90 | 10,8 | | |
| 80 | | | | | | | | 0,64 | 1,04 | 1,49 | 2,81 | 4,11 | 6,44 | 10,0 | 12,1 | | |
| 90 | | | | | | | | | 1,17 | 1,67 | 3,06 | 4,39 | 7,13 | 11,1 | 13,4 | | |
| 100 | | | | | | | | | 1,30 | 1,84 | 3,38 | 5,42 | 7,85 | 12,2 | 14,8 | | |
| 120 | | | | | | | | | A2 | 2,02 | 3,71 | 5,93 | 8,57 | 13,3 | 16,2 | | |
| 130 | | | | | | | | | | | 4,02 | 6,44 | 9,29 | 14,4 | 17,6 | | |
| 140 | | | | | | | | | | | 4,34 | 6,95 | 10,0 | 15,5 | 19,0 | | |
| 150 | | | | | | | | | | | 4,66 | 7,46 | 10,7 | 16,6 | 20,6 | | |
| 160 | | | | | | | | | | | 4,98 | 7,97 | 14,4 | | | | |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

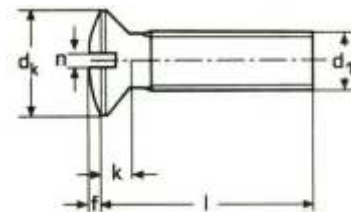
DIN 964 – ISO 2010 – PN 82211

Norma

A2/A4

Material

**Wkręty z łbem soczewkowym,
z nacięciami płaskimi**



| | | | | | | | | | |
|-----------|-----|-----|------|-----|-----|------|------|------|------|
| n | 0,5 | 0,6 | 0,8 | 1,0 | 1,0 | 1,2 | 1,6 | 2,0 | 2,5 |
| f | 0,5 | 0,6 | 0,75 | 0,8 | 1,0 | 1,25 | 1,5 | 2,0 | 2,5 |
| k | 1,2 | 1,5 | 1,65 | 2,0 | 2,2 | 2,5 | 3,0 | 4,0 | 5,0 |
| dk | 3,8 | 4,7 | 5,6 | 7,3 | 7,5 | 9,2 | 11,0 | 14,5 | 18,0 |

| | | | | | | | | | |
|-----------|------------|--------------|------------|--------------|------------|------------|------------|------------|-------------|
| d1 | M 2 | M 2,5 | M 3 | M 3,5 | M 4 | M 5 | M 6 | M 8 | M 10 |
|-----------|------------|--------------|------------|--------------|------------|------------|------------|------------|-------------|

waga 100szt./kg

| | | | | | | | | | |
|------------|-------|-------|-------|------|------|------|------|------|------|
| I 4 | 0,014 | | | | | | | | |
| 5 | 0,016 | 0,027 | 0,039 | | 0,10 | | | | |
| 6 | 0,017 | 0,030 | 0,044 | A4 | 0,11 | 0,15 | | | |
| 8 | 0,021 | 0,036 | 0,053 | 0,09 | 0,12 | 0,17 | 0,28 | | |
| 10 | 0,025 | 0,042 | 0,061 | 0,10 | 0,14 | 0,20 | 0,31 | 0,69 | |
| 12 | 0,029 | 0,048 | 0,070 | 0,11 | 0,15 | 0,22 | 0,35 | 0,75 | |
| 14 | A2 | 0,054 | 0,079 | | 0,17 | 0,25 | 0,38 | 0,81 | |
| 16 | 0,036 | 0,060 | 0,088 | 0,13 | 0,18 | 0,27 | 0,42 | 0,88 | A2 |
| 18 | A2 | 0,066 | 0,096 | | 0,20 | 0,30 | 0,45 | A4 | |
| 20 | 0,044 | 0,072 | 0,11 | 0,16 | 0,22 | 0,32 | 0,49 | 1,01 | 1,55 |
| 22 | | 0,078 | 0,12 | | 0,24 | 0,34 | 0,52 | A4 | |
| 25 | A2 | 0,087 | 0,13 | A4 | 0,26 | 0,38 | 0,58 | 1,17 | 1,80 |
| 28 | | | 0,14 | | 0,28 | 0,41 | 0,63 | | |
| 30 | A2 | 0,102 | 0,15 | 0,22 | 0,29 | 0,44 | 0,66 | 1,33 | 2,06 |
| 35 | | | 0,17 | A2 | 0,33 | 0,50 | 0,75 | 1,49 | 2,31 |
| 40 | | | 0,19 | A4 | 0,37 | 0,56 | 0,84 | 1,65 | 2,56 |
| 45 | | | 0,22 | | 0,41 | 0,62 | 0,93 | 1,81 | 2,81 |
| 50 | | | 0,24 | | 0,45 | 0,68 | 1,01 | 1,97 | 3,07 |
| 55 | | | | | 0,49 | 0,74 | 1,10 | 2,13 | 3,32 |
| 60 | | | | | 0,53 | 0,80 | 1,19 | 2,29 | 3,57 |
| 65 | | | | | | 0,86 | 1,28 | A2 | |
| 70 | | | | | 0,61 | 0,92 | 1,37 | 2,61 | 4,08 |
| 80 | | | | | 0,69 | 1,04 | 1,55 | 2,93 | 4,58 |
| 90 | | | | | | 1,16 | 1,73 | 3,25 | 5,08 |
| 100 | | | | | | 1,28 | 1,91 | 3,57 | 5,58 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

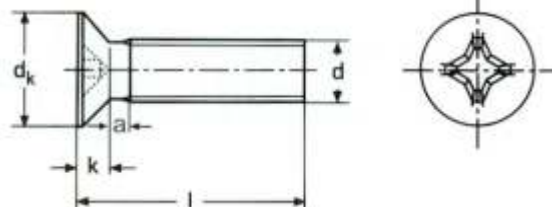
DIN 965 – ISO 7046 – PN 82208

Norma

A2/A4

Materiał

**Wkręt z łbem stożkowym,
z gniazdem krzyżowym**



| | | | | | | | | | |
|-----------|------|-----|-----|------|-----|-----|------|------|------|
| a | 0,7 | 0,8 | 0,9 | 1,0 | 1,4 | 1,6 | 2,0 | 2,5 | 3,0 |
| k | 0,96 | 1,2 | 1,5 | 1,65 | 2,2 | 2,5 | 3,0 | 4,0 | 5,0 |
| dk | 3,0 | 3,8 | 4,7 | 5,6 | 7,5 | 9,2 | 11,0 | 14,5 | 18,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 |
|----------|------------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|----------|------------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|

waga 100szt./kg

| | | | | | | | | | |
|------------|-------|-------|-------|-------|-------|------|------|------|------|
| I 3 | 0,006 | 0,010 | | | | | | | |
| 4 | 0,007 | 0,012 | 0,021 | 0,029 | | | | | |
| 5 | 0,008 | 0,014 | 0,024 | 0,033 | 0,057 | | | | |
| 6 | 0,009 | 0,015 | 0,027 | 0,038 | 0,063 | 0,12 | | | |
| 8 | 0,012 | 0,019 | 0,033 | 0,047 | 0,075 | 0,15 | 0,24 | | |
| 10 | 0,014 | 0,023 | 0,039 | 0,055 | 0,09 | 0,17 | 0,27 | A2 | |
| 12 | 0,016 | 0,027 | 0,045 | 0,064 | 0,10 | 0,19 | 0,31 | 0,63 | |
| 14 | | 0,031 | 0,051 | 0,07 | 0,11 | 0,22 | 0,34 | A2 | |
| 16 | 0,021 | 0,034 | 0,057 | 0,08 | 0,12 | 0,24 | 0,38 | 0,76 | 1,16 |
| 18 | | A4 | 0,063 | 0,09 | 0,14 | 0,27 | 0,41 | | |
| 20 | | 0,042 | 0,069 | 0,10 | 0,15 | 0,29 | 0,45 | 0,88 | 1,36 |
| 22 | | | | 0,11 | 0,17 | 0,32 | 0,48 | A2 | |
| 25 | | | | 0,12 | 0,18 | 0,35 | 0,54 | 1,05 | 1,61 |
| 28 | | | | 0,13 | 0,20 | 0,39 | 0,59 | | |
| 30 | | | | 0,14 | 0,21 | 0,41 | 0,62 | 1,21 | 1,87 |
| 35 | | | | 0,16 | 0,24 | 0,47 | 0,71 | 1,37 | 2,12 |
| 40 | | | | 0,18 | 0,30 | 0,53 | 0,80 | 1,53 | 2,37 |
| 45 | | | | 0,21 | 0,36 | 0,59 | 0,89 | 1,69 | 2,62 |
| 50 | | | | 0,23 | 0,41 | 0,65 | 0,97 | 1,85 | 2,88 |
| 55 | | | | | A2 | 0,72 | 1,06 | A2 | |
| 60 | | | | | 0,49 | 0,79 | 1,15 | 2,17 | 3,38 |
| 65 | | | | | | 0,86 | 1,24 | A2 | |
| 70 | | | | | A4 | 0,92 | 1,31 | 2,42 | 3,90 |
| 80 | | | | | A4 | 1,04 | 1,49 | 2,74 | 4,42 |
| 90 | | | | | A4 | 1,17 | 1,67 | 3,06 | 4,94 |
| 100 | | | | | A2 | 1,30 | 1,84 | 3,38 | 5,46 |
| 110 | | | | | | | | A2 | |
| 120 | | | | | | | | A2 | |
| 130 | | | | | | | | A2 | |
| 150 | | | | | | | | A2 | |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

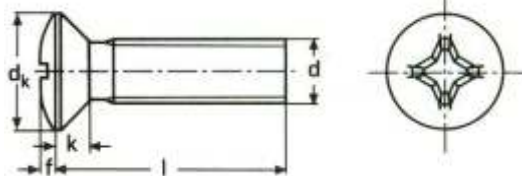
DIN 966 – ISO 7047 – PN 82212

Norma

A2/A4

Materiał

**Wkręty z łbem soczewkowym,
z gniazdem krzyżowym**



| | | | | | | | | |
|-----------|-----|-----|------|-----|------|------|------|------|
| f | 0,5 | 0,6 | 0,75 | 1,0 | 1,25 | 1,5 | 2,0 | 2,5 |
| k | 1,2 | 1,5 | 1,65 | 2,2 | 2,5 | 3,0 | 4,0 | 5,0 |
| dk | 3,8 | 4,7 | 5,6 | 7,5 | 9,2 | 11,0 | 14,5 | 18,0 |

| d | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 |
|----------|------------|--------------|------------|------------|------------|------------|------------|-------------|
|----------|------------|--------------|------------|------------|------------|------------|------------|-------------|

waga 100szt./kg

| | | | | | | | | |
|------------|-------|-------|-------|------|------|------|------|------|
| I 3 | 0,012 | | | | | | | |
| 4 | 0,014 | 0,024 | 0,035 | | | | | |
| 5 | 0,016 | 0,027 | 0,039 | 0,10 | | | | |
| 6 | 0,017 | 0,030 | 0,044 | 0,11 | 0,15 | | | |
| 8 | 0,021 | 0,036 | 0,053 | 0,12 | 0,17 | 0,27 | | |
| 10 | 0,025 | 0,042 | 0,062 | 0,14 | 0,20 | 0,30 | 0,69 | |
| 12 | 0,029 | 0,048 | 0,070 | 0,15 | 0,22 | 0,34 | 0,73 | |
| 14 | | A4 | 0,079 | 0,17 | 0,25 | 0,37 | A2 | |
| 16 | 0,036 | 0,060 | 0,088 | 0,19 | 0,27 | 0,41 | 0,88 | |
| 18 | | A4 | 0,10 | 0,21 | 0,30 | 0,44 | | |
| 20 | 0,044 | 0,072 | 0,11 | 0,22 | 0,32 | 0,48 | 1,01 | 1,55 |
| 22 | | | 0,12 | 0,24 | 0,34 | 0,51 | | |
| 25 | | | 0,13 | 0,26 | 0,38 | 0,57 | 1,17 | 1,80 |
| 30 | | | 0,15 | 0,29 | 0,44 | 0,65 | 1,33 | 2,06 |
| 35 | | | 0,17 | 0,33 | 0,50 | 0,74 | 1,49 | 2,31 |
| 40 | | | 0,19 | 0,37 | 0,56 | 0,83 | 1,65 | 2,56 |
| 45 | | | 0,22 | 0,40 | 0,62 | 0,92 | 1,81 | |
| 50 | | | 0,24 | 0,44 | 0,68 | 1,01 | 1,97 | 3,07 |
| 55 | | | | A2 | 0,74 | 1,10 | | |
| 60 | | | | 0,52 | 0,80 | 1,19 | 2,29 | 3,57 |
| 65 | | | | | 0,86 | 1,28 | | |
| 70 | | | | A4 | 0,92 | 1,37 | 2,61 | |
| 75 | | | | | 0,98 | 1,46 | | |
| 80 | | | | | 1,04 | 1,55 | 2,93 | |
| 85 | | | | | 1,10 | A4 | | |
| 90 | | | | | 1,16 | 1,73 | 3,25 | |
| 95 | | | | | A4 | 1,82 | | |
| 100 | | | | | 1,28 | 1,91 | 3,58 | |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

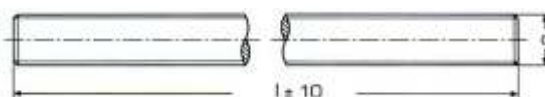
DIN 975

Norma

A2/A4

Materiał

Pręt gwintowany



| I | 1 m | 2 m | 3 m | 1 m z lewym gwintem |
|-----------------|--------|--------|--------|------------------------|
| waga 100szt./kg | | | | |
| d M 2 | 1,90 | | | |
| M 2,5 | 3,00 | | | |
| M 3 | 4,30 | | | |
| M 4 | 7,76 | | | A2 |
| M 5 | 12,4 | 24,8 | 37,2 | A2 |
| M 6 | 17,7 | 35,4 | 53,1 | A2 |
| M 8 | 31,9 | 63,8 | 95,7 | A2 |
| M 10 | 50,2 | 100,4 | 150,6 | A2 |
| M 12 | 72,8 | 145,6 | 218,4 | A2 |
| M 14 | 99,5 | 199,0 | 298,5 | A2 |
| M 16 | 133,0 | 266,0 | 399,0 | A2 |
| M 18 | 165,0 | 330,0 | 495,0 | A2 |
| M 20 | 208,0 | 416,0 | 624,0 | A2 |
| M 22 | 256,0 | 512,0 | 768,0 | |
| M 24 | 300,0 | 600,0 | 900,0 | A2 |
| M 27 | 388,2 | 776,4 | 1164,6 | |
| M 30 | 474,4 | 948,8 | 1423,2 | |
| M 33 | 581,2 | 1162,4 | 1743,6 | |
| M 36 | 689,0 | 1377,6 | 2066,4 | |
| M 39 | 816,4 | | | |
| M 42 | 941,2 | | | |
| M 45 | 1091,4 | | | |
| M 48 | 1234,8 | | | |
| M 52 | 1465,4 | | | |

- brak w podstawowej ofercie

A2 - tylko A2

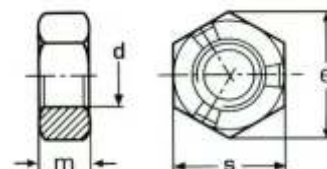
DIN 980 – ISO 7042 – PN 82176

Norma

A2/A4

Materiał

Nakrętka samozabezpieczająca z gwintem odkształconym



| d | s | e | m |
|------|------|-------|------|
| M 3 | 5,5 | 6,01 | 2,4 |
| M 4 | 7,0 | 7,66 | 3,2 |
| M 5 | 8,0 | 8,79 | 4,0 |
| M 6 | 10,0 | 11,05 | 5,0 |
| M 7 | 11,0 | 12,12 | 5,5 |
| M 8 | 13,0 | 14,38 | 6,5 |
| M 10 | 17,0 | 18,9 | 8,0 |
| M 12 | 19,0 | 21,1 | 10,0 |
| M 14 | 22,0 | 24,49 | 11,0 |
| M 16 | 24,0 | 26,75 | 13,0 |
| M 18 | 27,0 | 29,56 | 15,0 |
| M 20 | 30,0 | 32,95 | 16,0 |
| M 22 | 32,0 | 35,03 | 18,0 |
| M 24 | 36,0 | 39,55 | 19,0 |

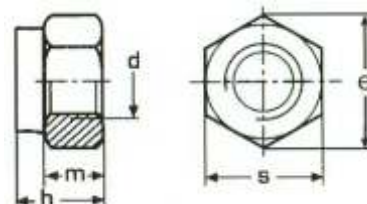
DIN 982 – PN 82175

Norma

A2/A4

Materiał

Nakrętka samozabezpieczająca (wysoka) z wkładem poliamidowym



| d | waga 100szt./kg | s | e | m | h |
|------|--------------------|------|-------|-------|------|
| M 4 | 0,10 | 7,0 | 7,66 | 3,6 | 4,7 |
| M 5 | 0,14 | 8,0 | 8,79 | 4,4 | 6,3 |
| M 6 | 0,31 | 10,0 | 11,05 | 4,9 | 8,0 |
| M 8 | 0,60 | 13,0 | 14,38 | 6,44 | 9,5 |
| M 10 | 1,17 | 17,0 | 18,9 | 8,04 | 11,5 |
| M 12 | 1,66 | 19,0 | 21,1 | 10,37 | 14,0 |
| M 14 | 2,10 | 22,0 | 24,49 | 12,1 | 16,0 |
| M 16 | 3,78 | 24,0 | 26,75 | 14,1 | 18,0 |
| M 20 | 6,80 | 30,0 | 32,95 | 16,9 | 22,0 |
| M 24 | 8,60 | 36,0 | 39,55 | 20,2 | 28,0 |

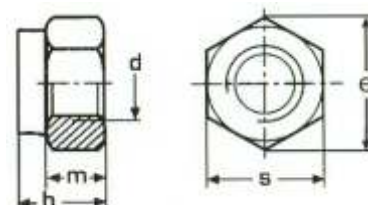
DIN 985 – PN 82175

Norma

A2/A4

Materiał

Nakrętka samozabezpieczająca z wkładem poliamidowym



| d | waga 100szt./kg | s | e | m | h |
|------------|--------------------|------|-------|------|------|
| M 2,5 | 0,04 | 5,0 | 5,5 | 2,3 | 3,5 |
| M 3 | 0,05 | 5,5 | 6,01 | 2,4 | 4,0 |
| M 4 | 0,10 | 7,0 | 7,66 | 2,9 | 5,0 |
| M 5 | 0,14 | 8,0 | 8,79 | 3,2 | 5,0 |
| M 6 | 0,24 | 10,0 | 11,05 | 4,0 | 6,0 |
| M 8 | 0,30 | 13,0 | 14,38 | 5,5 | 8,0 |
| M 8 x 1 | 0,51 | 13,0 | 14,38 | 5,5 | 8,0 |
| M 10 | 1,06 | 17,0 | 18,9 | 6,5 | 10,0 |
| M 10 x 1 | 1,06 | 17,0 | 18,9 | 6,5 | 10,0 |
| M 12 | 1,72 | 19,0 | 21,1 | 8,0 | 12,0 |
| M 12 x 1,5 | 1,72 | 19,0 | 21,1 | 8,0 | 12,0 |
| M 14 | 2,60 | 22,0 | 24,49 | 9,5 | 14,0 |
| M 16 | 3,40 | 24,0 | 26,75 | 10,5 | 16,0 |
| M 16 x 1,5 | 3,40 | 24,0 | 26,75 | 10,5 | 16,0 |
| M 18 | 4,50 | 27,0 | 29,56 | 13,0 | 18,5 |
| M 20 | 6,50 | 30,0 | 32,95 | 14,0 | 20,0 |
| M 20 x 1,5 | 6,50 | 30,0 | 32,95 | 14,0 | 20,0 |
| M 22 | 7,50 | 32,0 | 35,05 | 15,0 | 22,0 |
| M 24 | 10,0 | 36,0 | 39,55 | 15,0 | 24,0 |
| M 24 x 1,5 | 10,0 | 36,0 | 39,55 | 15,0 | 24,0 |
| M 27 | 16,2 | 41,0 | 45,02 | 17,0 | 27,0 |
| M 30 | 21,2 | 46,0 | 50,85 | 19,0 | 30,0 |

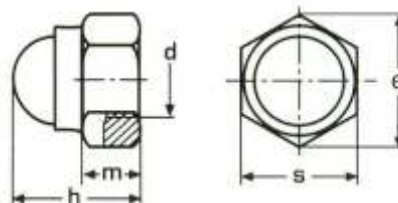
DIN 986

Norma

A2/A4

Materiał

Nakrętka samozabezpieczająca - kołpakowa



| d | waga 100szt./kg | s | e | m | h |
|------|--------------------|------|-------|-------|------|
| M 4 | 0,14 | 7,0 | 7,66 | 2,9 | 9,6 |
| M 5 | 0,16 | 8,0 | 8,79 | 4,4 | 10,5 |
| M 6 | 0,33 | 10,0 | 11,05 | 4,9 | 12,0 |
| M 8 | 0,53 | 13,0 | 14,38 | 6,44 | 14,0 |
| M 10 | 1,07 | 17,0 | 18,9 | 8,04 | 18,1 |
| M 12 | 1,90 | 19,0 | 21,1 | 10,37 | 22,5 |
| M 14 | 2,68 | 22,0 | 24,49 | 12,1 | 26,4 |
| M 16 | 3,71 | 24,0 | 26,75 | 14,1 | 27,5 |
| M 20 | 11,1 | 30,0 | 32,95 | 16,9 | 35,5 |

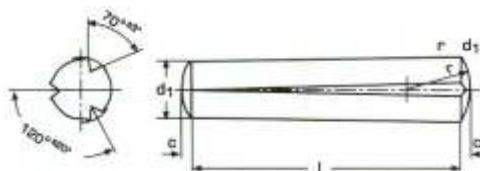
DIN 1471 – ISO 8744 – PN 85025

Norma

A2

Materiał

Kołek sprężysty z karami zbienymi na całej długości



| | | | | | | |
|---|------|-----|-----|------|-----|-----|
| c | 0,25 | 0,4 | 0,5 | 0,63 | 0,8 | 1,0 |
|---|------|-----|-----|------|-----|-----|

| | | | | | | |
|----|-----|-----|-----|-----|-----|-----|
| d1 | M 2 | M 3 | M 4 | M 5 | M 6 | M 8 |
|----|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|-----|--|--|--|--|--|--|
| I 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |
| 30 | | | | | | |
| 35 | | | | | | |
| 40 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |
| 60 | | | | | | |

- brak w podstawowej ofercie

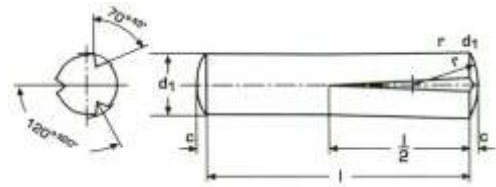
DIN 1472 – ISO 8745

Norma

A2

Material

**Kołek sprężysty z karami
zbieżnymi na połowie długości**



| | | | | | | |
|---|------|-----|-----|------|-----|-----|
| c | 0,25 | 0,4 | 0,5 | 0,63 | 0,8 | 1,0 |
|---|------|-----|-----|------|-----|-----|

| | | | | | | |
|----|--------|--------|--------|--------|--------|--------|
| d1 | M 2 | M 3 | M 4 | M 5 | M 6 | M 8 |
|----|--------|--------|--------|--------|--------|--------|

| | | | | | | |
|-----|--|--|--|--|--|--|
| I 3 | | | | | | |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |
| 30 | | | | | | |
| 35 | | | | | | |
| 40 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |
| 60 | | | | | | |

- brak w podstawowej ofercie

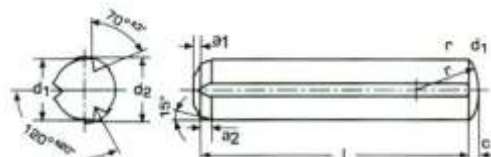
DIN 1473 – ISO 8740 – PN 85024

Norma

A2

Materiał

Kołek sprężysty z karami na
całej długości



| | | | | | | | |
|----|------|-----|-----|-----|-----|-----|-----|
| a1 | 0,18 | 0,3 | 0,4 | 0,5 | 0,6 | 0,8 | 1,0 |
| a2 | 0,8 | 1,2 | 1,4 | 1,7 | 2,1 | 2,6 | 3,0 |
| c | 0,25 | 0,4 | 0,5 | 0,6 | 0,8 | 1,0 | 1,2 |

| d1 | M 2 | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 |
|----|--------|--------|--------|--------|--------|--------|---------|
|----|--------|--------|--------|--------|--------|--------|---------|

| | | | | | | | |
|-----|--|--|--|--|--|--|--|
| I 5 | | | | | | | |
| 6 | | | | | | | |
| 8 | | | | | | | |
| 10 | | | | | | | |
| 12 | | | | | | | |
| 14 | | | | | | | |
| 16 | | | | | | | |
| 18 | | | | | | | |
| 20 | | | | | | | |
| 22 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 32 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |
| 60 | | | | | | | |
| 65 | | | | | | | |
| 70 | | | | | | | |

- brak w podstawowej ofercie

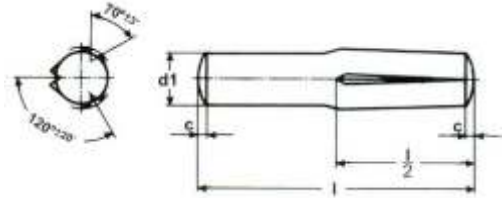
DIN 1474 – ISO 8741 – PN 85026

Norma

A2

Materiał

Kołek sprężysty z krawędziami
zbieżnymi na połowę długości



| c | 0,25 | 0,4 | 0,5 | 0,63 | 0,8 | 1,0 |
|----|--------|--------|--------|--------|--------|--------|
| d1 | M 2 | M 3 | M 4 | M 5 | M 6 | M 8 |
| I | 8 | | | | | |
| 10 | | | | | | |
| 12 | | | | | | |
| 16 | | | | | | |
| 20 | | | | | | |
| 25 | | | | | | |
| 30 | | | | | | |
| 35 | | | | | | |
| 40 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |
| 60 | | | | | | |

- brak w podstawowej ofercie

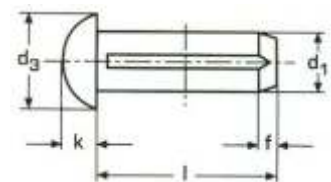
DIN 1476 – ISO 8746 – PN 82981

Norma

A2/A4

Materiał

Nitokołek z łbem kulistym



| d3 | 2,4 | 2,8 | 3,5 | 4,4 | 5,2 | 7,0 | 8,8 |
|----|----------|----------|--------|----------|--------|--------|--------|
| k | 0,8 | 1,0 | 1,2 | 1,5 | 1,8 | 2,4 | 3,0 |
| f | 0,5 | 0,5 | 0,5 | 0,7 | 1,0 | 1,5 | 1,5 |
| d1 | M 1,4 | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 |
| I | 3 | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 8 | | | | | | | |
| 10 | | | | | | | |
| 12 | | | | | | | |
| 16 | | | | | | | |

- brak w podstawowej ofercie

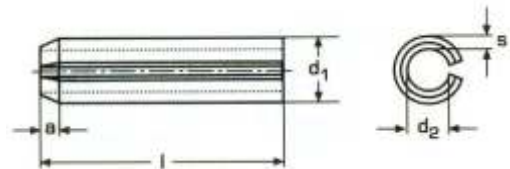
DIN 1481 – ISO 8752 – PN 85023

Norma

A2

Materiał

Kołek sprężysty gładki



| | | | | | | | | | | | | | |
|----|------|------|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|
| a | 0,15 | 0,25 | 0,4 | 0,4 | 0,5 | 0,6 | 0,65 | 0,8 | 0,9 | 1,2 | 2,0 | 2,0 | 2,0 |
| s | 0,2 | 0,3 | 0,4 | 0,5 | 0,6 | 0,75 | 0,8 | 1,0 | 1,0 | 1,25 | 1,5 | 2,0 | 2,5 |
| d2 | 0,8 | 1,1 | 1,5 | 1,8 | 2,1 | 2,3 | 2,8 | 2,9 | 3,4 | 3,9 | 5,5 | 6,5 | 7,5 |

| | | | | | | | | | | | | | |
|----|-----|-------|-----|-------|-----|-------|-----|-------|-----|-----|-----|------|------|
| d1 | M 1 | M 1,6 | M 2 | M 2,5 | M 3 | M 3,5 | M 4 | M 4,5 | M 5 | M 6 | M 8 | M 10 | M 12 |
|----|-----|-------|-----|-------|-----|-------|-----|-------|-----|-----|-----|------|------|

waga 100szt./kg

| | | | | | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|
| I 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | | |

- brak w podstawowej ofercie

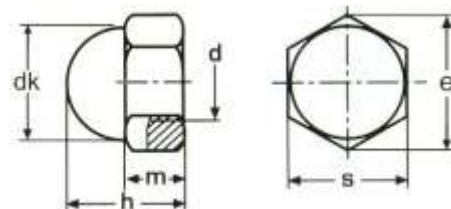
DIN 1587 – PN 82181

Norma

A2/A4

Materiał

Nakrętka sześciokątna kołpakowa



| d | waga 100szt./kg | s | e | m | h | dk |
|------|--------------------|------|-------|------|------|------|
| M 3 | 0,15 | 5,5 | 6,01 | 2,4 | 7,0 | 5,5 |
| M 4 | 0,15 | 7,0 | 7,66 | 3,2 | 8,0 | 6,5 |
| M 5 | 0,22 | 8,0 | 8,79 | 4,0 | 10,0 | 7,5 |
| M 6 | 0,46 | 10,0 | 11,05 | 5,0 | 12,0 | 9,5 |
| M 8 | 1,10 | 13,0 | 14,38 | 6,5 | 15,0 | 12,5 |
| M 10 | 2,01 | 17,0 | 18,9 | 8,0 | 18,0 | 16,0 |
| M 12 | 2,83 | 19,0 | 21,1 | 10,0 | 22,0 | 18,0 |
| M 14 | 5,72 | 22,0 | 24,49 | 11,0 | 25,0 | 21,0 |
| M 16 | 5,43 | 24,0 | 26,75 | 13,0 | 28,0 | 23,0 |
| M 18 | 9,50 | 27,0 | 30,14 | 15,0 | 32,0 | 26,0 |
| M 20 | 10,4 | 30,0 | 33,53 | 16,0 | 34,0 | 28,0 |
| M 22 | 12,9 | 34,0 | 37,72 | 18,0 | 39,0 | 33,0 |
| M 24 | 21,6 | 36,0 | 39,98 | 19,0 | 42,0 | 34,0 |
| M 27 | 30,0 | 41,0 | 47,3 | 20,0 | 47,0 | 40,0 |
| M 30 | 36,7 | 46,0 | 52,0 | 24,0 | 52,0 | 42,0 |

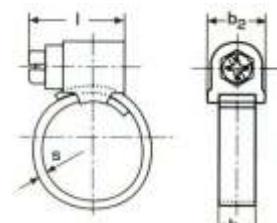
DIN 3017

Norma

A4

Materiał

Opaska zaciskowa



| rozmiar | b1 | b2 | l | s |
|----------|------|------|------|-----|
| 8 – 16 | 9,0 | 14,0 | 21,0 | 0,6 |
| 12 – 20 | 9,0 | 14,0 | 24,0 | 0,7 |
| 16 – 25 | 9,0 | 14,0 | 24,0 | 0,7 |
| 20 – 32 | 9,0 | 14,0 | 24,0 | 0,7 |
| 25 – 40 | 9,0 | 14,0 | 24,0 | 0,7 |
| 32 – 50 | 9,0 | 14,0 | 24,0 | 0,7 |
| 40 – 60 | 9,0 | 14,0 | 24,0 | 0,7 |
| 16 – 25 | 12,0 | 20,0 | 31,0 | 0,8 |
| 20 – 32 | 12,0 | 20,0 | 31,0 | 0,8 |
| 25 – 40 | 12,0 | 20,0 | 31,0 | 0,8 |
| 32 – 50 | 12,0 | 20,0 | 31,0 | 0,8 |
| 40 – 60 | 12,0 | 20,0 | 31,0 | 1,0 |
| 50 – 70 | 12,0 | 20,0 | 31,0 | 1,0 |
| 60 – 80 | 12,0 | 20,0 | 31,0 | 1,0 |
| 70 – 90 | 12,0 | 20,0 | 38,0 | 1,0 |
| 80 – 100 | 12,0 | 20,0 | 38,0 | 1,0 |

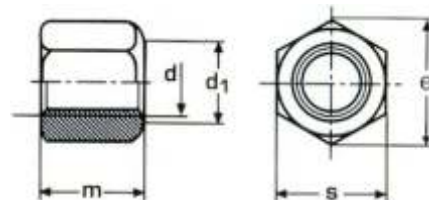
DIN 6330 – PN 61272

Norma

A2/A4

Materiał

Nakrętka sześciokątna wysoka 1,5d Forma B



| d | waga 100szt./kg | s | e | m | d1 |
|--------------|--------------------|------|-------|------|------|
| BM 6 | 0,50 | 10,0 | 11,05 | 9,0 | 7,0 |
| BM 8 | 0,96 | 13,0 | 14,38 | 12,0 | 9,0 |
| BM 10 | 2,10 | 16,0 | 17,77 | 15,0 | 11,5 |
| BM 12 | 3,15 | 18,0 | 20,03 | 18,0 | 14,0 |
| BM 16 | 6,10 | 24,0 | 26,75 | 24,0 | 18,0 |
| BM 20 | 12,0 | 30,0 | 33,53 | 30,0 | 22,0 |
| BM 24 | 20,6 | 36,0 | 39,98 | 36,0 | 26,0 |
| BM 30 | 41,9 | 46,0 | 51,28 | 45,0 | 32,0 |
| BM 36 | 71,5 | 55,0 | 61,31 | 54,0 | 38,0 |
| BM 42 | 117,0 | 65,0 | 72,61 | 63,0 | 44,0 |

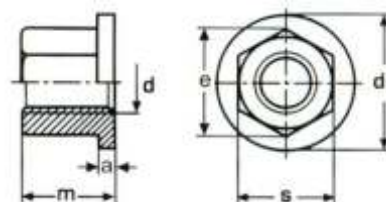
DIN 6331 – PN 61272

Norma

A2/A4

Materiał

Nakrętka sześciokątna wysoka 1,5d z kołnierzem oporowym



| d | waga 100szt./kg | s | e | m | d1 | a |
|-------------|--------------------|------|-------|------|------|------|
| M 6 | 0,55 | 10,0 | 11,05 | 9,0 | 14,0 | 3,0 |
| M 8 | 1,24 | 13,0 | 14,38 | 12,0 | 18,0 | 3,5 |
| M 10 | 2,55 | 16,0 | 17,77 | 15,0 | 22,0 | 4,0 |
| M 12 | 3,65 | 18,0 | 20,03 | 18,0 | 25,0 | 4,0 |
| M 14 | 5,50 | 21,0 | 23,39 | 21,0 | 28,0 | 5,0 |
| M 16 | 7,10 | 24,0 | 26,75 | 24,0 | 31,0 | 5,0 |
| M 20 | 13,5 | 30,0 | 33,53 | 30,0 | 37,0 | 6,0 |
| M 24 | 23,0 | 36,0 | 39,98 | 36,0 | 45,0 | 6,0 |
| M 30 | 47,0 | 46,0 | 51,28 | 45,0 | 58,0 | 8,0 |
| M 36 | 81,0 | 55,0 | 61,31 | 54,0 | 68,0 | 10,0 |

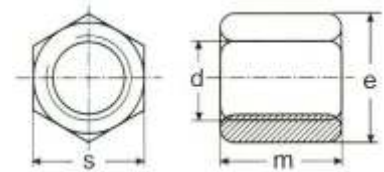
DIN 6334

Norma

A2/A4

Materiał

Nakrętka sześciokątna wysoka 3d



| d | s | e | m |
|------|------|-------|------|
| M 5 | 8,0 | 9,0 | 15,0 |
| M 6 | 10,0 | 11,05 | 18,0 |
| M 8 | 13,0 | 15,0 | 24,0 |
| M 10 | 17,0 | 19,6 | 30,0 |
| M 12 | 19,0 | 21,9 | 36,0 |
| M 14 | 22,0 | 24,5 | 42,0 |
| M 16 | 24,0 | 27,7 | 48,0 |
| M 20 | 30,0 | 34,6 | 60,0 |
| M 24 | 36,0 | 41,6 | 72,0 |
| M 30 | 46,0 | 53,1 | 90,0 |

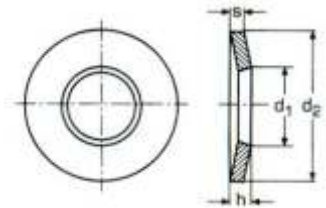
DIN 6796

Norma

A2/A4

Materiał

Podkładka talerzowa



| dla gwintu | waga 100szt./kg | d1 | d2 | s | h max | h min |
|------------|--------------------|------|------|-----|-------|-------|
| M 3 | 0,014 | 3,2 | 7,0 | 0,6 | 0,85 | 0,72 |
| M 4 | 0,038 | 4,3 | 9,0 | 1,0 | 1,3 | 1,12 |
| M 5 | 0,069 | 5,3 | 11,0 | 1,2 | 1,55 | 1,35 |
| M 6 | 0,143 | 6,4 | 14,0 | 1,5 | 2,0 | 1,7 |
| M 8 | 0,31 | 8,4 | 18,0 | 2,0 | 2,6 | 2,24 |
| M 10 | 0,65 | 10,5 | 23,0 | 2,5 | 3,2 | 2,8 |
| M 12 | 1,24 | 13,0 | 29,0 | 3,0 | 3,95 | 3,43 |
| M 14 | 2,16 | 15,0 | 35,0 | 3,5 | 4,65 | 4,04 |
| M 16 | 3,04 | 17,0 | 39,0 | 4,0 | 5,25 | 4,58 |
| M 18 | 3,89 | 19,0 | 42,0 | 4,5 | 5,8 | 5,08 |
| M 20 | 4,88 | 21,0 | 45,0 | 5,0 | 6,4 | 5,6 |
| M 22 | 6,35 | 23,0 | 49,0 | 5,5 | 7,05 | 6,15 |
| M 24 | 9,29 | 25,0 | 56,0 | 6,0 | 7,75 | 6,77 |

DIN 6797 – PN 82024 – PN 82023

Norma

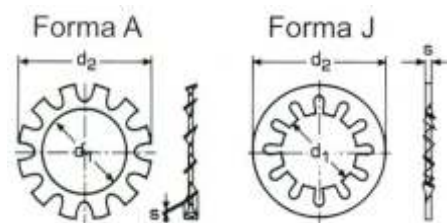
Forma A

Forma J

A2

Materiał

Podkładka z bkwana



| d1 | dla gwintu | waga 100szt./kg | | d2 | s |
|------|------------|-----------------|-------|------|-----|
| | | A | J | | |
| 2,2 | M 2 | 0,002 | 0,004 | 4,5 | 0,3 |
| 2,5 | M 2,3 | 0,003 | 0,004 | 5,0 | 0,4 |
| 2,7 | M 2,5 | 0,004 | 0,005 | 5,5 | 0,4 |
| 3,2 | M 3 | 0,005 | 0,005 | 6,0 | 0,4 |
| 3,7 | M 3,5 | 0,008 | 0,009 | 7,0 | 0,5 |
| 4,3 | M 4 | 0,010 | 0,010 | 8,0 | 0,5 |
| 5,1 | M 5 | 0,013 | 0,016 | 9,0 | 0,5 |
| 5,3 | M 5 | 0,018 | 0,020 | 10,0 | 0,6 |
| 6,4 | M 6 | 0,022 | 0,025 | 11,0 | 0,7 |
| 7,4 | M 7 | 0,030 | 0,035 | 12,5 | 0,8 |
| 8,2 | M 8 | 0,036 | 0,045 | 14,0 | 0,8 |
| 8,4 | M 8 | 0,045 | 0,055 | 15,0 | 0,8 |
| 10,5 | M 10 | 0,08 | 0,09 | 18,0 | 0,9 |
| 13,0 | M 12 | 0,10 | 0,12 | 20,5 | 1,0 |
| 15,0 | M 14 | 0,16 | 0,19 | 24,0 | 1,0 |
| 17,0 | M 16 | 0,20 | 0,24 | 26,0 | 1,2 |
| 19,0 | M 18 | 0,35 | 0,37 | 30,0 | 1,4 |
| 21,0 | M 20 | 0,38 | 0,41 | 33,0 | 1,4 |
| 23,0 | M 22 | 0,50 | 0,60 | 36,0 | 1,5 |
| 25,0 | M 24 | 0,60 | 0,65 | 38,0 | 1,5 |
| 28,0 | M 27 | 0,80 | 0,85 | 44,0 | 1,6 |
| 31,0 | M 30 | 0,90 | 0,95 | 48,0 | 1,6 |

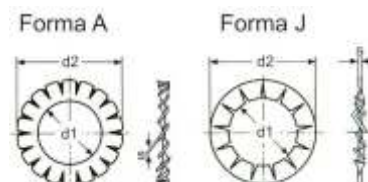
DIN 6798

Norma

A2/A4

Materiał

Podkładka z bkwana



| d1 | dla gwintu | waga 100szt./kg | d2 | s |
|------|------------|-----------------|------|-----|
| 2,2 | M 2 | 0,003 | 4,5 | 0,3 |
| 2,5 | M 2,3 | 0,004 | 5,0 | 0,4 |
| 2,7 | M 2,5 | 0,005 | 5,5 | 0,4 |
| 3,2 | M 3 | 0,006 | 6,0 | 0,4 |
| 3,7 | M 3,5 | 0,011 | 7,0 | 0,5 |
| 4,3 | M 4 | 0,014 | 8,0 | 0,5 |
| 5,1 | M 5 | 0,023 | 9,0 | 0,5 |
| 5,3 | M 5 | 0,028 | 10,0 | 0,6 |
| 6,4 | M 6 | 0,036 | 11,0 | 0,7 |
| 7,4 | M 7 | 0,050 | 12,5 | 0,8 |
| 8,2 | M 8 | 0,075 | 14,0 | 0,8 |
| 8,4 | M 8 | 0,080 | 15,0 | 0,8 |
| 10,5 | M 10 | 0,125 | 18,0 | 0,9 |
| 13,0 | M 12 | 0,16 | 20,5 | 1,0 |
| 15,0 | M 14 | 0,23 | 24,0 | 1,0 |
| 17,0 | M 16 | 0,29 | 26,0 | 1,2 |
| 19,0 | M 18 | 0,50 | 30,0 | 1,4 |
| 21,0 | M 20 | 0,60 | 33,0 | 1,4 |
| 23,0 | M 22 | 0,75 | 36,0 | 1,5 |
| 25,0 | M 24 | 0,80 | 38,0 | 1,5 |
| 28,0 | M 27 | 1,20 | 44,0 | 1,6 |
| 31,0 | M 30 | 1,40 | 48,0 | 1,6 |

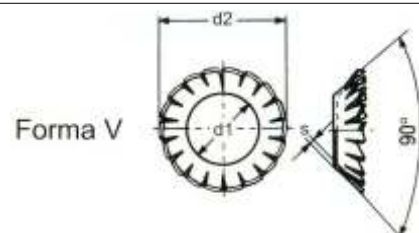
DIN 6798

Norma

A2

Materiał

Podkładka z bkwana



| d1 | dla gwintu | waga 100szt./kg | d2 | s |
|------|------------|-----------------|------|------|
| 3,2 | M 3 | 0,004 | 6,0 | 0,2 |
| 3,7 | M 3,5 | 0,007 | 7,0 | 0,25 |
| 4,3 | M 4 | 0,01 | 8,0 | 0,25 |
| 5,3 | M 5 | 0,02 | 9,8 | 0,3 |
| 6,4 | M 6 | 0,03 | 11,8 | 0,4 |
| 8,4 | M 8 | 0,05 | 15,3 | 0,4 |
| 10,5 | M 10 | 0,10 | 19,0 | 0,5 |
| 13,0 | M 12 | 0,15 | 23,0 | 0,5 |
| 17,0 | M 16 | 0,23 | 30,2 | 0,6 |

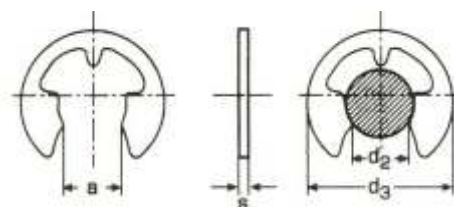
DIN 6799 – PN 85112

Norma

1.4122

Materiał

Pierścienie zabezpieczające do wałów



| d2 | waga 100szt./kg | d3 | a | s |
|-----|-----------------|------|-------|------|
| 1,2 | 0,001 | 3,25 | 1,01 | 0,3 |
| 1,5 | 0,002 | 4,25 | 1,28 | 0,4 |
| 1,9 | 0,004 | 4,8 | 1,61 | 0,5 |
| 2,3 | 0,007 | 6,3 | 1,94 | 0,6 |
| 3,2 | 0,009 | 7,3 | 2,7 | 0,6 |
| 4 | 0,016 | 9,3 | 3,34 | 0,7 |
| 5 | 0,024 | 11,3 | 4,11 | 0,7 |
| 6 | 0,026 | 12,3 | 5,26 | 0,7 |
| 7 | 0,047 | 14,3 | 5,84 | 0,9 |
| 8 | 0,066 | 16,3 | 6,52 | 1,0 |
| 9 | 0,11 | 18,8 | 7,63 | 1,1 |
| 10 | 0,13 | 20,4 | 8,32 | 1,2 |
| 12 | 0,16 | 23,4 | 10,45 | 1,3 |
| 15 | 0,34 | 29,4 | 12,61 | 1,5 |
| 19 | 0,64 | 37,6 | 15,92 | 1,75 |
| 24 | 0,86 | 44,6 | 21,88 | 2,0 |

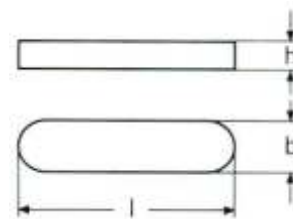
DIN 6885 A

Norma

1.4571

Materiał

Wpust pryzmatyczny



| | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|
| h | 4,0 | 5,0 | 6,0 | 7,0 | 8,0 | 8,0 | 9,0 |
|----------|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | |
|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| b | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
|----------|----------|----------|----------|----------|-----------|-----------|-----------|

waga 100szt./kg

| | | | | | | | |
|------------|------|------|------|------|------|------|------|
| I 8 | 0,10 | | | | | | |
| 10 | 0,13 | 0,19 | 0,27 | | | | |
| 12 | 0,15 | 0,23 | 0,33 | | | | |
| 14 | | 0,27 | 0,39 | | | | |
| 16 | 0,20 | 0,31 | 0,45 | | | | |
| 18 | 0,23 | 0,35 | 0,51 | | | | |
| 20 | 0,25 | 0,39 | 0,56 | 0,88 | | | |
| 22 | | 0,43 | 0,62 | 0,97 | | | |
| 25 | | 0,49 | 0,71 | 1,10 | 1,57 | | |
| 28 | | | 0,79 | 1,23 | 1,76 | | |
| 30 | | 0,60 | 0,80 | 1,30 | 1,89 | 2,27 | 2,94 |
| 32 | | | 0,90 | 1,41 | 2,01 | 2,41 | 3,15 |
| 36 | | | 1,02 | 1,56 | 2,26 | 2,71 | 3,56 |
| 40 | | | 1,13 | 1,76 | 2,51 | 3,01 | 3,96 |
| 45 | | | 1,27 | 1,98 | 2,83 | 3,39 | 4,45 |
| 50 | | | 1,41 | 2,20 | 3,14 | 3,77 | 4,95 |
| 56 | | | | | 3,52 | 4,22 | 5,54 |
| 60 | | | 1,78 | 2,77 | 3,96 | 4,49 | 5,90 |
| 63 | | | | | | 4,75 | 6,23 |
| 70 | | | | 3,08 | 4,40 | 5,28 | 6,92 |
| 80 | | | | 3,52 | 5,02 | 6,03 | 7,91 |
| 90 | | | | 3,96 | 5,65 | 6,78 | 8,90 |
| 100 | | | | 4,41 | 6,28 | 7,54 | 9,89 |
| 110 | | | | | | | 10,9 |

- brak w podstawowej ofercie

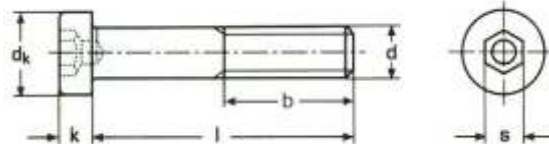
DIN 6912

Norma

A2/A4

Materiał

rubka z łbem imbusowym niskim



| | | | | | | | | | | | | |
|-----------|------|------|------|------|------|------|------|-------|-------|------|------|------|
| b | 12,0 | 14,0 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 34,0 | 38,0 | 42,0 | 46,0 | 54,0 |
| s | 2,0 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 14,0 | 17,0 | 19,0 |
| k | 2,0 | 2,8 | 3,5 | 4,0 | 5,0 | 6,5 | 7,5 | 8,5 | 10,0 | 11,0 | 12,0 | 14,0 |
| dk | 5,5 | 7,0 | 8,5 | 10,0 | 13,0 | 16,0 | 18,0 | 20,67 | 23,67 | 27,0 | 30,0 | 36,0 |

| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 24 |
|----------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|----------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

waga 100szt./kg

| | | | | | | | | | | | | |
|------------|----|------|------|------|------|------|------|------|------|------|------|------|
| I 6 | A2 | 0,09 | A2 | | | | | | | | | |
| 8 | | 0,11 | 0,19 | 0,33 | | | | | | | | |
| 10 | | 0,13 | 0,22 | 0,36 | 0,70 | | | | | | | |
| 12 | | 0,15 | 0,25 | 0,39 | 0,77 | | | | | | | |
| 14 | | A2 | | | | | | | | | | |
| 16 | | 0,19 | 0,31 | 0,45 | 0,88 | 1,55 | 2,23 | | | | | |
| 18 | | A2 | | | | | | | | | | |
| 20 | | 0,23 | 0,37 | 0,52 | 1,02 | 1,79 | 2,55 | | | | | |
| 25 | A2 | 0,27 | 0,44 | 0,62 | 1,25 | 2,02 | 2,95 | 4,25 | 5,65 | | | |
| 30 | A2 | 0,32 | 0,51 | 0,73 | 1,40 | 2,20 | 3,25 | 4,80 | 6,30 | | | |
| 35 | | 0,34 | 0,58 | 0,83 | 1,57 | 2,55 | 3,65 | 5,30 | 6,97 | 9,33 | 11,8 | |
| 40 | | 0,42 | 0,66 | 0,95 | 1,75 | 2,85 | 4,00 | 5,80 | 7,87 | 10,2 | 12,8 | |
| 45 | | | | | | | | | 8,80 | | 14,0 | |
| 50 | | A4 | 0,73 | 1,15 | 2,15 | 3,48 | 4,80 | 6,95 | 9,15 | 11,9 | 15,0 | |
| 55 | | | | | | | | | | | | |
| 60 | | | 0,90 | 1,36 | 2,53 | 4,03 | 5,70 | 8,20 | 10,7 | 13,8 | 17,2 | 26,3 |
| 65 | | | | | | | | | | | | |
| 70 | | | | 1,57 | 2,91 | 4,60 | 6,50 | 9,25 | 12,2 | 15,7 | 19,6 | 29,8 |
| 80 | | | | 1,80 | 3,28 | 5,25 | 7,20 | 10,4 | 14,0 | 17,8 | 22,2 | 33,3 |
| 90 | | | | | 3,70 | 5,78 | 8,00 | 11,6 | 15,4 | 19,6 | 24,5 | 36,9 |
| 100 | | | | A4 | 4,10 | 6,30 | 8,80 | 12,7 | 16,9 | 21,5 | 26,9 | 40,7 |
| 110 | | | | | | | | 13,9 | 18,3 | 23,5 | 29,2 | 43,9 |
| 120 | | | | A4 | A4 | | | 15,1 | 19,8 | 25,5 | 31,6 | 47,4 |
| 130 | | | | | | | | | 21,2 | 27,5 | 34,2 | 51,0 |
| 140 | | | | | | | | | 22,6 | 29,5 | 36,8 | 54,5 |
| 150 | | | | | | | | | 24,0 | 31,5 | 39,4 | 58,0 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

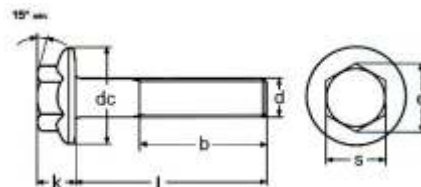
DIN 6921 – ISO 4162 – PN 82247

Norma

A4

Materiał

rubka z łbem sześciokątnym
z kołnierzem



| | | | | |
|----|------|-------|-------|------|
| dc | 11,8 | 14,2 | 18,0 | 22,3 |
| k | 5,4 | 6,6 | 8,1 | 9,2 |
| s | 8,0 | 10,0 | 13,0 | 15,0 |
| b | 16,0 | 18,0 | 22,0 | 26,0 |
| e | 8,71 | 10,95 | 14,26 | 16,5 |

| | | | | |
|---|-----|-----|-----|------|
| d | M 5 | M 6 | M 8 | M 10 |
|---|-----|-----|-----|------|

| | | | | |
|------|--|--|--|--|
| I 10 | | | | |
| 12 | | | | |
| 16 | | | | |
| 18 | | | | |
| 20 | | | | |
| 25 | | | | |
| 30 | | | | |
| 35 | | | | |
| 40 | | | | |
| 45 | | | | |
| 50 | | | | |
| 60 | | | | |

- brak w podstawowej ofercie

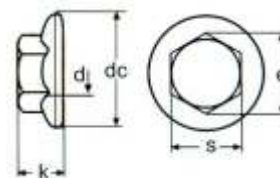
DIN 6923 – ISO 4161 – PN 82168

Norma

A2/A4

Materiał

Nakrętka sześciokątna z
kołnierzem



| d | dc | k | e | s |
|------|------|------|-------|------|
| M 4 | 10,0 | 4,65 | 7,66 | 7,0 |
| M 5 | 11,8 | 5,0 | 8,79 | 8,0 |
| M 6 | 14,2 | 6,0 | 11,05 | 10,0 |
| M 8 | 17,9 | 8,0 | 14,38 | 13,0 |
| M 10 | 21,8 | 10,0 | 16,64 | 15,0 |
| M 12 | 26,0 | 12,0 | 20,03 | 18,0 |

ISO 7380

Norma

A2/A4

Material

**Wkręt z łbem kulistym z
gniazdem sześciokątnym**



| | | | | | | | |
|----|------|-----|------|------|------|------|------|
| t | 1,04 | 1,3 | 1,56 | 2,08 | 2,60 | 3,12 | 4,16 |
| s | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 |
| k | 1,65 | 2,2 | 2,75 | 3,3 | 4,4 | 5,5 | 6,6 |
| dk | 5,7 | 7,6 | 9,5 | 10,5 | 14,0 | 17,5 | 21,0 |

| | | | | | | | |
|---|--------|--------|--------|--------|--------|---------|---------|
| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
|---|--------|--------|--------|--------|--------|---------|---------|

| | | | | | | | |
|-----|----|----|----|----|----|----|--|
| I 4 | A2 | | | | | | |
| 5 | | A2 | | | | | |
| 6 | | | | | | | |
| 8 | | | | | | | |
| 10 | | | | | | | |
| 12 | | | | | | A2 | |
| 14 | | | | | | | |
| 16 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | A2 | | | | | |
| 50 | | A2 | A2 | | | | |
| 55 | | | A2 | A2 | | | |
| 60 | | | | A2 | | | |
| 70 | | | | A2 | A2 | A2 | |
| 80 | | | | | A2 | A2 | |

- brak w podstawowej ofercie A2 - tylko A2

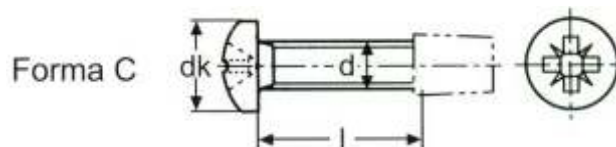
DIN 7500

Norma

A2

Materiał

rubka wygniatajca gwint do gwintu metrycznego

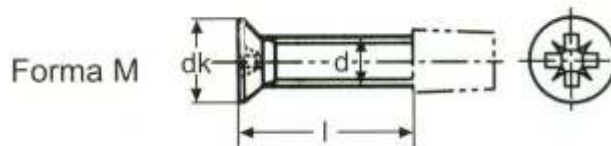


| | | | | | |
|--------|-----|-----|-----|------|------|
| dk max | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 |
|--------|-----|-----|-----|------|------|

| | | | | | |
|---|----------|--------|--------|--------|--------|
| d | M 2,5 | M 3 | M 4 | M 5 | M 6 |
|---|----------|--------|--------|--------|--------|

| | | | | | |
|-----|--|--|--|--|--|
| I 5 | | | | | |
| 6 | | | | | |
| 8 | | | | | |
| 10 | | | | | |
| 12 | | | | | |
| 16 | | | | | |
| 20 | | | | | |
| 25 | | | | | |

- brak w podstawowej ofercie



| | | | | |
|--------|-----|-----|-----|-----|
| dk max | 4,7 | 5,6 | 7,5 | 9,2 |
|--------|-----|-----|-----|-----|

| | | | | |
|---|----------|--------|--------|--------|
| d | M 2,5 | M 3 | M 4 | M 5 |
|---|----------|--------|--------|--------|

| | | | | |
|-----|--|--|--|--|
| I 5 | | | | |
| 6 | | | | |
| 8 | | | | |
| 10 | | | | |
| 12 | | | | |
| 16 | | | | |
| 20 | | | | |
| 25 | | | | |
| 30 | | | | |

- brak w podstawowej ofercie

DIN 7504

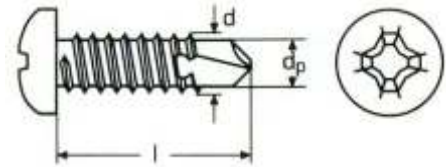
Norma

A2

Materiał

Wkręt samowiercący do
aluminium

Forma N



| | | | | | |
|-------|-----|-----|-----|-----|-----|
| dp | 2,3 | 2,8 | 3,1 | 3,6 | 4,1 |
| d | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 |
| I 9,5 | | | | | |
| 13 | | | | | |
| 16 | | | | | |
| 19 | | | | | |
| 22 | | | | | |
| 25 | | | | | |
| 32 | | | | | |
| 38 | | | | | |
| 45 | | | | | |
| 50 | | | | | |
| 60 | | | | | |
| 70 | | | | | |

- brak w podstawowej ofercie

DIN 7504

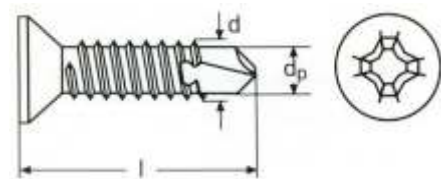
Norma

A2

Materiał

Wkręt samowiercący do
aluminium

Forma P



| | | | | |
|------|-----|-----|-----|-----|
| dp | 2,8 | 3,1 | 3,6 | 4,1 |
| d | 3,5 | 3,9 | 4,2 | 4,8 |
| I 13 | | | | |
| 16 | | | | |
| 19 | | | | |
| 22 | | | | |
| 25 | | | | |
| 32 | | | | |
| 38 | | | | |
| 45 | | | | |
| 50 | | | | |

- brak w podstawowej ofercie

DIN 7504

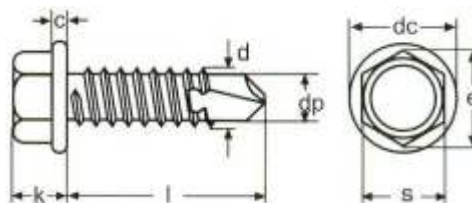
Norma

A2

Materiał

Wkręt samowiercący do aluminium

Forma K



| | | | | | | |
|---------------|------|------|------|------|------|-------|
| dc max | 8,3 | 8,3 | 8,8 | 10,5 | 11,0 | 13,5 |
| dp | 2,8 | 3,1 | 3,6 | 4,1 | 4,8 | 5,8 |
| s | 5,5 | 5,5 | 7,0 | 8,0 | 8,0 | 10,0 |
| e min | 5,96 | 9,96 | 7,59 | 8,71 | 8,71 | 10,95 |
| k max | 3,4 | 3,4 | 4,1 | 4,3 | 5,4 | 5,9 |
| c min | 0,6 | 0,6 | 0,8 | 0,9 | 1,0 | 1,0 |

| | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|
| d | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|

| | | | | | | |
|--------------|--|--|--|--|--|--|
| I 9,5 | | | | | | |
| 13 | | | | | | |
| 16 | | | | | | |
| 19 | | | | | | |
| 22 | | | | | | |
| 25 | | | | | | |
| 28 | | | | | | |
| 30 | | | | | | |
| 32 | | | | | | |
| 35 | | | | | | |
| 38 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |
| 70 | | | | | | |
| 80 | | | | | | |
| 90 | | | | | | |
| 100 | | | | | | |

- brak w podstawowej ofercie

DIN 7504

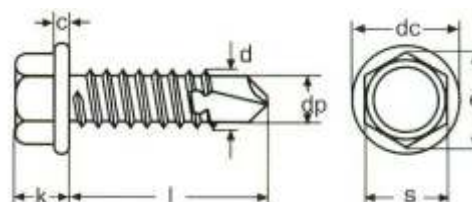
Norma

ASI 410

Materiał

Wkręty samowiercące do stali

Forma K



| | | | |
|---------------|------|------|------|
| dc max | 8,8 | 10,5 | 11,0 |
| dp | 3,6 | 4,1 | 4,8 |
| s | 7,0 | 8,0 | 8,0 |
| e min | 7,59 | 8,71 | 8,71 |
| k max | 4,1 | 4,3 | 5,4 |
| c min | 0,8 | 0,9 | 1,0 |

| | | | |
|----------|------------|------------|------------|
| d | 4,2 | 4,8 | 5,5 |
|----------|------------|------------|------------|

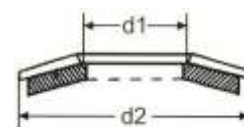
| | | | |
|----------|-----------|--|--|
| I | 13 | | |
| | 16 | | |
| | 19 | | |
| | 25 | | |
| | 32 | | |
| | 38 | | |

- brak w podstawowej ofercie

A2

Materiał

Podkładka EPDM



| d2 | d1 |
|-----------|-----------|
| 12 | 4,8 |
| 14 | 4,8 |
| 14 | 5,3 |
| 16 | 6,2 |
| 16 | 6,7 |
| 19 | 5,3 |
| 19 | 6,7 |

DIN 7967

Norma

A2/A4

Materiał

Nakrętka zabezpieczająca



| dla gwintu | waga 100szt./kg | d | s | e | m | t |
|------------|--------------------|------|------|------|-----|-----|
| M 4 | 0,02 | 3,5 | 7,0 | 8,1 | 2,5 | 0,3 |
| M 5 | 0,03 | 4,5 | 8,0 | 9,2 | 2,5 | 0,4 |
| M 6 | 0,04 | 5,3 | 10,0 | 11,5 | 3,0 | 0,4 |
| M 8 | 0,09 | 6,9 | 13,0 | 15,0 | 3,5 | 0,5 |
| M 10 | 0,14 | 8,6 | 17,0 | 19,6 | 4,0 | 0,5 |
| M 12 | 0,19 | 10,4 | 19,0 | 21,9 | 4,5 | 0,6 |
| M 16 | 0,34 | 14,1 | 24,0 | 27,7 | 5,0 | 0,7 |
| M 20 | 0,58 | 17,6 | 30,0 | 34,6 | 6,0 | 0,8 |
| M 24 | 0,95 | 21,0 | 36,0 | 41,6 | 7,0 | 0,9 |

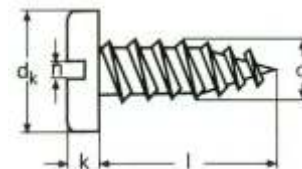
DIN 7971 – ISO 1481 – PN 83106

Norma

A2

Material

Blachowkręt z łbem walcowym, z nacięciami płaskimi



| | | | | | | | | |
|---------------|------|------|-----|------|------|-----|------|------|
| dk max | 4,2 | 5,6 | 6,9 | 7,5 | 8,2 | 9,5 | 10,8 | 12,5 |
| n | 0,6 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 1,6 |
| k max | 1,35 | 1,75 | 2,1 | 2,25 | 2,45 | 2,8 | 3,2 | 3,65 |

| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|--------------|-----------------|------|------|------|------|------|------|------|
| | waga 100szt./kg | | | | | | | |
| I 6,5 | 0,02 | 0,04 | 0,08 | 0,09 | 0,10 | | | |
| 9,5 | 0,03 | 0,05 | 0,09 | 0,10 | 0,12 | 0,20 | 0,23 | |
| 13 | 0,04 | 0,06 | 0,10 | 0,12 | 0,15 | 0,21 | 0,28 | 0,33 |
| 16 | 0,05 | 0,07 | 0,12 | 0,14 | 0,16 | 0,25 | 0,33 | 0,44 |
| 19 | 0,06 | 0,08 | 0,13 | 0,16 | 0,19 | 0,26 | 0,36 | 0,50 |
| 22 | 0,07 | 0,09 | 0,15 | 0,18 | 0,22 | 0,30 | 0,40 | 0,55 |
| 25 | 0,08 | 0,10 | 0,16 | 0,19 | 0,23 | 0,33 | 0,44 | 0,61 |
| 32 | | 0,11 | 0,20 | 0,24 | 0,29 | 0,41 | 0,52 | 0,73 |
| 38 | | 0,13 | 0,23 | 0,28 | 0,33 | 0,46 | 0,60 | 0,84 |
| 45 | | | 0,27 | 0,33 | 0,38 | 0,52 | 0,69 | 1,00 |
| 50 | | | | 0,37 | 0,41 | 0,56 | 0,75 | 1,10 |
| 60 | | | | 0,43 | 0,48 | 0,64 | 0,87 | 1,31 |
| 70 | | | | | 0,55 | 0,72 | 0,99 | 1,52 |
| 80 | | | | | 0,63 | 0,80 | 1,11 | 1,74 |
| 90 | | | | | | 0,88 | 1,23 | 1,96 |
| 100 | | | | | | 0,96 | 1,35 | 2,18 |

- brak w podstawowej ofercie

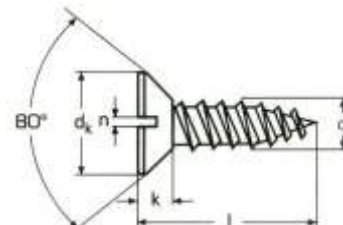
DIN 7972 – ISO 1482 – PN 83102

Norma

A2

Materiał

Blachowkręt z łbem stożkowym, z nacięciem płaskim



| | | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------|------|
| dk max | 4,3 | 5,5 | 6,8 | 7,5 | 8,1 | 9,5 | 10,8 | 12,4 |
| n | 0,6 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 1,6 |
| k max | 1,3 | 1,7 | 2,1 | 2,3 | 2,5 | 3,0 | 3,4 | 3,8 |

| | | | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|

waga 100szt./kg

| | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|
| I 6,5 | 0,01 | 0,02 | 0,05 | 0,06 | | | | |
| 9,5 | 0,02 | 0,04 | 0,06 | 0,07 | 0,08 | 0,11 | | |
| 13 | 0,03 | 0,05 | 0,07 | 0,09 | 0,10 | 0,15 | 0,32 | 0,40 |
| 16 | 0,04 | 0,06 | 0,09 | 0,11 | 0,12 | 0,18 | 0,36 | 0,45 |
| 19 | 0,05 | 0,07 | 0,10 | 0,12 | 0,14 | 0,21 | 0,40 | 0,51 |
| 22 | 0,06 | 0,08 | 0,12 | 0,15 | 0,17 | 0,24 | 0,46 | 0,60 |
| 25 | 0,07 | 0,09 | 0,13 | 0,16 | 0,19 | 0,27 | 0,52 | 0,69 |
| 32 | | | 0,15 | 0,19 | 0,24 | 0,34 | 0,60 | 0,80 |
| 38 | | | 0,17 | 0,23 | 0,29 | 0,40 | 0,69 | 0,92 |
| 45 | | | 0,20 | 0,27 | 0,34 | 0,46 | 0,70 | 1,00 |
| 50 | | | 0,23 | 0,31 | 0,38 | 0,51 | 0,88 | 1,10 |
| 60 | | | | 0,37 | 0,46 | 0,61 | 1,24 | 1,60 |
| 70 | | | | | 0,52 | 0,70 | 1,60 | 2,00 |
| 80 | | | | | 0,60 | 0,81 | 1,96 | 2,40 |
| 90 | | | | | | 0,90 | 2,22 | 2,80 |
| 100 | | | | | | | 2,68 | 3,20 |

- brak w podstawowej ofercie

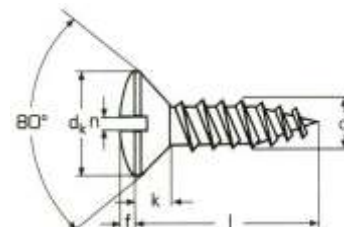
DIN 7973 – ISO 1483 – PN 83104

Norma

A2

Material

Blachowkręt z łbem soczewkowym, z nacięciem płaskim



| | | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------|------|
| dk max | 4,3 | 5,5 | 6,8 | 7,5 | 8,1 | 9,5 | 10,8 | 12,4 |
| n | 0,6 | 0,8 | 1,0 | 1,0 | 1,2 | 1,2 | 1,6 | 1,6 |
| f | 0,7 | 0,9 | 1,2 | 1,3 | 1,4 | 1,5 | 1,7 | 2,0 |
| k max | 1,3 | 1,7 | 2,1 | 2,3 | 2,5 | 3,0 | 3,4 | 3,8 |

| | | | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|

waga 100szt./kg

| | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|
| I 6,5 | 0,01 | 0,03 | 0,06 | 0,08 | | | | |
| 9,5 | 0,02 | 0,04 | 0,07 | 0,09 | 0,11 | 0,21 | | |
| 13 | 0,03 | 0,06 | 0,09 | 0,11 | 0,13 | 0,22 | 0,31 | 0,40 |
| 16 | 0,04 | 0,07 | 0,10 | 0,13 | 0,15 | 0,25 | 0,36 | 0,45 |
| 19 | 0,05 | 0,08 | 0,12 | 0,15 | 0,18 | 0,24 | 0,40 | 0,51 |
| 22 | 0,06 | 0,09 | 0,14 | 0,17 | 0,20 | 0,27 | 0,46 | 0,60 |
| 25 | 0,07 | 0,10 | 0,15 | 0,18 | 0,21 | 0,29 | 0,52 | 0,69 |
| 32 | | 0,11 | 0,17 | 0,23 | 0,26 | 0,36 | 0,60 | 0,80 |
| 38 | | | 0,19 | 0,27 | 0,31 | 0,41 | 0,69 | 0,92 |
| 45 | | | 0,23 | 0,32 | 0,36 | 0,58 | 0,70 | 1,00 |
| 50 | | | | 0,36 | 0,40 | 0,64 | 0,88 | 1,10 |
| 60 | | | | 0,46 | 0,49 | 0,76 | 1,04 | 1,30 |
| 70 | | | | | 0,57 | 0,88 | 1,20 | 1,50 |
| 80 | | | | | | 1,00 | 1,36 | 1,70 |
| 90 | | | | | | 1,12 | 1,52 | 1,90 |
| 100 | | | | | | 1,24 | 1,68 | 2,10 |

- brak w podstawowej ofercie

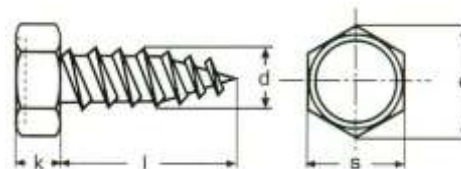
DIN 7976 – ISO 1479 – PN 83101

Norma

A2

Materiał

Blachowkręty z łbem sześciokątnym



| | | | | | | | | | |
|---|------|-----|------|------|------|------|------|-------|-------|
| s | 3,2 | 5,0 | 5,5 | 7,0 | 7,0 | 8,0 | 8,0 | 10,0 | 13,0 |
| k | 1,3 | 1,5 | 2,3 | 2,3 | 2,8 | 3,0 | 4,0 | 4,8 | 5,8 |
| e | 3,38 | 5,4 | 5,96 | 7,59 | 7,59 | 8,71 | 8,71 | 10,95 | 14,26 |

| | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 | 8,0 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|
| I 9,5 | | | | | | | | | |
| 13 | | | | | | | | | |
| 16 | | | | | | | | | |
| 19 | | | | | | | | | |
| 22 | | | | | | | | | |
| 25 | | | | | | | | | |
| 32 | | | | | | | | | |
| 38 | | | | | | | | | |
| 45 | | | | | | | | | |
| 50 | | | | | | | | | |
| 60 | | | | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 100 | | | | | | | | | |
| 110 | | | | | | | | | |
| 120 | | | | | | | | | |

- brak w podstawowej ofercie

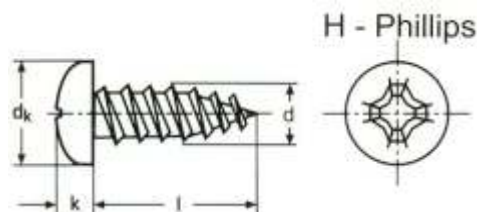
DIN 7981 – ISO 7049 – PN 83116

Norma

A2/A4

Materiał

**Blachowkręty z łbem walcowym,
z nacięciami krzyżowym**



| | | | | | | | | |
|---------------|-----|-----|-----|-----|------|------|------|------|
| dk max | 4,2 | 5,6 | 6,9 | 7,5 | 8,2 | 9,5 | 10,8 | 12,5 |
| k max | 1,8 | 2,2 | 2,6 | 2,8 | 3,05 | 3,55 | 3,95 | 4,55 |

| | | | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|

waga 100szt./kg

| | | | | | | | | |
|----------|------------|------|------|------|------|------|------|------|
| I | 4,5 | A2 | | | | | | |
| | 6,5 | 0,02 | 0,05 | 0,07 | 0,09 | 0,11 | | |
| | 9,5 | 0,03 | 0,06 | 0,09 | 0,11 | 0,13 | 0,19 | A2 |
| | 13 | 0,03 | 0,07 | 0,10 | 0,13 | 0,16 | 0,22 | 0,32 |
| | 16 | 0,04 | 0,08 | 0,12 | 0,16 | 0,19 | 0,25 | 0,36 |
| | 19 | 0,05 | 0,09 | 0,13 | 0,17 | 0,20 | 0,28 | 0,38 |
| | 22 | 0,06 | 0,10 | 0,15 | 0,19 | 0,22 | 0,31 | 0,41 |
| | 25 | 0,07 | 0,11 | 0,17 | 0,20 | 0,24 | 0,34 | 0,45 |
| | 32 | 0,08 | 0,12 | 0,21 | 0,24 | 0,28 | 0,40 | 0,54 |
| | 38 | | 0,14 | 0,23 | 0,28 | 0,32 | 0,50 | 0,61 |
| | 42 | | | | | | | A2 |
| | 45 | | | A2 | 0,33 | 0,37 | 0,53 | 0,70 |
| | 50 | | | A2 | 0,37 | 0,41 | 0,59 | 0,78 |
| | 55 | | | | | A2 | A2 | A2 |
| | 60 | | | A2 | A2 | 0,49 | 0,71 | 0,94 |
| | 65 | | | | | A2 | A2 | |
| | 70 | | | A2 | 0,53 | 0,57 | 0,83 | 1,10 |
| | 80 | | | | 0,60 | 0,65 | 0,95 | 1,26 |
| | 90 | | | | | A2 | 1,07 | 1,42 |
| | 100 | | | | | A2 | 1,19 | 1,66 |
| | 120 | | | | | | A2 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

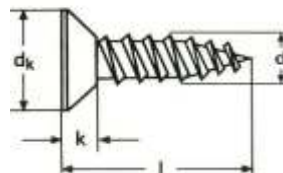
DIN 7982 – ISO 7050 – PN 83114

Norma

A2/A4

Materiał

**Blachowkręt z łbem stożkowym,
z nacięciami krzyżowymi**



H - Phillips



| | | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------|------|
| dk max | 4,3 | 5,5 | 6,8 | 7,5 | 8,1 | 9,5 | 10,8 | 12,4 |
| k | 1,3 | 1,7 | 2,1 | 2,3 | 2,5 | 3,0 | 3,4 | 3,8 |

| | | | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|

waga 100szt./kg

| | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|
| I 6,5 | 0,01 | 0,03 | 0,04 | 0,06 | | | | |
| 9,5 | 0,02 | 0,04 | 0,05 | 0,07 | 0,08 | 0,12 | | |
| 13 | 0,03 | 0,05 | 0,07 | 0,09 | 0,10 | 0,15 | 0,18 | 0,25 |
| 16 | 0,03 | 0,06 | 0,09 | 0,11 | 0,12 | 0,18 | 0,24 | 0,31 |
| 19 | 0,04 | 0,07 | 0,10 | 0,12 | 0,15 | 0,21 | 0,29 | 0,36 |
| 22 | 0,05 | 0,08 | 0,12 | 0,15 | 0,17 | 0,24 | 0,33 | 0,42 |
| 25 | 0,06 | 0,09 | 0,13 | 0,16 | 0,19 | 0,27 | 0,37 | 0,47 |
| 32 | 0,07 | 0,10 | 0,16 | 0,19 | 0,24 | 0,33 | 0,46 | 0,60 |
| 38 | | 0,11 | 0,17 | 0,23 | 0,28 | 0,37 | 0,54 | 0,70 |
| 45 | | | 0,20 | 0,29 | 0,33 | 0,47 | 0,63 | 0,82 |
| 50 | | | 0,23 | 0,33 | 0,37 | 0,52 | 0,70 | 0,90 |
| 55 | | | | | | 0,57 | 0,77 | |
| 60 | | | A2 | 0,40 | 0,46 | 0,62 | 0,84 | 1,06 |
| 70 | | | A2 | 0,48 | 0,55 | 0,73 | 0,98 | 1,22 |
| 80 | | | | A4 | 0,64 | 0,83 | 1,12 | 1,38 |
| 90 | | | | | A2 | 0,94 | 1,26 | 1,54 |
| 100 | | | | | A2 | 1,05 | 1,40 | 1,70 |
| 120 | | | | | | A2 | A2 | |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

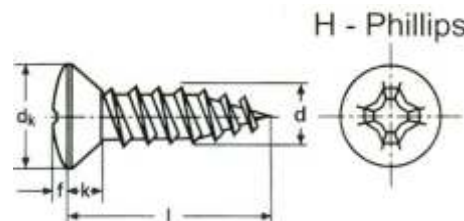
DIN 7983 – ISO 7051 – PN 83115

Norma

A2/A4

Materiał

Blachowkręt z łbem soczewkowym, z nacięciami krzyżowymi



| | | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------|------|
| dk max | 4,3 | 5,5 | 6,8 | 7,5 | 8,1 | 9,5 | 10,8 | 12,4 |
| f | 0,7 | 0,9 | 1,2 | 1,3 | 1,4 | 1,5 | 1,7 | 2,0 |
| k | 1,3 | 1,7 | 2,1 | 2,3 | 2,5 | 3,0 | 3,4 | 3,8 |

| | | | | | | | | |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| d | 2,2 | 2,9 | 3,5 | 3,9 | 4,2 | 4,8 | 5,5 | 6,3 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|

waga 100szt./kg

| | | | | | | | | |
|--------------|------|------|------|------|------|------|------|------|
| I 6,5 | 0,02 | 0,04 | 0,06 | 0,09 | | | | |
| 9,5 | 0,03 | 0,05 | 0,07 | 0,10 | 0,12 | 0,15 | A2 | A2 |
| 13 | 0,03 | 0,05 | 0,09 | 0,11 | 0,14 | 0,18 | 0,24 | 0,35 |
| 16 | 0,04 | 0,06 | 0,10 | 0,12 | 0,15 | 0,22 | 0,28 | 0,40 |
| 19 | 0,05 | 0,08 | 0,11 | 0,15 | 0,18 | 0,24 | 0,32 | 0,45 |
| 22 | 0,06 | 0,09 | 0,14 | 0,17 | 0,20 | 0,28 | 0,37 | 0,51 |
| 25 | 0,07 | 0,10 | 0,14 | 0,18 | 0,22 | 0,32 | 0,39 | 0,56 |
| 32 | A2 | 0,11 | 0,17 | 0,21 | 0,26 | 0,35 | 0,48 | 0,67 |
| 38 | | 0,12 | 0,19 | 0,25 | 0,30 | 0,41 | 0,54 | 0,75 |
| 45 | | | A2 | 0,28 | 0,36 | 0,51 | 0,62 | 0,88 |
| 50 | | | 0,26 | 0,33 | 0,40 | 0,57 | 0,68 | 0,96 |
| 60 | | | A2 | A2 | 0,48 | 0,68 | 0,80 | 1,12 |
| 70 | | | A2 | A2 | 0,56 | 0,79 | 0,92 | 1,28 |
| 80 | | | | | A2 | 0,90 | 1,04 | 1,44 |
| 90 | | | | | A2 | 1,01 | 1,16 | 1,60 |
| 100 | | | | | | 1,12 | 1,28 | 1,76 |
| 110 | | | | | | A2 | | |
| 120 | | | | | | A2 | | |

- brak w podstawowej ofercie

A2 - tylko A2

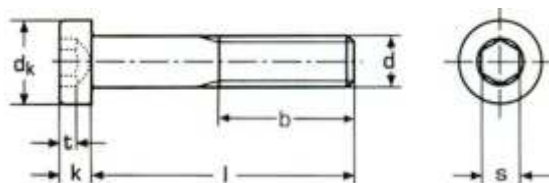
DIN 7984

Norma

A2/A4

Materiał

rubka z łbem walcowym niskim,
z gniazdem sześciokątnym



| | | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|------|
| b-l < 120 | 12,0 | 14,0 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 38,0 | 46,0 |
| b-l > 130 | - | - | - | - | - | - | - | 44,0 | 52,0 |
| t | 1,5 | 2,3 | 2,7 | 3,0 | 3,8 | 4,5 | 5,0 | 5,5 | 7,5 |
| s | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 7,0 | 8,0 | 12,0 | 14,0 |
| k | 2,0 | 2,8 | 3,5 | 4,0 | 5,0 | 6,0 | 7,0 | 9,0 | 11,0 |
| dk | 5,5 | 7,0 | 8,5 | 10,0 | 13,0 | 16,0 | 18,0 | 24,0 | 30,0 |

| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 |
|---|-----|-----|-----|-----|-----|------|------|------|------|
|---|-----|-----|-----|-----|-----|------|------|------|------|

waga 100szt./kg

| I | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|-------|------|------|------|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| | 0,048 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0,052 | 0,10 | A2 | | | | | | | | | | | | | | | | | | | | | | | |
| | 0,060 | 0,11 | 0,23 | 0,33 | | | | | | | | | | | | | | | | | | | | | | |
| | 0,069 | 0,13 | 0,25 | 0,36 | 0,74 | | | | | | | | | | | | | | | | | | | | | |
| | 0,078 | 0,14 | 0,27 | 0,39 | 0,80 | | | | | | | | | | | | | | | | | | | | | |
| | A2 | A2 | 0,30 | A2 | | | | | | | | | | | | | | | | | | | | | | |
| | 0,097 | 0,18 | 0,32 | 0,46 | 0,92 | 1,44 | 2,06 | | | | | | | | | | | | | | | | | | | |
| | A2 | A2 | 0,35 | A2 | A2 | A2 | | | | | | | | | | | | | | | | | | | | |
| | 0,120 | 0,21 | 0,38 | 0,53 | 1,05 | 1,64 | 2,41 | | | | | | | | | | | | | | | | | | | |
| | 0,155 | 0,26 | 0,45 | 0,64 | 1,20 | 1,90 | 2,77 | 5,54 | | | | | | | | | | | | | | | | | | |
| | 0,180 | 0,31 | 0,53 | 0,76 | 1,40 | 2,16 | 3,13 | 6,21 | | | | | | | | | | | | | | | | | | |
| | 0,205 | 0,36 | 0,61 | 0,87 | 1,60 | 2,47 | 3,49 | 6,88 | 12,0 | | | | | | | | | | | | | | | | | |
| | 0,230 | 0,41 | 0,69 | 0,98 | 1,80 | 2,78 | 3,93 | 7,55 | 13,0 | | | | | | | | | | | | | | | | | |
| | | | 0,77 | 1,09 | 2,00 | 3,09 | 4,37 | 8,22 | 14,0 | | | | | | | | | | | | | | | | | |
| | | | A2 | 1,20 | 2,20 | 3,40 | 4,81 | 8,96 | 15,0 | | | | | | | | | | | | | | | | | |
| | | | A2 | 1,31 | 2,40 | 3,71 | 5,25 | 9,70 | 16,0 | | | | | | | | | | | | | | | | | |
| | | | A2 | 1,42 | 2,60 | 4,02 | 5,69 | 10,4 | 17,2 | | | | | | | | | | | | | | | | | |
| | | | A2 | A2 | 3,00 | 4,64 | 6,58 | 11,9 | 19,7 | | | | | | | | | | | | | | | | | |
| | | | | | 3,40 | 5,20 | 7,47 | 13,4 | 22,2 | | | | | | | | | | | | | | | | | |
| | | | | | A4 | 5,80 | 8,36 | 14,9 | 24,7 | | | | | | | | | | | | | | | | | |
| | | | | | A4 | 6,40 | 9,25 | 16,4 | 27,2 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 17,9 | 29,7 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 19,4 | 32,2 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 20,9 | 34,7 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 22,4 | 37,2 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 23,9 | 39,7 | | | | | | | | | | | | | | | | | |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

DIN 7985 – ISO 7045 – PN 82202

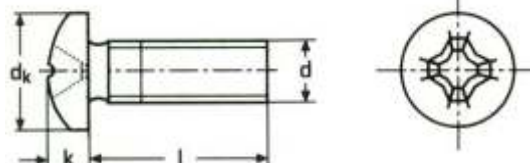
Norma

A2/A4

Materiał

**Wkręt z łbem walcowym,
z gniazdem krzyżowym**

H - Phillips



| | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|------|------|------|
| k | 1,3 | 1,6 | 2,0 | 2,4 | 3,1 | 3,8 | 4,6 | 6,0 |
| dk | 3,2 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 |

| d | M 1,6 | M 2 | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 |
|----------|------------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|
|----------|------------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|

waga 100szt./kg

| | | | | | | | | |
|------------|-------|-------|-------|-------|------|------|------|------|
| I 3 | 0,010 | 0,018 | A2 | | | | | |
| 4 | 0,011 | 0,020 | 0,037 | 0,054 | A2 | | | |
| 5 | 0,012 | 0,021 | 0,040 | 0,058 | 0,13 | | | |
| 6 | 0,013 | 0,023 | 0,043 | 0,063 | 0,14 | 0,23 | | |
| 8 | 0,016 | 0,027 | 0,049 | 0,072 | 0,15 | 0,26 | 0,44 | |
| 10 | 0,018 | 0,031 | 0,054 | 0,08 | 0,17 | 0,28 | 0,47 | A2 |
| 12 | 0,020 | 0,034 | 0,061 | 0,09 | 0,18 | 0,31 | 0,51 | 1,06 |
| 14 | | 0,038 | 0,067 | 0,10 | 0,20 | 0,33 | 0,54 | |
| 16 | 0,024 | 0,042 | 0,073 | 0,11 | 0,22 | 0,36 | 0,58 | 1,19 |
| 18 | A2 | 0,046 | 0,079 | 1,12 | 0,24 | 0,39 | 0,61 | |
| 20 | | 0,049 | 0,085 | 0,13 | 0,25 | 0,41 | 0,65 | 1,32 |
| 22 | | | 0,091 | 0,14 | 0,27 | 0,44 | 0,70 | |
| 25 | | | 0,099 | 0,15 | 0,29 | 0,47 | 0,74 | 1,48 |
| 30 | | | | 0,17 | 0,32 | 0,53 | 0,82 | 1,64 |
| 35 | | | | 0,19 | 0,36 | 0,59 | 0,91 | 1,80 |
| 40 | | | | 0,21 | 0,40 | 0,65 | 1,00 | 1,96 |
| 45 | | | | 0,23 | 0,44 | 0,71 | 1,09 | 2,12 |
| 50 | | | | 0,25 | 0,54 | 0,77 | 1,19 | 2,28 |
| 55 | | | | | A2 | A2 | A2 | |
| 60 | | | | A4 | 0,56 | 0,83 | 1,40 | 2,60 |
| 65 | | | | | A2 | A2 | A2 | |
| 70 | | | | | 0,64 | 1,01 | 1,60 | 3,00 |
| 80 | | | | | A4 | 1,13 | 1,80 | 3,40 |
| 90 | | | | | A4 | 1,25 | 2,00 | 3,70 |
| 100 | | | | | 0,88 | 1,37 | 2,20 | 4,00 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

DIN 7991

Norma

A2/A4

Materiał

Wkręt z łbem stożkowym, z gniazdem sześciokątnym



| | | | | | | | | | | |
|----------|------|------|------|------|------|------|------|-------|-------|------|
| b- l<120 | 12,0 | 14,0 | 16,0 | 18,0 | 22,0 | 26,0 | 30,0 | 38,0 | 46,0 | 54,0 |
| b- l>130 | - | - | - | - | 28,0 | 32,0 | 36,0 | 44,0 | 52,0 | 60,0 |
| e | 2,3 | 2,87 | 3,44 | 4,58 | 5,72 | 6,86 | 9,15 | 11,43 | 13,72 | 16,0 |
| s | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 |
| k | 1,7 | 2,3 | 2,8 | 3,3 | 4,4 | 5,5 | 6,5 | 7,5 | 8,5 | 14,0 |
| dk | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 | 24,0 | 30,0 | 36,0 | 39,0 |

| d | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 | M 20 | M 24 |
|---|-----|-----|-----|-----|-----|------|------|------|------|------|
|---|-----|-----|-----|-----|-----|------|------|------|------|------|

waga 100szt./kg

| I | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 180 | 200 |
|-------|------|------|------|------|------|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,040 | 0,07 | A2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,047 | 0,09 | 0,16 | 0,24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,056 | 0,11 | 0,19 | 0,27 | 0,55 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,065 | 0,12 | 0,21 | 0,31 | 0,61 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,072 | 0,14 | 0,24 | 0,35 | 0,67 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,080 | 0,15 | 0,26 | 0,38 | 0,73 | 1,21 | A2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,099 | 0,17 | 0,29 | 0,41 | 0,79 | 1,31 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,100 | 0,18 | 0,31 | 0,44 | 0,86 | 1,41 | 2,12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 0,34 | 0,48 | 0,93 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,135 | 0,22 | 0,37 | 0,53 | 1,02 | 1,66 | 2,48 | 4,50 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,163 | 0,29 | 0,43 | 0,62 | 1,17 | 1,91 | 2,85 | 5,18 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,191 | 0,34 | 0,54 | 0,71 | 1,33 | 2,16 | 3,21 | 5,84 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0,219 | 0,39 | 0,62 | 0,88 | 1,48 | 2,41 | 3,57 | 6,51 | 10,2 | | | | | | | | | | | | | | | | | | | | | | | |
| A2 | 0,45 | 0,70 | 1,00 | 1,73 | 2,70 | 4,30 | 7,18 | 11,2 | | | | | | | | | | | | | | | | | | | | | | | |
| A2 | 0,49 | 0,77 | 1,10 | 1,99 | 3,01 | 4,50 | 7,84 | 12,3 | 17,9 | | | | | | | | | | | | | | | | | | | | | | |
| | | | 0,85 | 1,20 | 2,24 | 3,28 | 4,95 | 8,50 | 13,3 | 19,4 | | | | | | | | | | | | | | | | | | | | | |
| | 0,59 | 0,93 | 1,30 | 2,48 | 3,57 | 5,40 | 9,17 | 14,3 | 20,9 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | A2 | 2,74 | 3,89 | A2 | 10,1 | | | | | | | | | | | | | | | | | | | | | | | |
| | A4 | A2 | 1,50 | 3,00 | 4,22 | 6,29 | 11,1 | 16,4 | 23,9 | | | | | | | | | | | | | | | | | | | | | | |
| | | A2 | 1,70 | 3,50 | 4,80 | 7,50 | 12,7 | 20,0 | 26,9 | | | | | | | | | | | | | | | | | | | | | | |
| | | A2 | A2 | 4,00 | 5,40 | 8,50 | 14,3 | 22,6 | 29,9 | | | | | | | | | | | | | | | | | | | | | | |
| | | A2 | A2 | 4,50 | 6,00 | 9,50 | 15,9 | 25,3 | 34,0 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 5,00 | 6,60 | 10,5 | 17,5 | 28,0 | 38,1 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 5,50 | 7,20 | 11,5 | 19,1 | 30,7 | 42,2 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 6,00 | 7,80 | 12,5 | 20,7 | 33,4 | 46,3 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 6,50 | 8,40 | 13,5 | 22,3 | 36,1 | 50,4 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 7,00 | 9,00 | 14,5 | 23,9 | 38,8 | 54,5 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 7,50 | 9,60 | 15,5 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | A2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | A2 | | | | | | | | | | | | | | | | | | | | | | | | |

☐ - brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

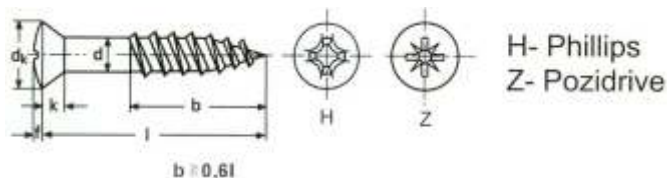
DIN 7995 – PN 82504

Norma

A2/A4

Materiał

**Wkręty do drewna z łbem
soczewkowym, z gniazdem
krzyżowym**



| | | | | | | |
|-------|------|------|-----|------|------|------|
| f | 0,75 | 0,9 | 1,0 | 1,1 | 1,25 | 1,5 |
| k max | 1,65 | 1,93 | 2,2 | 2,35 | 2,5 | 3,0 |
| dk | 5,6 | 6,5 | 7,5 | 8,3 | 9,2 | 11,0 |

| d | M 3 | M 3,5 | M 4 | M 4,5 | M 5 | M 6 |
|---|-----|-------|-----|-------|-----|-----|
|---|-----|-------|-----|-------|-----|-----|

waga 100szt./kg

| | | | | | | |
|------|------|------|------|------|------|----|
| I 12 | 0,07 | 0,10 | A4 | | | |
| 16 | 0,09 | 0,12 | 0,16 | A4 | A4 | |
| 20 | 0,11 | 0,15 | 0,19 | 0,23 | 0,28 | |
| 25 | 0,13 | 0,18 | 0,23 | 0,28 | 0,34 | A2 |
| 30 | 0,16 | 0,21 | 0,27 | 0,33 | 0,40 | A2 |
| 35 | 0,18 | 0,24 | 0,30 | 0,38 | 0,46 | A2 |
| 40 | A4 | 0,27 | 0,35 | 0,42 | 0,52 | A2 |
| 45 | | A4 | 0,38 | 0,47 | 0,58 | A2 |
| 50 | | A4 | 0,42 | 0,52 | 0,63 | A2 |
| 55 | | | | A2 | | |
| 60 | | | 0,49 | 0,62 | 0,76 | A2 |
| 65 | | | | A2 | A2 | A2 |
| 70 | | | 0,56 | 0,72 | A2 | A2 |
| 80 | | | | A2 | A2 | A2 |
| 90 | | | | A2 | A2 | A2 |
| 100 | | | | A2 | A2 | A2 |
| 110 | | | | | | A2 |
| 120 | | | | A2 | | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

DIN 7996 – PN 82505

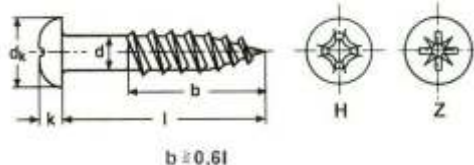
Norma

A2/A4

Material

Wkręt do drewna z łbem
kulistym, z gniazdem krzyżowym

H- Phillips
Z- Pozidrive



| | | | | | | |
|----|-----|------|-----|-----|------|------|
| k | 2,1 | 2,35 | 2,8 | 3,1 | 3,5 | 4,2 |
| dk | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 12,0 |

| d | M 3 | M 3,5 | M 4 | M 4,5 | M 5 | M 6 |
|---|-----|-------|-----|-------|-----|-----|
|---|-----|-------|-----|-------|-----|-----|

waga 100szt./kg

| | | | | | | |
|------|------|------|------|------|------|----|
| I 12 | 0,09 | A4 | 0,11 | | | |
| 16 | 0,10 | 0,10 | 0,14 | A4 | A4 | |
| 20 | 0,12 | 0,12 | 0,17 | A4 | 0,38 | |
| 25 | 0,15 | 0,15 | 0,20 | 0,34 | 0,44 | A2 |
| 30 | 0,17 | 0,17 | 0,23 | 0,38 | 0,50 | A2 |
| 35 | 0,19 | 0,19 | 0,26 | 0,43 | 0,55 | A2 |
| 40 | A4 | 0,22 | 0,29 | 0,48 | 0,61 | A2 |
| 45 | | 0,26 | 0,32 | 0,53 | 0,67 | A2 |
| 50 | | 0,29 | 0,36 | 0,58 | 0,73 | A2 |
| 60 | | | 0,39 | 0,68 | 0,85 | A2 |
| 65 | | | | A2 | A2 | A2 |
| 70 | | | A2 | A2 | A2 | A2 |
| 80 | | | A2 | | A2 | A2 |
| 90 | | | | | A2 | A2 |
| 100 | | | | | A2 | A2 |
| 110 | | | | | | A2 |
| 120 | | | | | | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

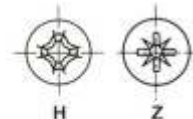
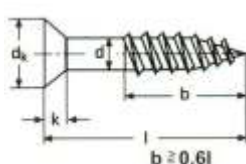
DIN 7997 – PN 82503

Norma

A2/A4

Materiał

Wkręt do drewna z łbem stożkowym, z gniazdem krzyżowym



H- Phillips
Z- Pozidrive

| | | | | | | |
|----|------|------|-----|------|-----|------|
| k | 1,65 | 1,93 | 2,2 | 2,35 | 2,5 | 3,0 |
| dk | 5,6 | 6,5 | 7,5 | 8,3 | 9,2 | 11,0 |

| d | M 3 | M 3,5 | M 4 | M 4,5 | M 5 | M 6 |
|---|-----|-------|-----|-------|-----|-----|
|---|-----|-------|-----|-------|-----|-----|

waga 100szt./kg

| | | | | | | |
|------|------|------|------|------|------|----|
| I 12 | 0,07 | 0,09 | A4 | A4 | | |
| 16 | 0,09 | 0,12 | 0,15 | A4 | A4 | |
| 20 | 0,11 | 0,14 | 0,18 | 0,22 | 0,28 | |
| 25 | 0,13 | 0,17 | 0,22 | 0,27 | 0,34 | A2 |
| 30 | 0,15 | 0,20 | 0,26 | 0,32 | 0,40 | A2 |
| 35 | 0,18 | 0,23 | 0,29 | 0,37 | 0,45 | A2 |
| 40 | A4 | 0,27 | 0,32 | 0,42 | 0,51 | A2 |
| 45 | | A4 | 0,37 | 0,46 | 0,57 | A2 |
| 50 | | 0,33 | 0,40 | 0,51 | 0,63 | A2 |
| 60 | | | 0,48 | 0,61 | 0,75 | A2 |
| 65 | | | | A2 | 0,81 | A2 |
| 70 | | | A2 | A2 | A2 | A2 |
| 80 | | | | | A2 | A2 |
| 90 | | | | | A2 | A2 |
| 100 | | | | | A2 | A2 |
| 110 | | | | | | A2 |
| 120 | | | | | | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

A4 - tylko A4

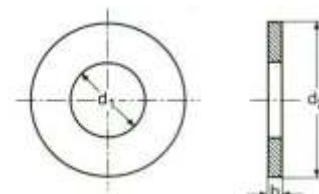
DIN 9021 – ISO 7093 – PN 82030

Norma

A2/A4

Materiał

Podkładka szeroka 3d



| d1 | dla gwintu | waga 100szt./kg | d2 | h |
|------|------------|-----------------|-------|-----|
| 2,2 | M 2 | 0,022 | 7,0 | 0,8 |
| 2,7 | M 2,5 | 0,028 | 8,0 | 0,8 |
| 3,2 | M 3 | 0,035 | 9,0 | 0,8 |
| 3,7 | M 3,5 | 0,053 | 11,0 | 0,8 |
| 4,3 | M 4 | 0,077 | 12,0 | 1,0 |
| 5,3 | M 5 | 0,15 | 15,0 | 1,2 |
| 6,4 | M 6 | 0,28 | 18,0 | 1,6 |
| 7,4 | M 7 | 0,53 | 22,0 | 2,0 |
| 8,4 | M 8 | 0,62 | 24,0 | 2,0 |
| 10,5 | M 10 | 1,22 | 30,0 | 2,5 |
| 13,0 | M 12 | 2,22 | 37,0 | 3,0 |
| 15,0 | M 14 | 3,16 | 44,0 | 3,0 |
| 17,0 | M 16 | 4,10 | 50,0 | 3,0 |
| 20,0 | M 18 | 6,74 | 56,0 | 4,0 |
| 22,0 | M 20 | 7,68 | 60,0 | 4,0 |
| 26,0 | M 24 | 13,9 | 72,0 | 5,0 |
| 33,0 | M 30 | 27,3 | 92,0 | 6,0 |
| 39,0 | M 36 | 52,2 | 110,0 | 8,0 |

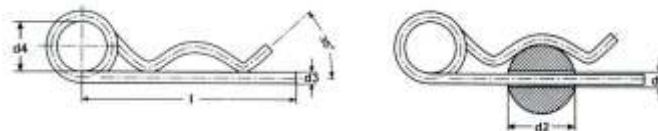
DIN 11024

Norma

A4

Materiał

Zatyczka sprężysta



| d1 | waga 100szt./kg | d2 | d3 | l | d4 |
|-----|--------------------|-----------|------|-------|------|
| 2,5 | 0,59 | 9,0-11,2 | 2,25 | 42,0 | 20,0 |
| 3,2 | 0,99 | 11,2-14,0 | 2,8 | 48,0 | 20,0 |
| 4 | 1,89 | 14,0-20,0 | 3,6 | 64,0 | 20,0 |
| 5 | 3,54 | 20,0-26,0 | 4,5 | 80,0 | 25,0 |
| 6,3 | 6,18 | 26,0-34,0 | 5,6 | 97,0 | 25,0 |
| 7 | 9,7 | 34,0-45,0 | 6,3 | 125,0 | 30,0 |
| 8,0 | 13,4 | 45,0-56,0 | 7,0 | 150,0 | 30,0 |

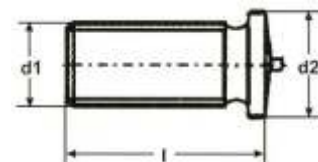
DIN 32501

Norma

A2

Materiał

Kołek do zgrzewania, z gwintem zewn trzonym



| d2 | 4,5 | 5,5 | 6,5 | 7,5 | 9,0 |
|----|--------|--------|--------|--------|--------|
| d1 | M 3 | M 4 | M 5 | M 6 | M 8 |
| I | 8 | | | | |
| 10 | | | | | |
| 12 | | | | | |
| 15 | | | | | |
| 20 | | | | | |
| 25 | | | | | |
| 30 | | | | | |
| 35 | | | | | |
| 40 | | | | | |
| 45 | | | | | |
| 50 | | | | | |

- brak w podstawowej ofercie

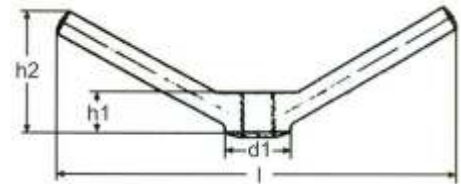
DIN 80701

Norma

A4

Materiał

Nakrętka dociskowa



| d | l | h1 | h2 | d1 |
|------|-------|------|------|------|
| M 16 | 240,0 | 25,0 | 75,0 | 40,0 |
| M 20 | 240,0 | 25,0 | 75,0 | 40,0 |
| M 24 | 240,0 | 25,0 | 75,0 | 40,0 |

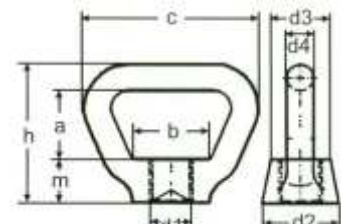
DIN 80704

Norma

A4

Materiał

Nakrętka pałkowa

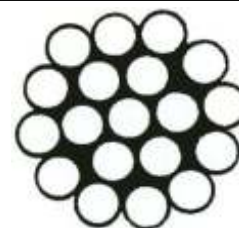


| d1 | a | b | c | d2 | d3 | d4 | h | m |
|-------|------|------|------|------|------|------|------|------|
| M 6* | 15,0 | 14,0 | 25,0 | 14,0 | 11,5 | 5,0 | 28,0 | 8,0 |
| M 8* | 20,0 | 18,0 | 32,0 | 18,0 | 15,0 | 6,5 | 36,0 | 10,0 |
| M 10* | 25,0 | 23,0 | 42,0 | 23,0 | 18,0 | 8,0 | 50,0 | 12,0 |
| M 12 | 27,0 | 27,0 | 48,0 | 24,0 | 20,0 | 10,0 | 52,0 | 15,0 |
| M 16 | 29,0 | 32,0 | 56,0 | 30,0 | 24,0 | 12,0 | 59,0 | 18,0 |
| M 20 | 32,0 | 36,0 | 64,0 | 36,0 | 28,0 | 13,0 | 66,0 | 21,0 |
| M 24 | 36,0 | 45,0 | 75,0 | 45,0 | 36,0 | 14,0 | 76,0 | 25,0 |

* - brak w podstawowej ofercie

A4
Materiał

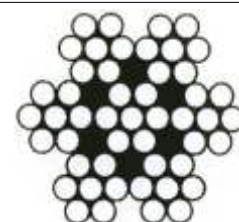
Lina konstrukcyjna 1 x 19



| rednica liny (mm) | obliczeniowa siła zrywająca w kW | minimalna siła zrywająca w kW |
|----------------------|----------------------------------|-------------------------------|
| 1 | 0,937 | 0,825 |
| 1,5 | 2,11 | 1,86 |
| 2 | 3,75 | 3,3 |
| 2,5 | 5,86 | 5,15 |
| 3 | 8,43 | 7,42 |
| 4 | 15 | 13,2 |
| 5 | 23,4 | 20,6 |
| 6 | 33,7 | 29,7 |
| 7 | 45,9 | 40,4 |
| 8 | 60 | 52,8 |
| 10 | 93,7 | 82,8 |
| 12 | 135 | 119 |
| 14 | 184 | 162 |
| 16 | 240 | 211 |

A4
Materiał

Lina konstrukcyjna 7 x 7

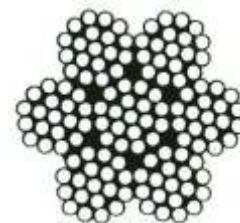


| rednica liny (mm) | obliczeniowa siła zrywająca w kW | minimalna siła zrywająca w kW |
|----------------------|----------------------------------|-------------------------------|
| 1 | 0,71 | 0,63 |
| 1,5 | 1,62 | 1,42 |
| 2 | 2,7 | 2,26 |
| 2,5 | 4,5 | 3,95 |
| 3 | 6,03 | 5,05 |
| 4 | 10,8 | 8,98 |
| 5 | 16,8 | 14 |
| 6 | 24,2 | 20,3 |
| 7 | 33 | 27,6 |
| 8 | 43 | 36,1 |
| 10 | 67,2 | 56,3 |

A4

Materiał

Lina konstrukcyjna 7 x 19

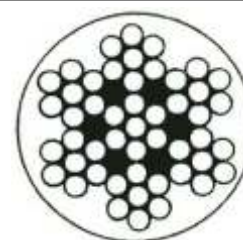


| rednica liny (mm) | obliczeniowa siła zrywająca w kW | minimalna siła zrywająca w kW |
|----------------------|----------------------------------|-------------------------------|
| 2 | 2,65 | 2,33 |
| 2,5 | 4,17 | 3,66 |
| 3 | 5,84 | 4,66 |
| 4 | 10,4 | 8,34 |
| 5 | 16,3 | 13 |
| 6 | 23,4 | 18,7 |
| 7 | 31,9 | 25,5 |
| 8 | 41,7 | 33,3 |
| 10 | 65,7 | 52,1 |
| 12 | 93,7 | 75 |
| 14 | 12,8 | 102 |

A4

Materiał

Lina konstrukcyjna 7 x 7 w powłoce PCV

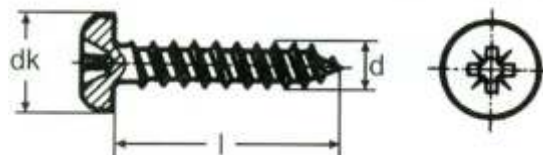


| rednica liny (mm) | kolor |
|----------------------|-------|
| 4,0/6,0 | biały |
| 4,0/7,0 | biały |

A2
Material

Z - Pozidrive

Wkręt do drewna z łbem walcowym, z gniazdem krzyżowym



| | | | | | | |
|----|-----|-----|-----|-----|------|------|
| dk | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 12,0 |
|----|-----|-----|-----|-----|------|------|

| | | | | | | |
|---|---|-----|---|-----|---|---|
| d | 3 | 3,5 | 4 | 4,5 | 5 | 6 |
|---|---|-----|---|-----|---|---|

| | | | | | | |
|---|-----|--|--|--|--|--|
| l | 16 | | | | | |
| | 20 | | | | | |
| | 25 | | | | | |
| | 30 | | | | | |
| | 35 | | | | | |
| | 40 | | | | | |
| | 45 | | | | | |
| | 50 | | | | | |
| | 60 | | | | | |
| | 70 | | | | | |
| | 80 | | | | | |
| | 90 | | | | | |
| | 100 | | | | | |
| | 110 | | | | | |
| | 120 | | | | | |
| | 130 | | | | | |
| | 140 | | | | | |
| | 150 | | | | | |
| | 160 | | | | | |
| | 180 | | | | | |
| | 200 | | | | | |

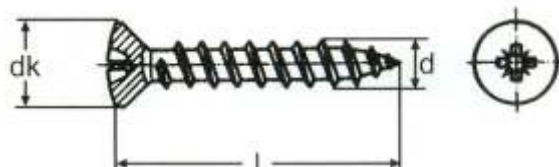
- brak w podstawowej ofercie A2 - tylko A2 A4 - tylko A4

A2

Material

Z - Pozidrive

**Wkręt do drewna z łbem
soczewkowym, z gniazdem
krzyżowym**



| | | | | | | |
|----|-----|-----|-----|-----|------|------|
| dk | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 12,0 |
|----|-----|-----|-----|-----|------|------|

| | | | | | | |
|---|---|-----|---|-----|---|---|
| d | 3 | 3,5 | 4 | 4,5 | 5 | 6 |
|---|---|-----|---|-----|---|---|

| | | | | | | |
|---|-----|--|--|--|--|--|
| l | 12 | | | | | |
| | 16 | | | | | |
| | 20 | | | | | |
| | 25 | | | | | |
| | 30 | | | | | |
| | 35 | | | | | |
| | 40 | | | | | |
| | 45 | | | | | |
| | 50 | | | | | |
| | 60 | | | | | |
| | 70 | | | | | |
| | 80 | | | | | |
| | 90 | | | | | |
| | 100 | | | | | |
| | 110 | | | | | |
| | 120 | | | | | |
| | 130 | | | | | |
| | 140 | | | | | |
| | 150 | | | | | |
| | 160 | | | | | |
| | 180 | | | | | |
| | 200 | | | | | |

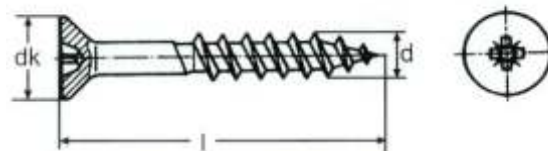
- brak w podstawowej ofercie

A2/A4

Material

**Wkręty do drewna z łbem
stożkowym, z gniazdem
krzyżowym**

Z - Pozidrive



| | | | | | | |
|----|-----|-----|-----|-----|------|------|
| dk | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 12,0 |
|----|-----|-----|-----|-----|------|------|

| | | | | | | |
|---|---|-----|---|-----|---|---|
| d | 3 | 3,5 | 4 | 4,5 | 5 | 6 |
|---|---|-----|---|-----|---|---|

| | | | | | | |
|------------|-----------|----|----|----|----|----|
| l | 10 | A2 | | | | |
| 12 | A2 | A2 | A2 | | | |
| 16 | | | | | | |
| 20 | | | | | | A2 |
| 25 | | | | | | A2 |
| 30 | | | | | | A2 |
| 35 | | | | | | A2 |
| 40 | | | | | | |
| 45 | | | | | | |
| 50 | | | | | | |
| 55 | | | | | | A2 |
| 60 | | | | | | |
| 65 | | | A2 | | | A2 |
| 70 | | | | | | |
| 80 | | | | A2 | | |
| 90 | | | | | | |
| 100 | | | | A2 | A2 | |
| 110 | | | | | A2 | |
| 120 | | | | | A2 | |
| 130 | | | | | | |
| 140 | | | | | | |
| 150 | | | | | | |
| 160 | | | | | | |
| 180 | | | | | | |
| 200 | | | | | | |

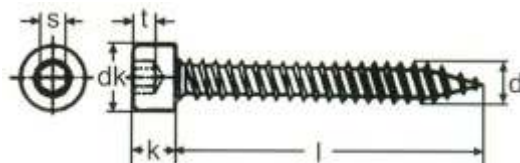
- brak w podstawowej ofercie

A2 - tylko A2

A2/A4

Materiał

**Blachowkręt z łbem walcowym,
z gniazdem sześciokątnym**



| | | | |
|--------|-----|------|------|
| dk max | 8,5 | 10,0 | 10,0 |
| k max | 5,0 | 6,0 | 6,0 |
| t min | 2,5 | 3,0 | 3,0 |
| s | 4,0 | 5,0 | 5,0 |

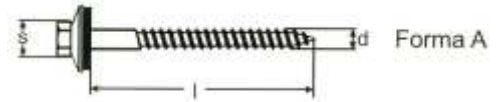
| d | 4,8 | 5,5 | 6,3 |
|----|-----|-----|-----|
| 13 | | | |
| 16 | | | |
| 19 | | | |
| 22 | | | |
| 25 | | | |
| 30 | | A2 | |
| 32 | | | |
| 35 | | A2 | |
| 38 | | | |
| 40 | | | |
| 42 | A2 | | A2 |
| 45 | | | |
| 50 | | | |
| 55 | | | |
| 60 | | | |
| 65 | | | |
| 70 | | A2 | |
| 75 | | A2 | |
| 80 | A2 | A2 | A2 |
| 90 | A2 | A2 | A2 |

- brak w podstawowej ofercie

A2 - tylko A2

A4
Materiał

**rubka fasadowa z podkładką
EPDM**



Forma A



Forma BZ

| | |
|---|------|
| s | 3/8" |
|---|------|

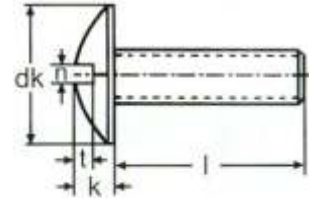
| | |
|---|-----|
| d | 6,5 |
|---|-----|

| | |
|---|-----|
| l | 16 |
| | 19 |
| | 25 |
| | 32 |
| | 38 |
| | 45 |
| | 50 |
| | 64 |
| | 75 |
| | 90 |
| | 100 |
| | 115 |
| | 130 |
| | 150 |
| | 175 |
| | 200 |
| | 220 |
| | 240 |
| | 260 |

A2

Material

**Wkręt do metalu z łbem
grzybkowym, z nacięciem
płaskim**



| | | | | | |
|----|------|------|------|------|------|
| dk | 7,3 | 10,0 | 12,5 | 15,0 | 20,0 |
| k | 2 | 2,2 | 2,7 | 3,3 | 4,4 |
| n | 0,8 | 1,0 | 1,2 | 1,6 | 2,0 |
| t | 0,95 | 0,96 | 1,2 | 1,44 | 1,92 |

| | | | | | |
|----|--------|--------|--------|--------|--------|
| d1 | M 3 | M 4 | M 5 | M 6 | M 8 |
|----|--------|--------|--------|--------|--------|

| | | | | | |
|-----|--|--|--|--|--|
| l 5 | | | | | |
| 6 | | | | | |
| 8 | | | | | |
| 10 | | | | | |
| 12 | | | | | |
| 16 | | | | | |
| 20 | | | | | |
| 25 | | | | | |
| 30 | | | | | |
| 35 | | | | | |
| 40 | | | | | |
| 45 | | | | | |
| 50 | | | | | |
| 60 | | | | | |
| 70 | | | | | |
| 80 | | | | | |
| 90 | | | | | |
| 100 | | | | | |
| 120 | | | | | |

- brak w podstawowej ofercie