

## KOTVIACA SKRUTKA DIN571

### OZNAČENIE CE

Skrutka s označením CE podľa EN 14592.

### ŠEŠŤHRANNÁ HLAVA

Vhodná na použitie na platniach pri aplikáciách ocel'-drevo vďaka šesťhrannej hlave.

### VERZIA PRE EXTERIÉR

Dostupná aj v nehrdzavejúcej oceli A2/AISI304 pre použitia v exteriéroch (servisná trieda 3).



KDP

AI571

PRIEMER [mm] 6 8 10 12 16

DĹŽKA [mm] 40 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

### MATERIÁL



uhlíková ocel' s galvanickým zinkovaním



austenitická nehrdzavejúca ocel' A2 | AISI304 (CRC II)



### OBLASTI POUŽITIA

- panely na báze dreva
- drevotrieskové a MDF panely
- masívne drevo
- vrstvené drevo
- CLT, LVL

KOP



| d <sub>1</sub><br>[mm] | KÓD        | L<br>[mm] | ks  |
|------------------------|------------|-----------|-----|
| 8<br>SW 13             | KOP850(*)  | 50        | 100 |
|                        | KOP860     | 60        | 100 |
|                        | KOP870     | 70        | 100 |
|                        | KOP880     | 80        | 100 |
|                        | KOP8100    | 100       | 50  |
|                        | KOP8120    | 120       | 50  |
|                        | KOP8140    | 140       | 50  |
|                        | KOP8160    | 160       | 50  |
|                        | KOP8180    | 180       | 50  |
|                        | KOP8200    | 200       | 50  |
| 10<br>SW 17            | KOP1050(*) | 50        | 50  |
|                        | KOP1060(*) | 60        | 50  |
|                        | KOP1080    | 80        | 50  |
|                        | KOP10100   | 100       | 50  |
|                        | KOP10120   | 120       | 50  |
|                        | KOP10140   | 140       | 50  |
|                        | KOP10150   | 150       | 50  |
|                        | KOP10160   | 160       | 50  |
|                        | KOP10180   | 180       | 50  |
|                        | KOP10200   | 200       | 50  |
|                        | KOP10220   | 220       | 50  |
|                        | KOP10240   | 240       | 50  |
|                        | KOP10260   | 260       | 50  |
|                        | KOP10280   | 280       | 50  |
|                        | KOP10300   | 300       | 50  |
| 12<br>SW 19            | KOP1250(*) | 50        | 50  |
|                        | KOP1260(*) | 60        | 50  |
|                        | KOP1270(*) | 70        | 50  |
|                        | KOP1280    | 80        | 50  |
|                        | KOP1290    | 90        | 50  |
|                        | KOP12100   | 100       | 25  |
|                        | KOP12120   | 120       | 25  |
|                        | KOP12140   | 140       | 25  |

| d <sub>1</sub><br>[mm] | KÓD         | L<br>[mm] | ks |
|------------------------|-------------|-----------|----|
| 12<br>SW 19            | KOP12150    | 150       | 25 |
|                        | KOP12160    | 160       | 25 |
|                        | KOP12180    | 180       | 25 |
|                        | KOP12200    | 200       | 25 |
|                        | KOP12220    | 220       | 25 |
|                        | KOP12240    | 240       | 25 |
|                        | KOP12260    | 260       | 25 |
|                        | KOP12280    | 280       | 25 |
|                        | KOP12300    | 300       | 25 |
|                        | KOP12320    | 320       | 25 |
| 16<br>SW 24            | KOP12340    | 340       | 25 |
|                        | KOP12360    | 360       | 25 |
|                        | KOP12380    | 380       | 25 |
|                        | KOP12400    | 400       | 25 |
|                        | KOP1680(*)  | 80        | 25 |
|                        | KOP16100(*) | 100       | 25 |
|                        | KOP16120    | 120       | 25 |
|                        | KOP16140    | 140       | 25 |
|                        | KOP16150    | 150       | 25 |
|                        | KOP16160    | 160       | 25 |
|                        | KOP16180    | 180       | 25 |
|                        | KOP16200    | 200       | 25 |
|                        | KOP16220    | 220       | 25 |
|                        | KOP16240    | 240       | 25 |
|                        | KOP16260    | 260       | 25 |
|                        | KOP16280    | 280       | 25 |
|                        | KOP16300    | 300       | 25 |
|                        | KOP16320    | 320       | 25 |
|                        | KOP16340    | 340       | 25 |
|                        | KOP16360    | 360       | 25 |
|                        | KOP16380    | 380       | 25 |
|                        | KOP16400    | 400       | 25 |

(\*) Bez označenia CE.

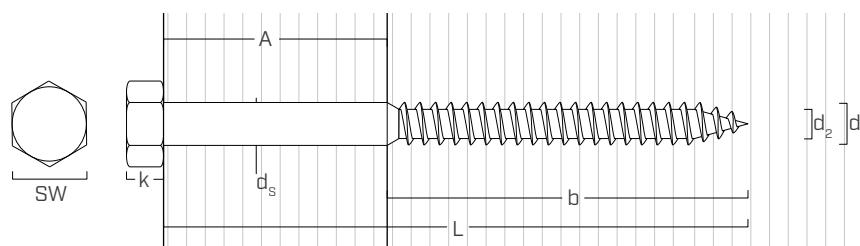
AI571 – VERZIA A2 | AISI304



| d <sub>1</sub><br>[mm] | KÓD        | L<br>[mm] | ks  |
|------------------------|------------|-----------|-----|
| 8<br>SW 13             | AI571850   | 50        | 100 |
|                        | AI571860   | 60        | 100 |
|                        | AI571880   | 80        | 100 |
|                        | AI5718100  | 100       | 100 |
|                        | AI5718120  | 120       | 100 |
| 10<br>SW 17            | AI5711050  | 50        | 100 |
|                        | AI5711060  | 60        | 100 |
|                        | AI5711080  | 80        | 100 |
|                        | AI57110100 | 100       | 50  |
|                        | AI57110120 | 120       | 50  |
|                        | AI57110140 | 140       | 50  |
|                        | AI57110160 | 160       | 50  |
|                        | AI57110180 | 180       | 50  |
|                        | AI57110200 | 200       | 50  |

| d <sub>1</sub><br>[mm] | KÓD        | L<br>[mm] | ks |
|------------------------|------------|-----------|----|
| 12<br>SW 19            | AI57112100 | 100       | 50 |
|                        | AI57112120 | 120       | 25 |
|                        | AI57112140 | 140       | 25 |
|                        | AI57112160 | 160       | 25 |
|                        | AI57112180 | 180       | 25 |

Skrutky z nehrdzavejúcej oceli sú bez označenia CE.

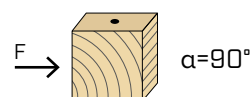
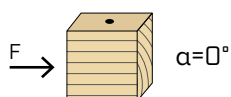


| Menovitý priemer                                 | $d_1$        | [mm]                 | 8            | 10    | 12    | 16    |
|--------------------------------------------------|--------------|----------------------|--------------|-------|-------|-------|
| Rozmer kľúča                                     | SW           | [mm]                 | 13           | 17    | 19    | 24    |
| Hrúbka hlavy                                     | k            | [mm]                 | 5,50         | 7,00  | 8,00  | 10,00 |
| Priemer jadra                                    | $d_2$        | [mm]                 | 5,60         | 7,00  | 9,00  | 12,00 |
| Priemer drieku                                   | $d_s$        | [mm]                 | 8,00         | 10,00 | 12,00 | 16,00 |
| Priemer predvrtania - hladká časť                | $d_{v1}$     | [mm]                 | 8,0          | 10,0  | 12,0  | 16,0  |
| Priemer predvrtania - závitová časť              | $d_{v2}$     | [mm]                 | 5,5          | 7,0   | 8,5   | 11,0  |
| Dĺžka závit                                      | b            | [mm]                 | $\geq 0,6 L$ |       |       |       |
| Charakteristická odolnosť v ťahu                 | $f_{tens,k}$ | [kN]                 | 13,0         | 21,23 | 32,0  | 60,0  |
| Charakteristický moment na medzi sklzu           | $M_{y,k}$    | [Nm]                 | 16,9         | 30,0  | 56,0  | 125,0 |
| Charakteristický parameter odolnosti vytiahnutia | $f_{ax,k}$   | [N/mm <sup>2</sup> ] | 11,6         | 12,4  | 10,0  | 9,9   |
| Súvisiaca hustota                                | $\rho_a$     | [kg/m <sup>3</sup> ] | 350          | 350   | 350   | 350   |
| Charakteristický parameter vnikania hlavy        | $f_{head,k}$ | [N/mm <sup>2</sup> ] | 16,5         | 16,3  | 14,0  | 12,9  |
| Súvisiaca hustota                                | $\rho_a$     | [kg/m <sup>3</sup> ] | 350          | 350   | 350   | 350   |

## ■ MINIMÁLNE VZDIALENOSTI PRE SKRUTKY NAMÁHANÉ V STRIHU



skrutky skrutkované **S** predvrtaním

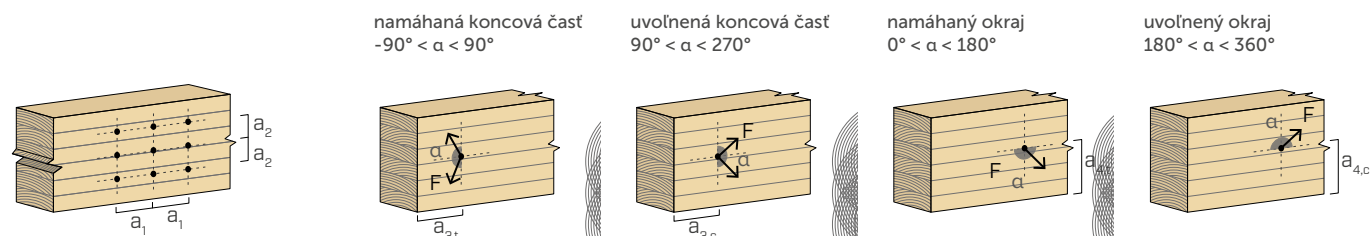


| <b>d<sub>1</sub></b>   | <b>[mm]</b> |                     | <b>8</b> | <b>10</b> | <b>12</b> | <b>16</b> |
|------------------------|-------------|---------------------|----------|-----------|-----------|-----------|
| <b>a<sub>1</sub></b>   | [mm]        | <b>5·d</b>          | 40       | 50        | 60        | 80        |
| <b>a<sub>2</sub></b>   | [mm]        | <b>4·d</b>          | 32       | 40        | 48        | 64        |
| <b>a<sub>3,t</sub></b> | [mm]        | <b>min (7·d;80)</b> | 80       | 80        | 84        | 112       |
| <b>a<sub>3,c</sub></b> | [mm]        | <b>4·d</b>          | 32       | 40        | 48        | 64        |
| <b>a<sub>4,t</sub></b> | [mm]        | <b>3·d</b>          | 24       | 30        | 36        | 48        |
| <b>a<sub>4,c</sub></b> | [mm]        | <b>3·d</b>          | 24       | 30        | 36        | 48        |

| <b>d<sub>1</sub></b>   | <b>[mm]</b> |                     | <b>8</b> | <b>10</b> | <b>12</b> | <b>16</b> |
|------------------------|-------------|---------------------|----------|-----------|-----------|-----------|
| <b>a<sub>1</sub></b>   | [mm]        | <b>4·d</b>          | 32       | 40        | 48        | 64        |
| <b>a<sub>2</sub></b>   | [mm]        | <b>4·d</b>          | 32       | 40        | 48        | 64        |
| <b>a<sub>3,t</sub></b> | [mm]        | <b>min (7·d;80)</b> | 80       | 80        | 84        | 112       |
| <b>a<sub>3,c</sub></b> | [mm]        | <b>7·d</b>          | 56       | 70        | 84        | 112       |
| <b>a<sub>4,t</sub></b> | [mm]        | <b>4·d</b>          | 32       | 40        | 48        | 64        |
| <b>a<sub>4,c</sub></b> | [mm]        | <b>3·d</b>          | 24       | 30        | 36        | 48        |

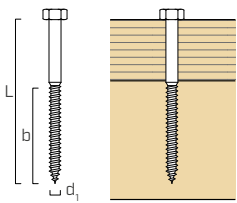
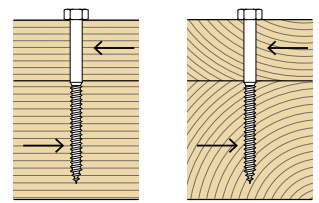
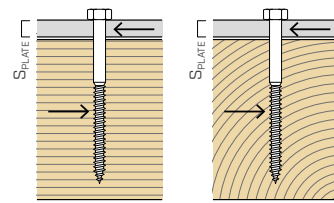
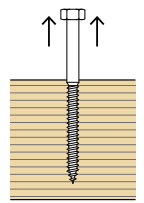
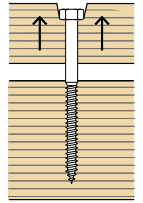
$\alpha$  = uhol medzi pôsobením sily a vláknami

$d$  =  $d_1$  = menovitý priemer skrutky

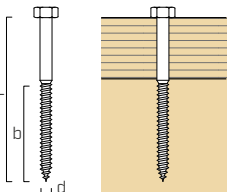
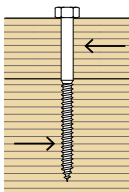
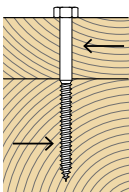
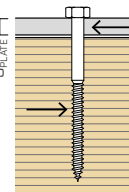
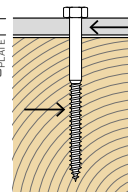


### POZNÁMKY

- Minimálne vzdialenosti sú dané normou STN EN 1995:2014.
- Pre skrutky KOP je potrebné predvrtanie v súlade s normou STN EN 1995:2014:
  - vodiaci otvor pre hladkú časť drieku s rozmermi rovnajúcimi sa priemeru drieku hĺbkou rovnajúcou sa dĺžke drieku;
  - vodiaci otvor pre závitovú časť s priemerom rovnajúcim sa približne 70 % priemeru drieku.

|                                                                                   |      |        |      | STRIH                                                                             |                      |                                                                                    |                                     |                                                                                     |                                                                                     | ŤAH               |                     |
|-----------------------------------------------------------------------------------|------|--------|------|-----------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|---------------------|
| geometria                                                                         |      |        |      | drevo-drevo<br>α=0°                                                               | drevo-drevo<br>α=90° | oceľ-drevo<br>hrubá platňa<br>α=0°                                                 | oceľ-drevo<br>hrubá platňa<br>α=90° | vytiahnutie<br>závitu                                                               | vnikanie<br>hlavy                                                                   |                   |                     |
|  |      |        |      |  |                      |  |                                     |  |  |                   |                     |
| d <sub>1</sub>                                                                    | L    | b      | A    | R <sub>V,0,k</sub>                                                                | R <sub>V,90,k</sub>  | S <sub>PLATE</sub>                                                                 | R <sub>V,k</sub>                    | S <sub>PLATE</sub>                                                                  | R <sub>V,k</sub>                                                                    | R <sub>ax,k</sub> | R <sub>head,k</sub> |
| [mm]                                                                              | [mm] | [mm]   | [mm] | [kN]                                                                              | [kN]                 | [mm]                                                                               | [kN]                                | [mm]                                                                                | [kN]                                                                                | [kN]              | [kN]                |
| 8                                                                                 | 50   | 30     | 20   | 3,17                                                                              | 2,44                 | 8                                                                                  | 5,31                                | 8                                                                                   | 4,05                                                                                | 3,00              | 3,32                |
|                                                                                   | 60   | 36     | 24   | 3,46                                                                              | 2,82                 |                                                                                    | 5,46                                |                                                                                     | 4,66                                                                                | 3,61              | 3,32                |
|                                                                                   | 70   | 42     | 28   | 3,70                                                                              | 2,96                 |                                                                                    | 5,61                                |                                                                                     | 4,81                                                                                | 4,21              | 3,32                |
|                                                                                   | 80   | 48     | 32   | 3,96                                                                              | 3,12                 |                                                                                    | 5,76                                |                                                                                     | 4,96                                                                                | 4,81              | 3,32                |
|                                                                                   | 100  | 60     | 40   | 4,05                                                                              | 3,47                 |                                                                                    | 6,06                                |                                                                                     | 5,26                                                                                | 6,01              | 3,32                |
|                                                                                   | 120  | 72     | 48   | 4,05                                                                              | 3,49                 |                                                                                    | 6,36                                |                                                                                     | 5,56                                                                                | 7,21              | 3,32                |
|                                                                                   | 140  | 84     | 56   | 4,05                                                                              | 3,49                 |                                                                                    | 6,66                                |                                                                                     | 5,86                                                                                | 8,41              | 3,32                |
|                                                                                   | 160  | 96     | 64   | 4,05                                                                              | 3,49                 |                                                                                    | 6,96                                |                                                                                     | 6,16                                                                                | 9,61              | 3,32                |
|                                                                                   | 180  | 108    | 72   | 4,05                                                                              | 3,49                 |                                                                                    | 7,26                                |                                                                                     | 6,46                                                                                | 10,82             | 3,32                |
|                                                                                   | 200  | 120    | 80   | 4,05                                                                              | 3,49                 |                                                                                    | 7,56                                |                                                                                     | 6,76                                                                                | 12,02             | 3,32                |
| 10                                                                                | 50   | 30     | 20   | 4,04                                                                              | 3,03                 | 10                                                                                 | 6,74                                | 10                                                                                  | 5,15                                                                                | 4,01              | 5,61                |
|                                                                                   | 60   | 36     | 24   | 4,76                                                                              | 3,64                 |                                                                                    | 7,92                                |                                                                                     | 5,95                                                                                | 4,81              | 5,61                |
|                                                                                   | 80   | 48     | 32   | 5,50                                                                              | 4,41                 |                                                                                    | 8,32                                |                                                                                     | 7,08                                                                                | 6,41              | 5,61                |
|                                                                                   | 100  | 60     | 40   | 6,13                                                                              | 4,79                 |                                                                                    | 8,72                                |                                                                                     | 7,49                                                                                | 8,01              | 5,61                |
|                                                                                   | 120  | 72     | 48   | 6,15                                                                              | 5,21                 |                                                                                    | 9,12                                |                                                                                     | 7,89                                                                                | 9,61              | 5,61                |
|                                                                                   | 140  | 84     | 56   | 6,15                                                                              | 5,28                 |                                                                                    | 9,52                                |                                                                                     | 8,29                                                                                | 11,21             | 5,61                |
|                                                                                   | 150  | 90     | 60   | 6,15                                                                              | 5,28                 |                                                                                    | 9,72                                |                                                                                     | 8,49                                                                                | 12,02             | 5,61                |
|                                                                                   | 160  | 96     | 64   | 6,15                                                                              | 5,28                 |                                                                                    | 9,92                                |                                                                                     | 8,69                                                                                | 12,82             | 5,61                |
|                                                                                   | 180  | 108    | 72   | 6,15                                                                              | 5,28                 |                                                                                    | 10,32                               |                                                                                     | 9,09                                                                                | 14,42             | 5,61                |
|                                                                                   | 200  | 120    | 80   | 6,15                                                                              | 5,28                 |                                                                                    | 10,72                               |                                                                                     | 9,49                                                                                | 16,02             | 5,61                |
|                                                                                   | 220  | 132    | 88   | 6,15                                                                              | 5,28                 |                                                                                    | 11,12                               |                                                                                     | 9,89                                                                                | 17,62             | 5,61                |
|                                                                                   | 240  | 144    | 96   | 6,15                                                                              | 5,28                 |                                                                                    | 11,52                               |                                                                                     | 10,29                                                                               | 19,22             | 5,61                |
|                                                                                   | 260  | 156    | 104  | 6,15                                                                              | 5,28                 |                                                                                    | 11,92                               |                                                                                     | 10,69                                                                               | 20,83             | 5,61                |
|                                                                                   | 280  | 168    | 112  | 6,15                                                                              | 5,28                 |                                                                                    | 12,02                               |                                                                                     | 10,79                                                                               | 22,43             | 5,61                |
|                                                                                   | 300  | 180    | 120  | 6,15                                                                              | 5,28                 |                                                                                    | 12,02                               |                                                                                     | 10,79                                                                               | 24,03             | 5,61                |
| 12                                                                                | 50   | 30     | 20   | 4,54                                                                              | 3,30                 | 12                                                                                 | 8,19                                | 12                                                                                  | 6,33                                                                                | 3,89              | 6,01                |
|                                                                                   | 60   | 36     | 24   | 5,45                                                                              | 3,97                 |                                                                                    | 9,39                                |                                                                                     | 7,06                                                                                | 4,66              | 6,01                |
|                                                                                   | 70   | 42     | 28   | 6,36                                                                              | 4,63                 |                                                                                    | 10,70                               |                                                                                     | 7,91                                                                                | 5,44              | 6,01                |
|                                                                                   | 80   | 48     | 32   | 6,89                                                                              | 5,24                 |                                                                                    | 11,49                               |                                                                                     | 8,83                                                                                | 6,22              | 6,01                |
|                                                                                   | 90   | 54     | 36   | 7,20                                                                              | 5,69                 |                                                                                    | 11,69                               |                                                                                     | 9,78                                                                                | 6,99              | 6,01                |
|                                                                                   | 100  | 60     | 40   | 7,54                                                                              | 5,88                 |                                                                                    | 11,88                               |                                                                                     | 9,98                                                                                | 7,77              | 6,01                |
|                                                                                   | 120  | 72     | 48   | 8,27                                                                              | 6,30                 |                                                                                    | 12,27                               |                                                                                     | 10,37                                                                               | 9,32              | 6,01                |
|                                                                                   | 140  | 84     | 56   | 8,53                                                                              | 6,77                 |                                                                                    | 12,66                               |                                                                                     | 10,75                                                                               | 10,88             | 6,01                |
|                                                                                   | 150  | 90     | 60   | 8,53                                                                              | 7,01                 |                                                                                    | 12,85                               |                                                                                     | 10,95                                                                               | 11,66             | 6,01                |
|                                                                                   | 160  | 96     | 64   | 8,53                                                                              | 7,18                 |                                                                                    | 13,05                               |                                                                                     | 11,14                                                                               | 12,43             | 6,01                |
|                                                                                   | 180  | 108    | 72   | 8,53                                                                              | 7,18                 |                                                                                    | 13,43                               |                                                                                     | 11,53                                                                               | 13,99             | 6,01                |
|                                                                                   | 200  | 120    | 80   | 8,53                                                                              | 7,18                 |                                                                                    | 13,82                               |                                                                                     | 11,92                                                                               | 15,54             | 6,01                |
|                                                                                   | 220  | 132    | 88   | 8,53                                                                              | 7,18                 |                                                                                    | 14,21                               |                                                                                     | 12,31                                                                               | 17,10             | 6,01                |
|                                                                                   | 240  | 144    | 96   | 8,53                                                                              | 7,18                 |                                                                                    | 14,60                               |                                                                                     | 12,70                                                                               | 18,65             | 6,01                |
|                                                                                   | 260  | 156    | 104  | 8,53                                                                              | 7,18                 |                                                                                    | 14,99                               |                                                                                     | 13,09                                                                               | 20,20             | 6,01                |
|                                                                                   | 280  | 168    | 112  | 8,53                                                                              | 7,18                 |                                                                                    | 15,38                               |                                                                                     | 13,47                                                                               | 21,76             | 6,01                |
|                                                                                   | 300  | 180    | 120  | 8,53                                                                              | 7,18                 |                                                                                    | 15,77                               |                                                                                     | 13,86                                                                               | 23,31             | 6,01                |
|                                                                                   | 320  | 192    | 128  | 8,53                                                                              | 7,18                 |                                                                                    | 16,15                               |                                                                                     | 14,25                                                                               | 24,87             | 6,01                |
|                                                                                   | 340  | 195(*) | 145  | 8,53                                                                              | 7,18                 |                                                                                    | 16,25                               |                                                                                     | 14,35                                                                               | 25,25             | 6,01                |
|                                                                                   | 360  | 195(*) | 165  | 8,53                                                                              | 7,18                 |                                                                                    | 16,25                               |                                                                                     | 14,35                                                                               | 25,25             | 6,01                |
|                                                                                   | 380  | 195(*) | 185  | 8,53                                                                              | 7,18                 |                                                                                    | 16,25                               |                                                                                     | 14,35                                                                               | 25,25             | 6,01                |
|                                                                                   | 400  | 195    | 205  | 8,53                                                                              | 7,18                 |                                                                                    | 16,25                               |                                                                                     | 14,35                                                                               | 25,25             | 6,01                |

$\alpha$  = uhol medzi pôsobením sily a vláknami

|                                                                                   |           |           |           | STRIH                                                                             |                                  |                                                                                   |                                                 | ŤAH                                                                               |                   |                                                                                    |                      |
|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------|----------------------|
| geometria                                                                         |           |           |           | drevo-drevo<br>$\alpha=0^\circ$                                                   | drevo-drevo<br>$\alpha=90^\circ$ | oceľ-drevo<br>hrubá platňa<br>$\alpha=0^\circ$                                    | oceľ-drevo<br>hrubá platňa<br>$\alpha=90^\circ$ | vytiahnutie<br>závitu                                                             | vnikanie<br>hlavy |                                                                                    |                      |
|  |           |           |           |  |                                  |  |                                                 |  |                   |  |                      |
| $d_1$<br>[mm]                                                                     | L<br>[mm] | b<br>[mm] | A<br>[mm] | $R_{V,0,k}$<br>[kN]                                                               | $R_{V,90,k}$<br>[kN]             | $S_{PLATE}$<br>[mm]                                                               | $R_{V,k}$<br>[kN]                               | $S_{PLATE}$<br>[mm]                                                               | $R_{V,k}$<br>[kN] | $R_{ax,k}$<br>[kN]                                                                 | $R_{head,k}$<br>[kN] |
| 16                                                                                | 80        | 48        | 32        | 9,33                                                                              | 6,63                             | 16                                                                                | 15,98                                           | 16                                                                                | 11,75             | 8,24                                                                               | 8,86                 |
|                                                                                   | 100       | 60        | 40        | 11,08                                                                             | 7,93                             |                                                                                   | 19,32                                           |                                                                                   | 13,90             | 10,30                                                                              | 8,86                 |
|                                                                                   | 120       | 72        | 48        | 11,86                                                                             | 9,07                             |                                                                                   | 19,84                                           |                                                                                   | 16,25             | 12,36                                                                              | 8,86                 |
|                                                                                   | 140       | 84        | 56        | 12,73                                                                             | 9,57                             |                                                                                   | 20,35                                           |                                                                                   | 16,89             | 14,42                                                                              | 8,86                 |
|                                                                                   | 150       | 90        | 60        | 13,19                                                                             | 9,83                             |                                                                                   | 20,61                                           |                                                                                   | 17,15             | 15,45                                                                              | 8,86                 |
|                                                                                   | 160       | 96        | 64        | 13,67                                                                             | 10,09                            |                                                                                   | 20,87                                           |                                                                                   | 17,40             | 16,48                                                                              | 8,86                 |
|                                                                                   | 180       | 108       | 72        | 14,06                                                                             | 10,65                            |                                                                                   | 21,38                                           |                                                                                   | 17,92             | 18,54                                                                              | 8,86                 |
|                                                                                   | 200       | 120       | 80        | 14,06                                                                             | 11,25                            |                                                                                   | 21,90                                           |                                                                                   | 18,43             | 20,60                                                                              | 8,86                 |
|                                                                                   | 220       | 132       | 88        | 14,06                                                                             | 11,61                            |                                                                                   | 22,41                                           |                                                                                   | 18,95             | 22,66                                                                              | 8,86                 |
|                                                                                   | 240       | 144       | 96        | 14,06                                                                             | 11,61                            |                                                                                   | 22,93                                           |                                                                                   | 19,46             | 24,72                                                                              | 8,86                 |
|                                                                                   | 260       | 156       | 104       | 14,06                                                                             | 11,61                            |                                                                                   | 23,44                                           |                                                                                   | 19,98             | 26,78                                                                              | 8,86                 |
|                                                                                   | 280       | 168       | 112       | 14,06                                                                             | 11,61                            |                                                                                   | 23,96                                           |                                                                                   | 20,49             | 28,84                                                                              | 8,86                 |
|                                                                                   | 300       | 180       | 120       | 14,06                                                                             | 11,61                            |                                                                                   | 24,47                                           |                                                                                   | 21,01             | 30,90                                                                              | 8,86                 |
|                                                                                   | 320       | 192       | 128       | 14,06                                                                             | 11,61                            |                                                                                   | 24,99                                           |                                                                                   | 21,52             | 32,96                                                                              | 8,86                 |
|                                                                                   | 340       | 204       | 136       | 14,06                                                                             | 11,61                            |                                                                                   | 25,50                                           |                                                                                   | 22,04             | 35,01                                                                              | 8,86                 |
|                                                                                   | 360       | 205(*)    | 155       | 14,06                                                                             | 11,61                            |                                                                                   | 25,55                                           |                                                                                   | 22,08             | 35,19                                                                              | 8,86                 |
|                                                                                   | 380       | 205(*)    | 175       | 14,06                                                                             | 11,61                            |                                                                                   | 25,55                                           |                                                                                   | 22,08             | 35,19                                                                              | 8,86                 |
|                                                                                   | 400       | 205(*)    | 195       | 14,06                                                                             | 11,61                            |                                                                                   | 25,55                                           |                                                                                   | 22,08             | 35,19                                                                              | 8,86                 |

$\alpha$  = uhol medzi pôsobením sily a vláknami

## STATICKÉ HODNOTY

### VŠEOBECNÉ PRINCÍPY

- Charakteristické hodnoty sú v podľa normy EN 1995:2014 v súlade s EN 14592.
- Projektované hodnoty sú odvodené z charakteristických hodnôt takto:

$$R_d = \frac{R_k \cdot k_{mod}}{\gamma_M}$$

Koeficienty  $\gamma_M$  a  $k_{mod}$  sa berú podľa platného nariadenia použitého pri výpočte.

- Požadované hodnoty mechanickej pevnosti a geometrie skrutiek KOP sú v súlade s označením CE podľa normy EN 14592.
  - Návrh rozmerov a overovanie drevených prvkov musia byť vykonané samostatne.
  - Charakteristické odolnosti v strihu boli stanovené pre skrutky skrutkované s predvrtaním.
  - Skrutky musia byť umiestnené tak, aby boli dodržané minimálne vzdialenosti.
  - Charakteristická odolnosť proti vytiahnutiu závitov bola vypočítaná s ohľadom na minimálnu dĺžku upevnenia rovnajúcu sa b.
  - Charakteristická odolnosť proti pretiahnutiu hlavy bola stanovená na drevenom prvku alebo prvku na báze dreva.
- V prípade spoja oceľ-drevo je zvyčajne závažná pevnosť ocele v ťahu vzhľadom k oddeleniu alebo preniknutiu hlavy skrutky.

### POZNÁMKY

- Charakteristické odolnosti v strihu drevo-drevo boli stanovené aj pri uhle  $\alpha 0^\circ$  ( $R_{V,0,k}$ ) aj pri uhle  $90^\circ$  ( $R_{V,90,k}$ ) medzi pôsobiacou silou a vláknami drevených prvkov.
- Charakteristické odolnosti v strihu oceľ-drevo boli stanovené aj pri uhle  $\alpha 0^\circ$  ( $R_{V,0,k}$ ) aj pri uhle  $90^\circ$  ( $R_{V,90,k}$ ) medzi pôsobiacou silou a vláknami dreveného prvku.
- Charakteristické odolnosti v strihu na platni sú stanovené na hrubej platni ( $S_{PLATE} \geq d_1$ ).
- Charakteristické odolnosti proti vytiahnutiu závitov boli posudzované pri uhle  $\alpha 90^\circ$  ( $R_{ax,90,k}$ ) medzi pôsobiacou silou a vláknami dreveného prvku.
- Pri výpočte sa brala do úvahy dĺžka závitov  $b = 0,6 L$ , okrem rozmerov (\*).
- Pri výpočte bola braná do úvahy objemová hmotnosť drevených prvkov rovná  $\rho_k = 385 \text{ kg/m}^3$ .
- Pri odlišných hodnotách  $\rho_k$  môžu byť odolnosti uvedené v tabuľke prepočítané koeficientom  $k_{dens}$ .
- V prípade viacerých skrutiek usporiadaných súbežne s vláknami vo vzdialenosti  $a_1$  možno charakteristickú efektívnu únosnosť v strihu  $R_{ef,V,k}$  vypočítať pomocou účinného počtu  $n_{ef}$ .