

# Spike

Mushroom Head Spike, 8.2 steel - MH

Mushroom Head Spike, 316 stainless steel - MHSS

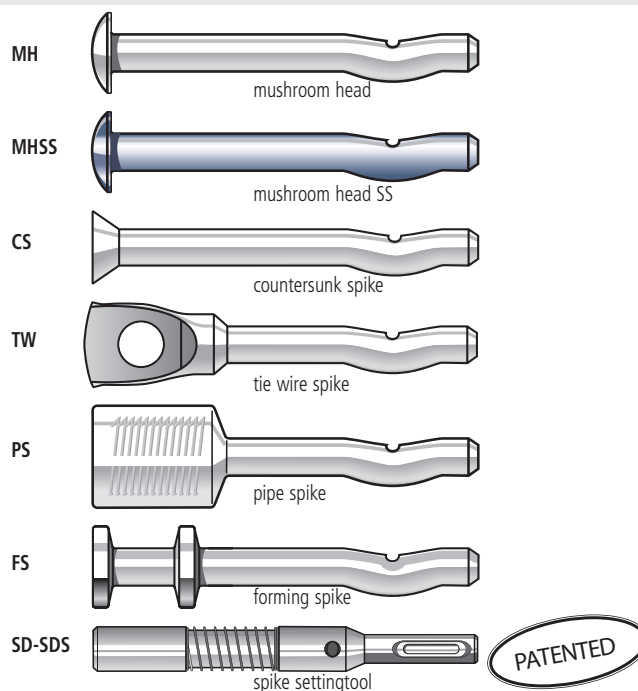
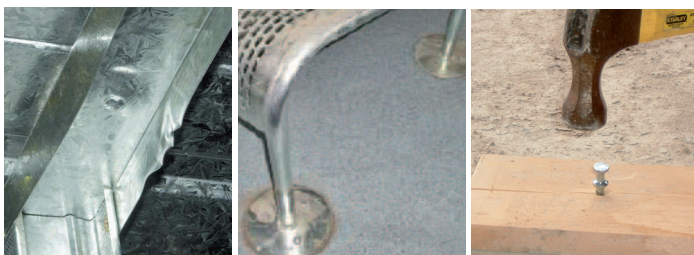
Countersunk Spike, 8.2 steel - CS

Tie Wire Spike, 8.2 steel - TW

Pipe Spike, 8.2 steel - PS

Forming Spike, 8.2 steel - FS

Spike settingtool - SD-SDS



## Approvals and test reports



## Product description

### 1. General applications

- For medium and heavy loads
- For use in uncracked concrete, solid brick and compressive resistant stone
- For fixing lattice work, racks, railings, formwork, street furniture threaded rods and pipe supports (pipe spike), hanging attributes (tie wire spike)
- Not removable with screwdriver or wrench (suitable for public environments)
- Through fixing

### 2. Benefits

- High performance because of high steel grade
- Fast and easy installation
- Immediate, high strength loading
- Safe, controlled installation method
- Finished appearance
- Resistant to vandalism
- Vibration resistant
- One-piece design
- Forming spike is removable

### 3. Properties

- FM-approval on the pipe spike
- Available in mushroom head, countersunk head, tie wire head, pipe spike and forming spike
- Wide range of diameters and lengths

## Specifications

### Anchor components

Carbon steel (mushroom head, flat head, pipe, tie-wire and forming spike)

Stainless steel (mushroom head spike)

Anchor component:

Component material:

Anchor body:

Component material:

Carbon steel

Grade 8.2 carbon steel

Anchor body

Type A4 stainless steel

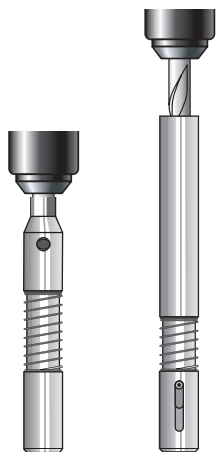
Zinc plating

Bright zinc plated > 5 microns





| MH mushroom head Spike – zinc plated |          |        |                     |     |     |
|--------------------------------------|----------|--------|---------------------|-----|-----|
| Type                                 | Art. Nr. |        |                     |     |     |
|                                      |          | L [mm] | d <sub>0</sub> [mm] |     |     |
| MH5x25                               | 05502    | 100    | 1000                | 25  | 5   |
| MH5x32                               | 05503    | 100    | 1000                | 32  | 5   |
| MH5x38                               | 05504    | 100    | 1000                | 38  | 5   |
| MH5x50                               | 05506    | 100    | 1000                | 50  | 5   |
| MH6,5x25                             | 05522    | 100    | 1000                | 25  | 6,5 |
| MH6,5x38                             | 05524    | 100    | 1000                | 38  | 6,5 |
| MH6,5x50                             | 05526    | 100    | 1000                | 50  | 6,5 |
| MH6,5x63                             | 05528    | 100    | 1000                | 63  | 6,5 |
| MH6,5x75                             | 05530    | 100    | 1000                | 75  | 6,5 |
| MH6,5x100                            | 05532    | 100    | 500                 | 100 | 6,5 |
| MH10x50                              | 05546    | 25     | 250                 | 50  | 10  |
| MH10x64                              | 05548    | 25     | 250                 | 64  | 10  |
| MH10x75                              | 05550    | 25     | 250                 | 75  | 10  |
| MH10x100                             | 05552    | 25     | 250                 | 100 | 10  |



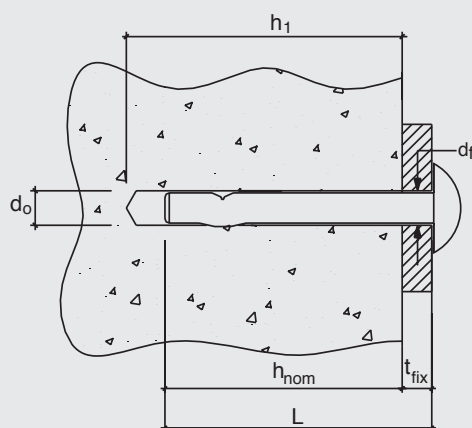
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| Spike setting tool |          |   |  |
|--------------------|----------|---|--|
| Type               | Art. Nr. |   |  |
| SD-SDS             | 03790    | 1 |  |
| SD-CF              | 03791    | 1 |  |

Note: MH spikes can also be installed using a hammer





### Recommended loads

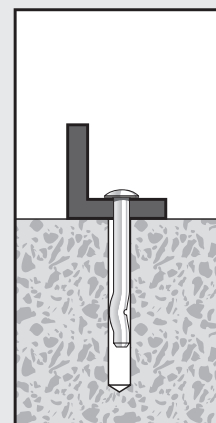
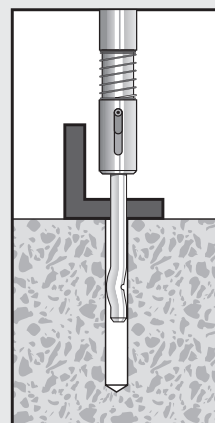
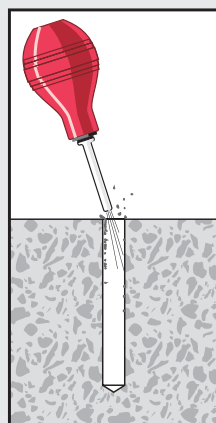
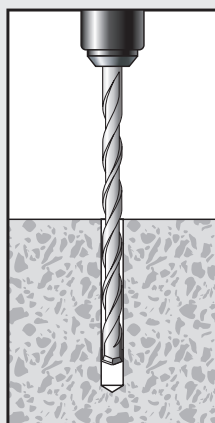
$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$



| Type      | $h_{nom}$ [mm] | $t_{fix}$ [mm] | $h_1$ [mm] | $d_f$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|-----------|----------------|----------------|------------|------------|----------------|----------------|
| MH5x25    | 22             | 3              | 32         | 6          | 0,4            | 1,7            |
| MH5x32    | 22             | 10             | 32         | 6          | 0,4            | 1,7            |
| MH5x38    | 22             | 16             | 32         | 6          | 0,4            | 1,7            |
| MH5x50    | 22             | 28             | 32         | 6          | 0,4            | 1,7            |
| MH6,5x25  | 22             | 3              | 32         | 7          | 0,4            | 2,7            |
| MH6,5x38  | 22             | 16             | 32         | 7          | 0,4            | 2,7            |
| MH6,5x50  | 22             | 28             | 32         | 7          | 0,4            | 2,7            |
| MH6,5x63  | 22             | 41             | 32         | 7          | 0,4            | 2,7            |
| MH6,5x75  | 22             | 53             | 32         | 7          | 0,4            | 2,7            |
| MH6,5x100 | 22             | 78             | 32         | 7          | 0,4            | 2,7            |
| MH10x50   | 45             | 5              | 55         | 12         | 1,2            | 6,5            |
| MH10x64   | 45             | 20             | 55         | 12         | 1,2            | 6,5            |
| MH10x75   | 45             | 30             | 55         | 12         | 1,2            | 6,5            |
| MH10x100  | 45             | 55             | 55         | 12         | 1,2            | 6,5            |



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Mechanical anchors

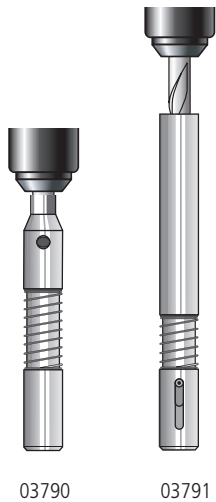


**Powers**





MHSS mushroom head Spike – A4 steel

| Type        | Art. Nr. |  |  |  |  |
|-------------|----------|---|---|---|---|
|             |          | L [mm]  | d <sub>0</sub> [mm]   |   |   |
| MH5x25SS    | 06602    | 100   | 1000  | 25  | 5   |
| MH5x32SS    | 06603    | 100   | 1000  | 32  | 5   |
| MH5x38SS    | 06604    | 100   | 1000  | 38  | 5   |
| MH6,5x38SS  | 06624    | 100   | 1000  | 38  | 6,5   |
| MH6,5x50SS  | 06626    | 100   | 1000  | 50  | 6,5   |
| MH6,5x75SS  | 06630    | 100   | 1000  | 75  | 6,5   |
| MH6,5x100SS | 06632    | 100   | 500   | 100   | 6,5   |
| MH10x50SS   | 06646    | 25  | 250   | 50  | 10  |
| MH10x75SS   | 06650    | 25  | 250   | 75  | 10  |



Spike setting tool

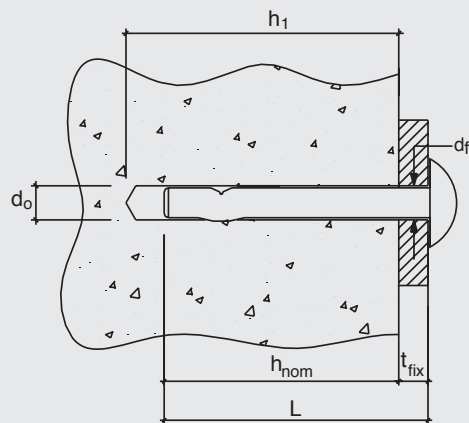
| Type   | Art. Nr. |  |  |
|--------|----------|---|---|
| SD-SDS | 03790    | 1   |   |
| SD-CF  | 03791    | 1   |   |

Note: MH spikes can also be installed using a hammer

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Recommended loads

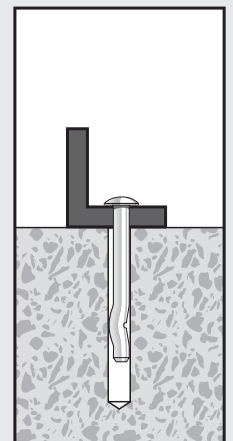
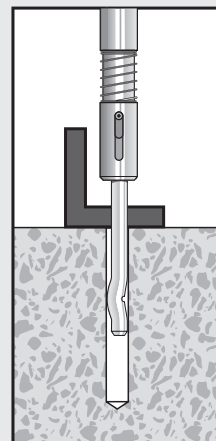
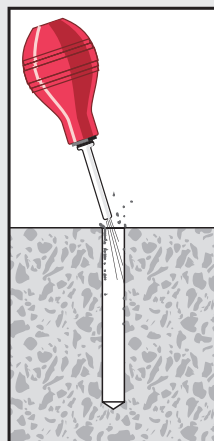
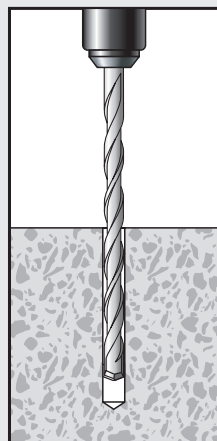
$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$



| Type        | $h_{nom}$ [mm] | $t_{fix}$ [mm] | $h_1$ [mm] | $d_f$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|-------------|----------------|----------------|------------|------------|----------------|----------------|
| MH5x25SS    | 22             | 3              | 32         | 6          | 0,2            | 1,4            |
| MH5x32SS    | 22             | 10             | 32         | 6          | 0,2            | 1,4            |
| MH5x38SS    | 22             | 16             | 32         | 6          | 0,2            | 2,2            |
| MH6,5x38SS  | 22             | 16             | 32         | 7          | 0,4            | 2,2            |
| MH6,5x50SS  | 22             | 28             | 32         | 7          | 0,4            | 2,2            |
| MH6,5x75SS  | 22             | 53             | 32         | 7          | 0,4            | 2,2            |
| MH6,5x100SS | 22             | 78             | 32         | 7          | 0,4            | 2,2            |
| MH10x50SS   | 45             | 5              | 55         | 12         | 1,2            | 5,2            |
| MH10x75SS   | 45             | 30             | 55         | 12         | 1,2            | 5,2            |



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Mechanical anchors

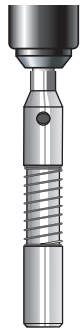


**Powers**

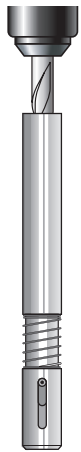


**FS forming Spike – zinc plated**

| Type     | Art. Nr. |     |      | L [mm] | d <sub>0</sub> [mm] |
|----------|----------|-----|------|--------|---------------------|
| FS5x38   | 03795    | 100 | 1000 | 38     | 5                   |
| FS5x50   | 03796    | 100 | 1000 | 50     | 5                   |
| FS5x70   | 03797    | 100 | 1000 | 70     | 5                   |
| FS6,5x70 | 03794    | 100 | 1000 | 70     | 6,5                 |



03790



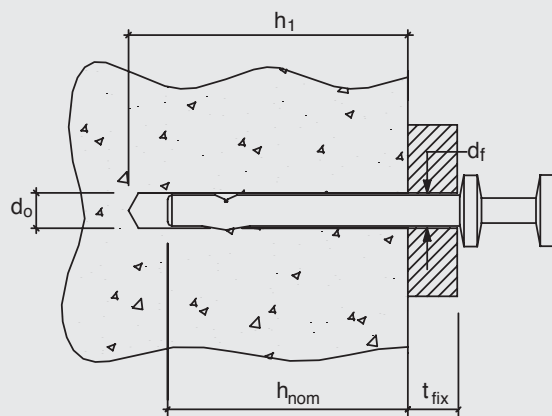
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**Spike setting tool**

| Type   | Art. Nr. |   |  |
|--------|----------|---|--|
| SD-SDS | 03790    | 1 |  |
| SD-CF  | 03791    | 1 |  |

Note: FS spikes can also be installed using a hammer





Recommended loads

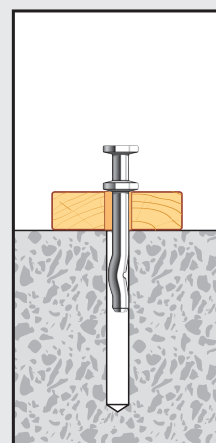
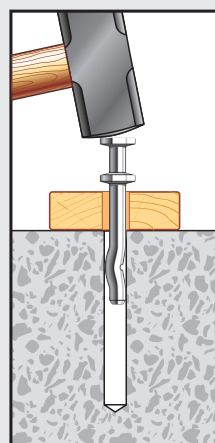
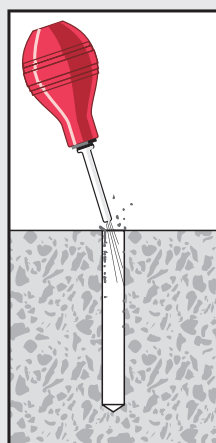
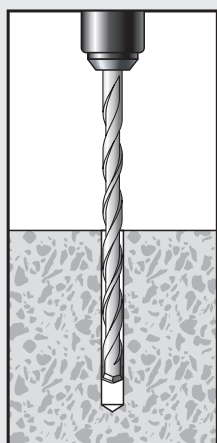
$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

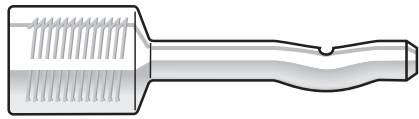
$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$



| Type     | $h_{nom}$ [mm] | $t_{fix}$ [mm] | $h_1$ [mm] | $d_f$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|----------|----------------|----------------|------------|------------|----------------|----------------|
| FS5x38   | 22             | 16             | 32         | 6          | 0,4            | 1,7            |
| FS5x50   | 22             | 28             | 32         | 6          | 0,4            | 1,7            |
| FS5x70   | 22             | 48             | 32         | 6          | 0,4            | 1,7            |
| FS6,5x70 | 22             | 48             | 32         | 7          | 0,4            | 2,7            |





PS pipe Spike – zinc plated

| Type         | Art. Nr. |     |      |        |     |                     |
|--------------|----------|-----|------|--------|-----|---------------------|
| Type         | Art. Nr. |     |      | L [mm] | M   | d <sub>0</sub> [mm] |
| PS5-M6x30    | 03755    | 100 | 1000 | 30     | M6  | 5                   |
| PS6,5-M8x40  | 03758    | 100 | 1000 | 40     | M8  | 6,5                 |
| PS6,5-M10x40 | 03766    | 100 | 1000 | 40     | M10 | 6,5                 |



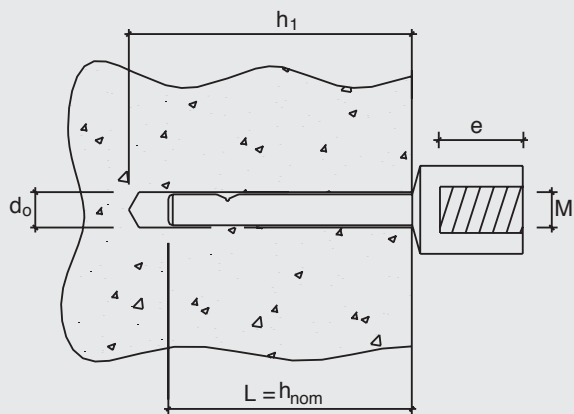
03760

Spike setting tool

| Type   | Art. Nr. |   |
|--------|----------|---|
| SD-CFP | 03760    | 1 |







Recommended loads

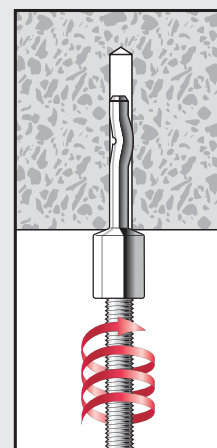
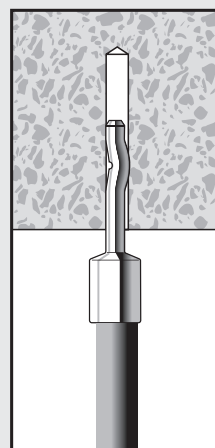
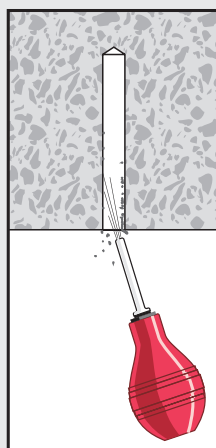
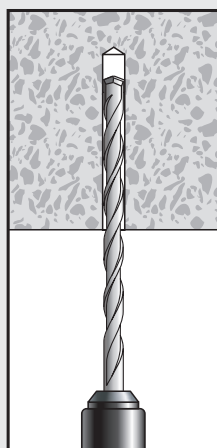
$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$

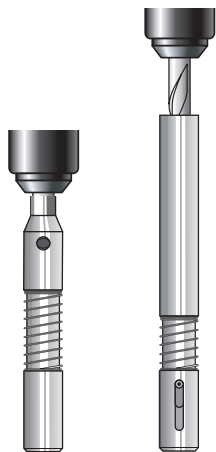


| Type         | $h_{nom}$ [mm] | $e$ [mm] | $h_1$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|--------------|----------------|----------|------------|----------------|----------------|
| PS5-M6x30    | 30             | 12       | 40         | 1,0            | 1,5            |
| PS6,5-M8x40  | 40             | 15       | 50         | 1,2            | 2,7            |
| PS6,5-M10x40 | 40             | 15       | 50         | 1,2            | 2,7            |





| CS countersunk Spike – zinc plated |          |     |      |        |                     |
|------------------------------------|----------|-----|------|--------|---------------------|
| Type                               | Art. Nr. |     |      |        |                     |
| Type                               | Art. Nr. |     |      | L [mm] | d <sub>0</sub> [mm] |
| CS5x65                             | 05608    | 100 | 1000 | 65     | 5                   |
| CS5x75                             | 05610    | 100 | 1000 | 75     | 5                   |
| CS5x100                            | 05612    | 100 | 1000 | 100    | 5                   |
| CS6,5x38                           | 05624    | 100 | 1000 | 38     | 6,5                 |
| CS6,5x50                           | 05626    | 100 | 1000 | 50     | 6,5                 |
| CS6,5x65                           | 05628    | 100 | 1000 | 65     | 6,5                 |
| CS6,5x75                           | 05630    | 100 | 1000 | 75     | 6,5                 |
| CS6,5x100                          | 05632    | 100 | 500  | 100    | 6,5                 |



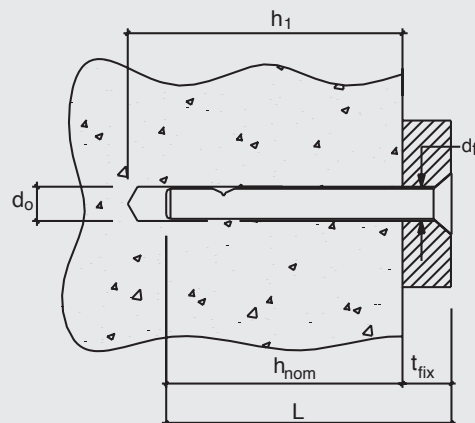
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| Spike setting tool |          |   |  |
|--------------------|----------|---|--|
| Type               | Art. Nr. |   |  |
| SD-SDS             | 03790    | 1 |  |
| SD-CF              | 03791    | 1 |  |

Note: CS spikes can also be installed using a hammer





Recommended loads

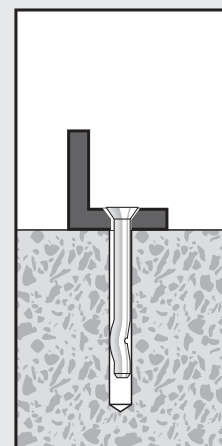
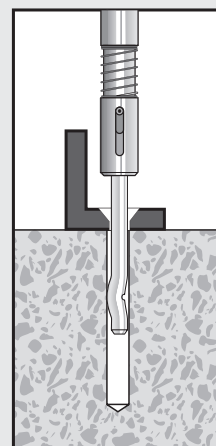
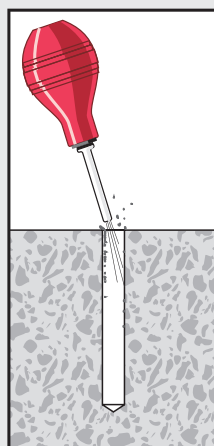
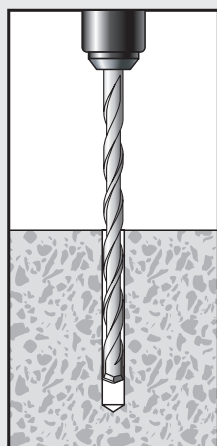
$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$



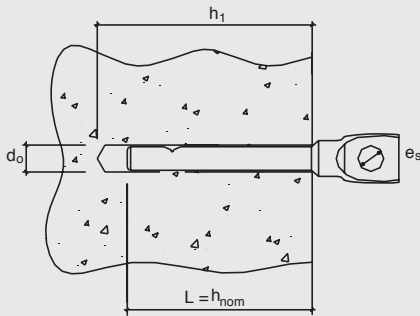
| Type      | $h_{nom}$ [mm] | $t_{fix}$ [mm] | $h_1$ [mm] | $d_f$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|-----------|----------------|----------------|------------|------------|----------------|----------------|
| CS5x65    | 32             | 33             | 45         | 6          | 0,9            | 1,7            |
| CS5x75    | 32             | 43             | 45         | 6          | 0,9            | 1,7            |
| CS5x100   | 32             | 68             | 45         | 6          | 0,9            | 1,7            |
| CS6,5x38  | 32             | 6              | 45         | 7          | 0,9            | 2,7            |
| CS6,5x50  | 32             | 18             | 45         | 7          | 0,9            | 2,7            |
| CS6,5x65  | 32             | 33             | 45         | 7          | 0,9            | 2,7            |
| CS6,5x75  | 32             | 43             | 45         | 7          | 0,9            | 2,7            |
| CS6,5x100 | 32             | 68             | 45         | 7          | 0,9            | 2,7            |





TWS tie wire Spike – zinc plated

| Type     | Art. Nr. |     |     |     |     |     |
|----------|----------|-----|-----|-----|-----|-----|
| Type     | Art. Nr. | 100 | 500 | 100 | 500 | 100 |
| TW5x30   | 03756    | 100 | 500 | 6   | 30  | 5   |
| TW6,5x30 | 03759    | 100 | 500 | 7   | 30  | 6,5 |



Recommended loads

$$\frac{N_{Rk}}{\gamma_M \cdot \gamma_F} = N_{rec}$$

$$\gamma_M = 2,1$$

$$\gamma_F = 1,4$$



| Type     | $h_{nom}$ [mm] | $h_1$ [mm] | $N_{rec}$ [kN] | $V_{rec}$ [kN] |
|----------|----------------|------------|----------------|----------------|
| TW5x30   | 30             | 40         | 0,8            | 1,7            |
| TW6,5x30 | 30             | 40         | 0,8            | 2,7            |

