

“LIFELINE POLE” FALL ARREST SYSTEM

TECHNICAL DOCUMENTATION AND ASSEMBLY MANUAL



1.0 TECHNICAL DOCUMENTATION, GENERAL DESCRIPTION OF THE FALL ARREST SYSTEM

The "Lifeline pole" fall arrest system is a steel construction consisting of a few basic elements

- FALL ARREST DEVICE "LIFELINE POLE "
- CONCRETE SWAMPED SOCKET
- FLOOR SOCKET
- SIDE SOCKET
- SOCKETS PLUMBING DEVICE
- SELF-LOCKING DEVICE 3.5 M
- SELF-LOCKING DEVICE 6 M

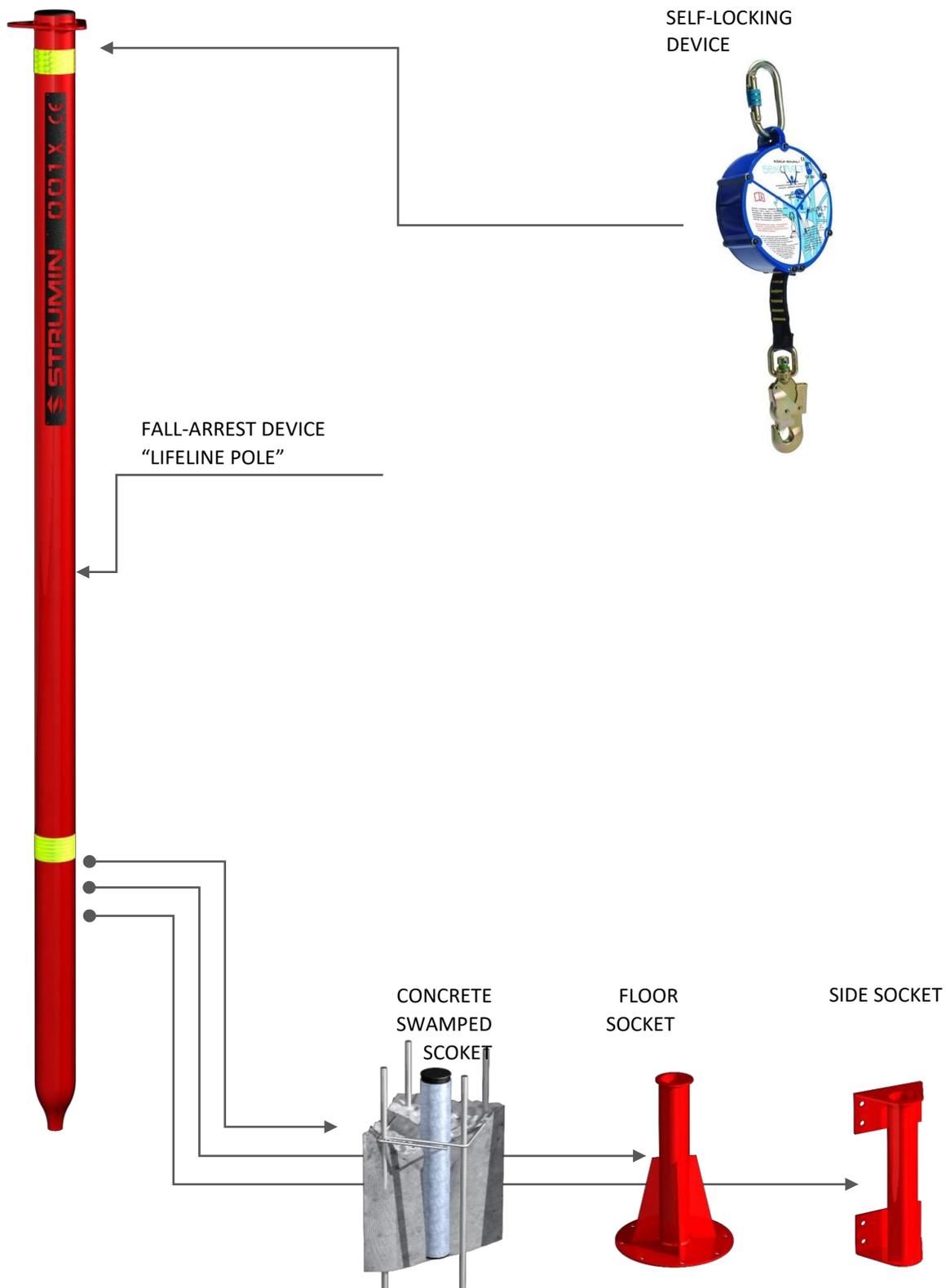
THE FALL ARREST SYSTEM is available in a few configurations which were presented below. THE LIFELINE POLE may work with different elements of the system, i.e. THE SOCKET.

The use of a given solution depends on individual conditions of the construction site.

The corrosion protection of the elements is provided by a system of lacquered layers.



1.1 THE CONSTRUCTION OF THE BASIC FALL ARREST SYSTEM.



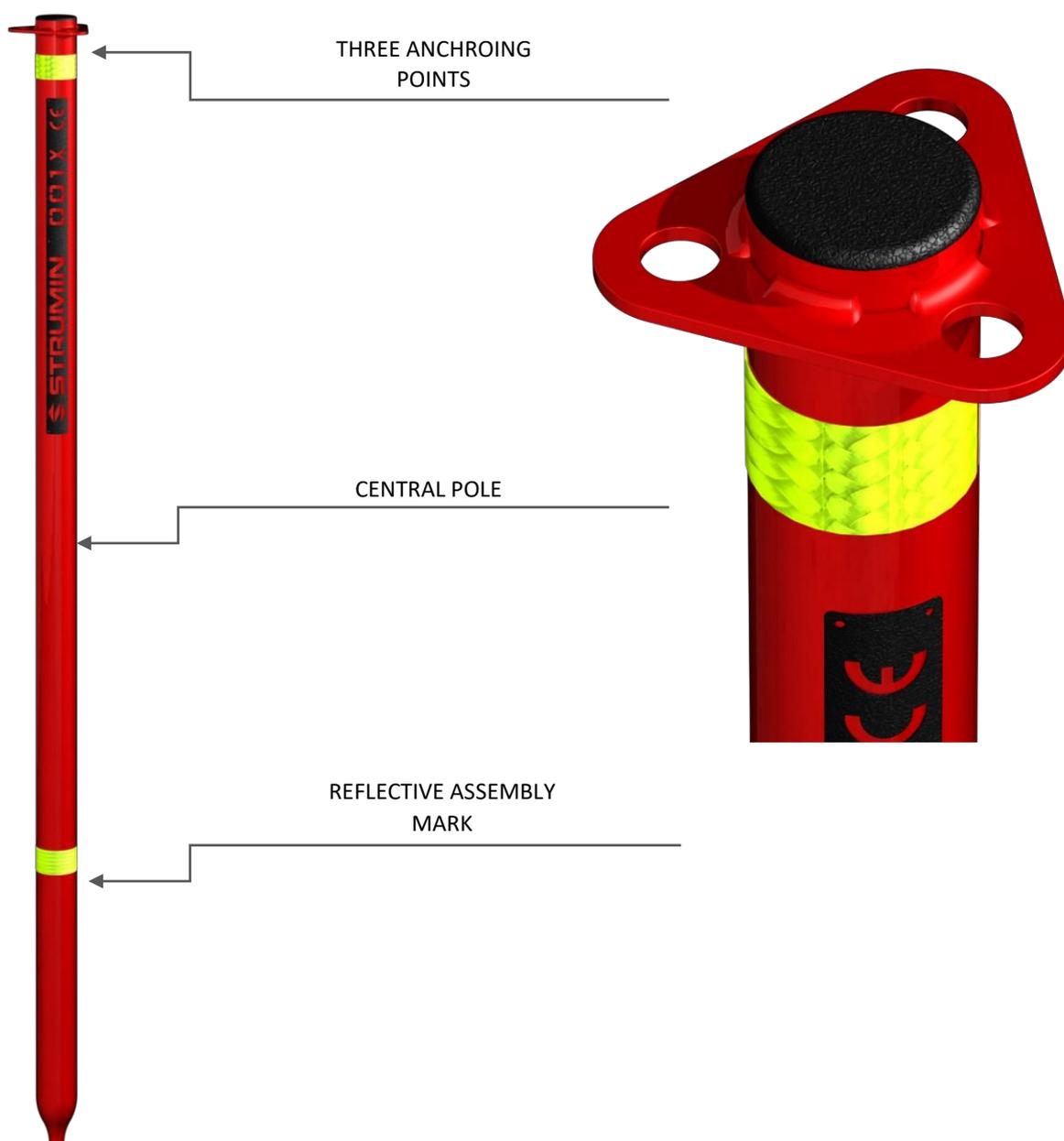
1.2 LIFELINE POLE

THE LIFELINE POLE is used to attach a lifeline (anchoring line) at the height from 159 to 210 cm. THE LIFELINE POLE was designed in accordance with the EN-795_2012E standard which requires the system elements to be not heavier than 25 kg.

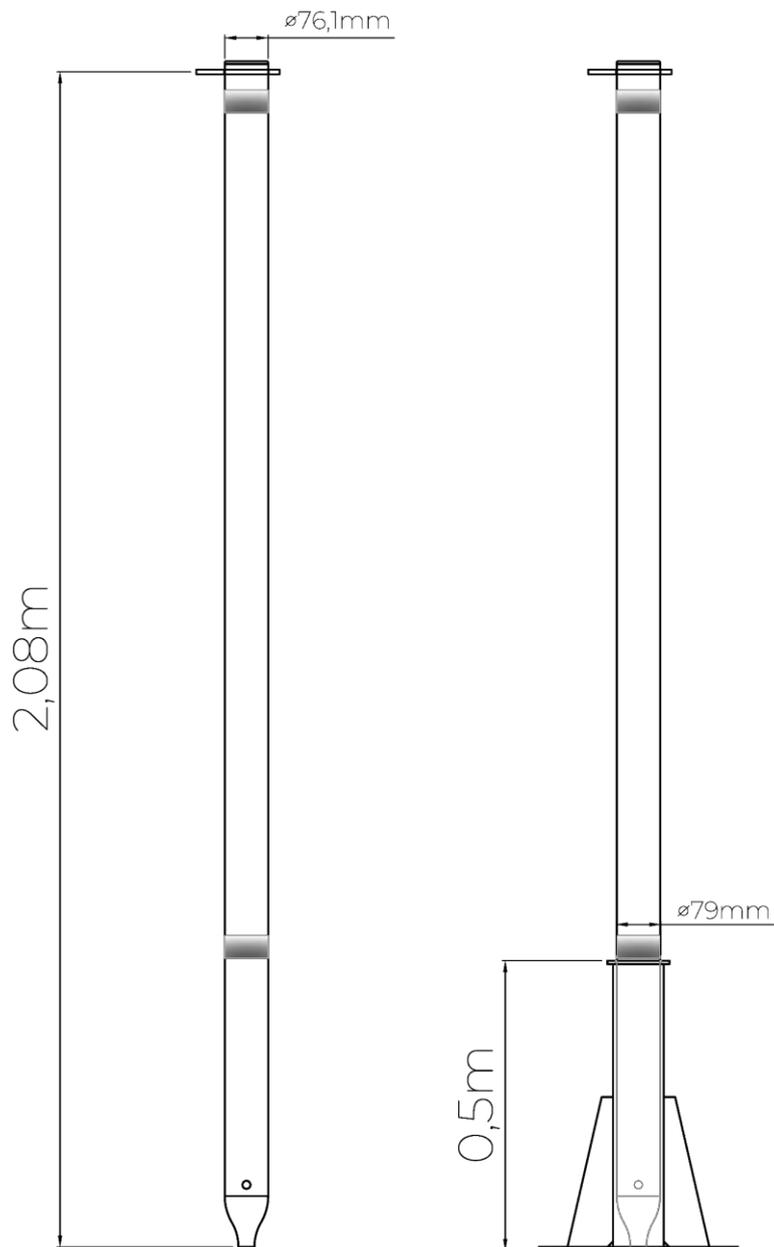
The modular construction of the system consists of separate parts and provides mobility and operating comfort while changing the place of performing constructional works.

THE LIFELINE POLE is a universal element which may be used in connection with other elements of the system, i.e. SIDE SOCKET, ANCHORED SOCKET, CONCRETE SWAMPED SOCKET.

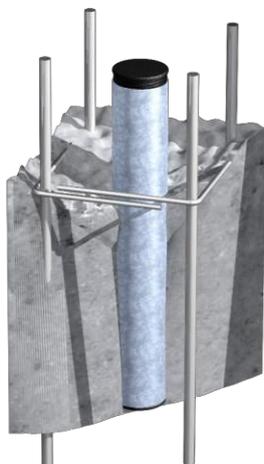
Material:.....	Lacquered constructional steel
Weight:	15 kg
Height:	2 m
Width:	0.15 m



LIFELINE POLE – MAIN DIMENSIONS



1.3 CONCRETE SWAMPED SOCKET.



The CONCRETE SWAMPED SOCKET during the concrete pouring process on a building's elements, i.e. floors, columns etc.

The distribution of sockets can be planned at the investment stage what makes it easier to take advantage of the system capabilities, i.e. the ease of transporting the FALL ARREST DEVICE.

The concrete swamped socket can be used in columns, walls and floors containing reinforcement (bars etc.) In order to provide sufficient strength for the socket, the concrete strength shall be assessed on the basis of the number of days since it was poured, the temperature and humidity. It is the site manager or another competent person's responsibility to determine the required strength.

Material:..... Crude steel

Weight..... 1,5 kg

Height:..... 0.5 m

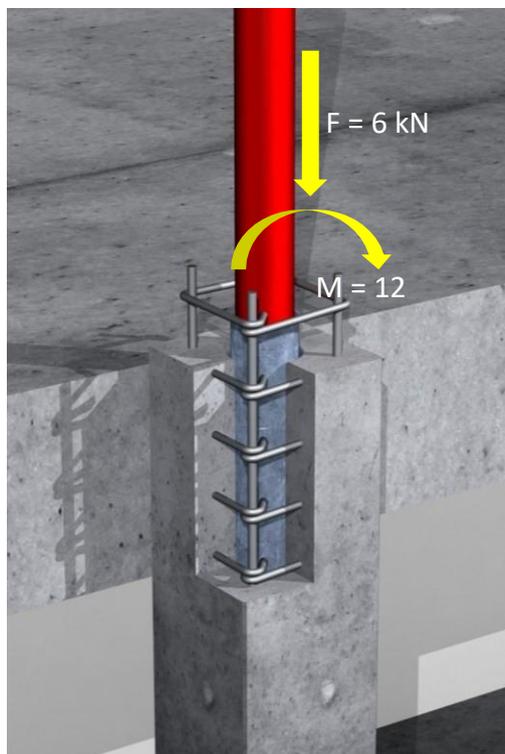
Diameter 89 mm

Works with:

Lifeline pole,

Sockets plumbing device.

1.3B STRENGTH PARAMETERS OF THE POLES TO THE CONCRETE SWAMPED SOCKETS



THE CONCRETE SWAMPED SOCKET is assembled in concrete and has to be able to bear loads resulting from the requirements of the EN-795:2012 standard which describe the method of assessing the static and dynamic loads of the gallows.

Those loads are 6 kN – axial thrust on the central pole of the gallows, and 12 kN – bending moment of the central pole.

Checking the load capacity of the anchoring point of the gallows or the lifeline pole is the sole responsibility of the site manager or the object constructor.

Strumin defines only the parameters of the forces At the anchoring point that appear during the operation of the gallows/lifeline pole and in case of an event which led to saving a worker from fall.

The technical parameters, i.e. the type and class of the reinforcement used in a given case and the type and class of the concrete used are unknown to the system's manufacturer and thus the possibility to use the system shall be verified by the site manager or the object constructor.



1.4 FLOOR SOCKET.



SOCKET anchored to the floor with the use of $\varnothing 12$ screws to concrete

The minimum required anchoring strength is: $Q = 10$ kN, the recommended depth is 120 mm.

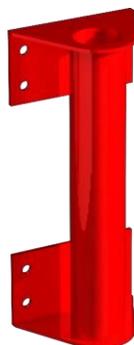
The socket demands using 8 screws.

Material:	Lacquered steel
Weight:	18 kg
Height:	0.5 m
Diameter:	0.35 m

Works with:
Lifeline pole,



1.5 SIDE SOCKET.



Is used to assembly the FALL ARREST DEVICE to side surfaces if there is no other way to assembly the steel foot to a horizontal surface or use the concrete swamped sockets.

The side socket is equipped with eight anchoring points. The minimum required anchoring strength is: $Q = 10$ kN, and the minimum anchoring depth is 100 mm.

Material: Lacquered constructional steel

Weight: 7 kg

Height 0.5 m

Width 0.22 m

Depth 0.17 m

Works with:

Lifeline pole,

Sockets plumbing device.

1.6 SOCKETS PLUMBING DEVICE.



Is an auxiliary device during the assembly of the CONCRETE SWAMPED SOCKETS, ANCHORED SOCKETS, SIDE SOCKETS.

It helps to place the sockets vertically during the concrete pouring process and facilitates the assembly.

Material: Lacquered steel

Weight 6 kg

Height: 0.9 m

Width: 0.08 m

Works with: Concrete

swamped socket, floor

socket, side socket.



1.7 SCREWS TO CONCRETE.



Characteristics:

- Self-tapping screws to concrete,
- Ø12 thread diameter,
- Ø10 mandrel diameter,
- Ø10 hole (drilled in concrete) diameter,
- galvanised,
- 100 mm length,
- Assembled with a screwdriver (key No. 15),

Works with:

Floor socket, side socket,



1.8 SELF-LOCKING DEVICE.



Characteristics:

- The self-locking device,
- The self-clamping device, with nylon tape 3.5 m, 6 m,
- Aluminium enclosure,
- 1 automatic revolving snap ring with a fall indicator,
- 1 steel snap ring, ref. No. 981. In

accordance with the EN 360 norm

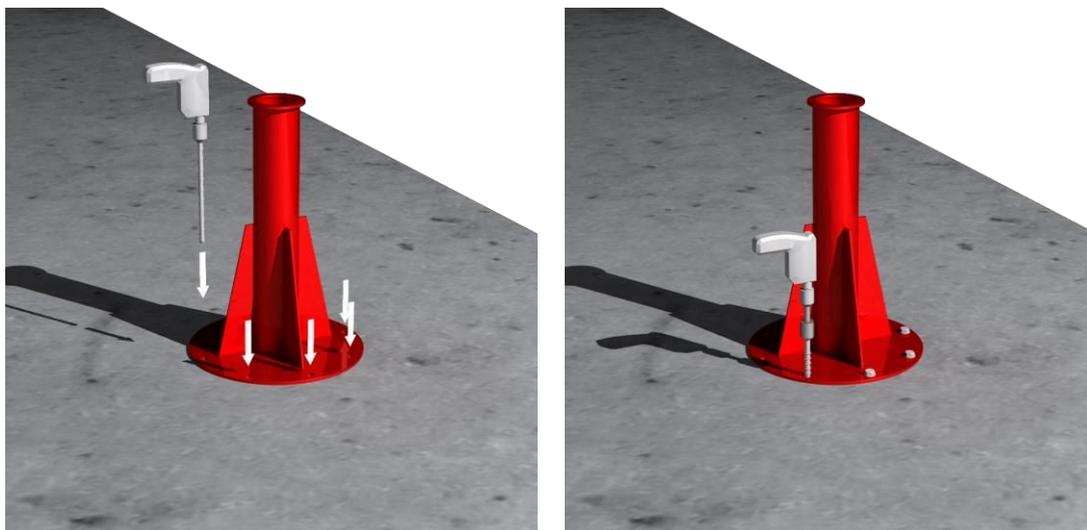
Works with:
 Lifeline pole,
 lifeline.



2.0 ASSEMBLY INSTRUCTION

2.1 SOCKETS ASSEMBLY INSTRUCTION

2.1.1 FLOOR SOCKET ASSEMBLY INSTRUCTION



The assembly of the floor socket is performed with eight screws to concrete HUS 10 × 100.

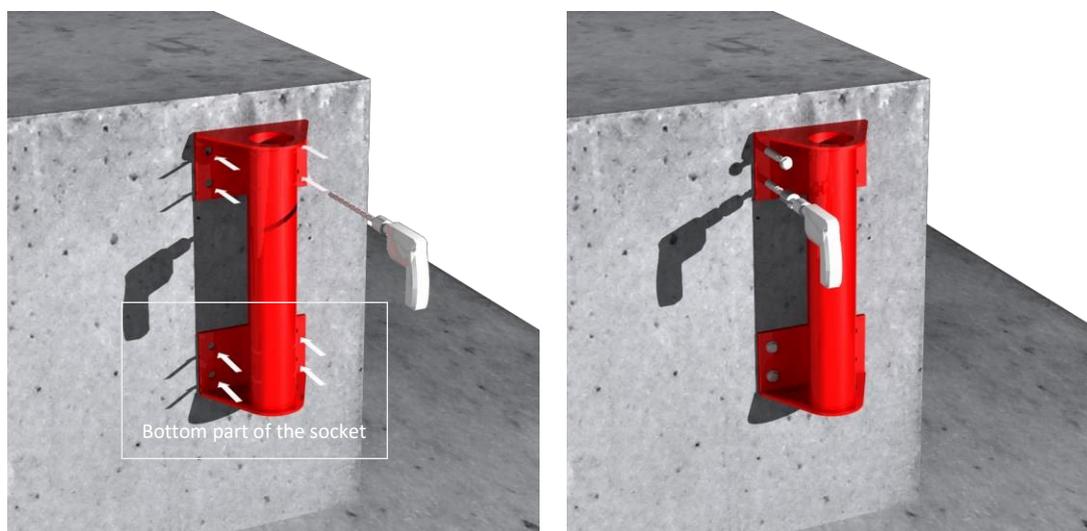
Ø10 and ~16 cm deep holes shall be drilled in the surface.

The surface where the drilling is performed shall provide minimum strength of Q=10 kN and the minimum depth shall be 10 cm.

Assembly the socket to the surface with screws using a screwdriver.



2.1.2 SIDE SOCKET ASSEMBLY INSTRUCTION



The assembly of the side socket is performed with the use of eight screws to concrete HUS 10 × 100.

Ø10 and ~16 cm deep holes shall be drilled in the surface.

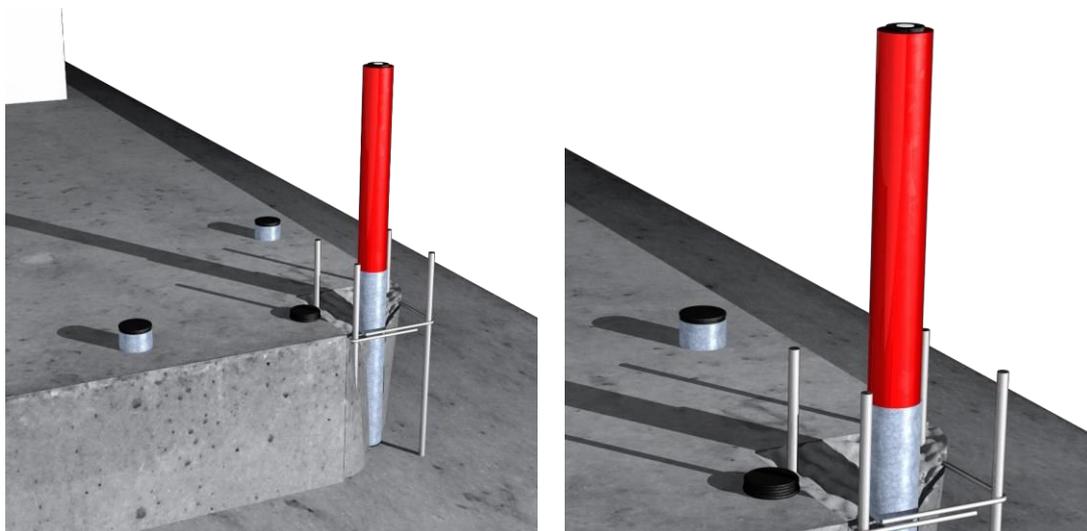
The surface where the drilling is performed shall provide minimum strength of Q=10 kN and the minimum depth shall be 10 cm. Assembly the socket to the surface with screws using a screwdriver.

The number of screws in the bottom part of the side socket is optional, the required number of screws is 2.

Additional holes are optional in case of problems with the assembly in the neighbouring hole (e.g. reinforcement bar).



2.1.3 CONCRETE SWAMPED SOCKET ASSEMBLY MANUAL



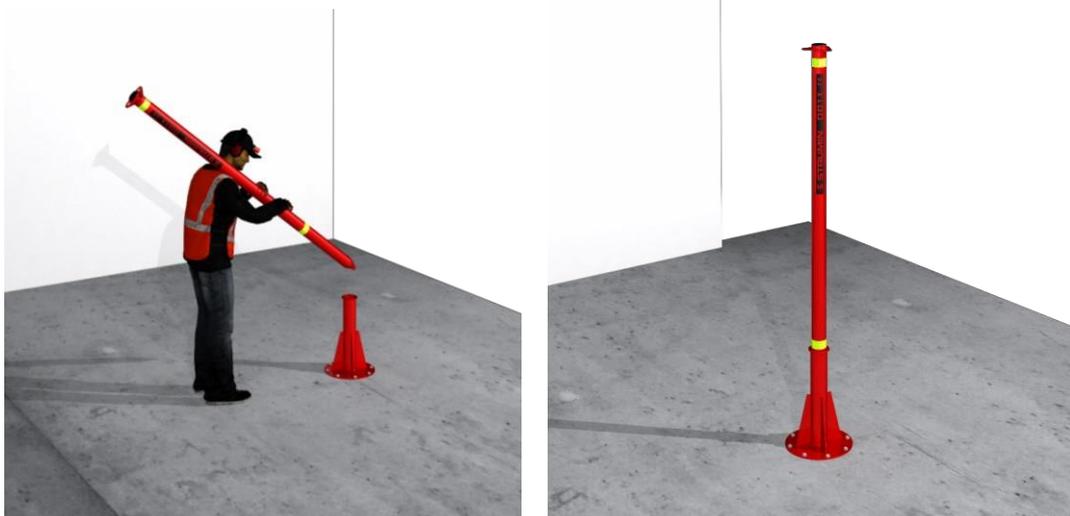
The assembly of the concrete swamped socket is performed with a plumbing device. The concrete swamped socket is assembled while works connected to pouring concrete on floors, posts etc. are performed.

The socket shall be positioned vertically (46 cm depth) and the total height of the socket is 50 cm. After finishing that operation, the socket shall be capped with the cap provided.

The cap protects the inside of the socket and secures it from mortar getting in (as well as other pollutants) that could prevent workers from using the socket.

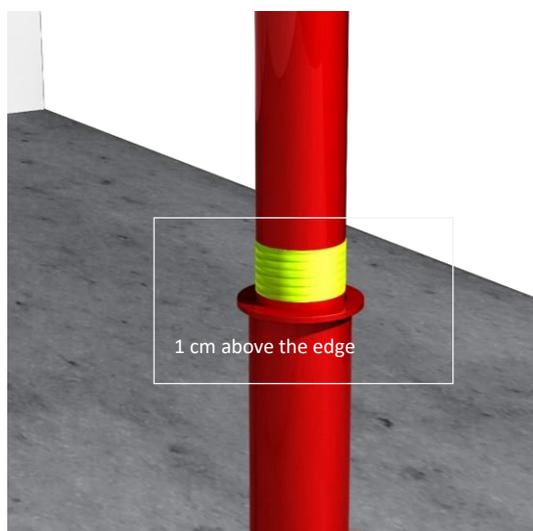


2.2 LIFELINE POLES ASSEMBLY MANUAL



To the previously assembled floor socket (or side socket or concrete swamped socket) shall be put the lifeline pole.

During the pole assembly in the socket, the workers shall check the depth of the assembly – the mark at the bottom of the pole shall be around 1 cm over the socket's upper edge.



2.3 GALLOWS DISASSEMBLY MANUAL

The disassembly of the lifeline pole is performed in the reversed order to the procedure described above (point 3.2).

