

Installation Instruction

1. Preparatory measures
2. Assembly Steps
3. Final control and tolerances

Preparatory measures

Installation of the foundation into the standard ground accordingly to the requirements of bridge design. The dimensions and reinforcements of the Foundation are chosen sufficiently to simulate the bridge construction. The strength of concrete is shown in the annex.

The anchors have to be fixed in the right position accordingly to the distances (1.50 meters) and other measurements in the drawings.



The foundation themselves is not matter of testing the restrain system but it has to be strong enough not to be destroyed during the crash. Usually the anchors will be installed by the contractor using the instruction given by the supplier of the restrain system.

2. Assembly steps

2.1 Mounting the Posts

First the M30 and M25 Nuts and washers have to be screwed on the threaded rods in the correct height.

Then the Post with his welded footplate will be mounted on top of the rods. The rods have to fit into the 4 holes of the Footplate.



After this the M30 and M24 nuts and washers have to be screwed hand tighten on top of the anchor rods.

All posts have to be installed first bevor mounting the horizontal elements.

2.2 Mounting the pipes (horizontal elements)

- The brackets have to be screwed to the posts. This can be also prepared before mounting the posts (f.e. in factory)
- The bottom Pipes to be screwed together with the brackets and posts
- The connecting pipes are placed depending on the lengths of the pipes and screw with M16 bolts.
- All screws hand tightened proofing the alinement.
- Placing the top pipe (handrail) in between the welded strap and screw hand tightened.



Final alinement of all elements.

3.0 Final control and tolerances

After the installation of the NBSM system the following check has been made:

3.1 Control of the right positioning of all elements.

3.2 Control of all bolts dimension and tighten moments

3.3 Control of Tolerances within the range:

- Post spacing in longitudinal direction (+/-) 10 cm
 - Top of beam – reference to height from ground level - (+/-) 5 cm
 - Post deviation from alignment (+/-) 3 cm an 12 m section
 - Beam deviation from alignment (+/-) 3 cm an 12 m section.
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