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Assembly instructions for installing tension rod systems

1. Application area

These instructions apply for PFEIFER tension rod systems made from non-alloy steel.

2. *Transport at the construction site*

For systems with a length of 6 meters or more, the tension rod system must be lifted using at least two round slings to avoid the risk of bending the system.

3. *Inspection before assembly*

Before installation, all tension rod systems must be thoroughly inspected for potential transport damage.

The following areas must particularly be checked:

- *Damage to the anticorrosion coating*
- *Damage to the screw threads*
- *Damage to components*

If damage is found in the anticorrosion coating, it must be rectified as soon as possible. Damage to the zinc coating must first be treated with zinc powder paint. The use of sprays containing zinc is not recommended. This is because the zinc content of a spray is much lower than in systems applied using a brush, while spraying also does not achieve the necessary coating thickness. Any additional coating can then be re-applied after this step.

Depending on the process used, there may be flaking or irregularities in the anticorrosion coating. These do not affect the durability of the system and are not considered defects.

4. *Assembly preparation*

Any screw threads must be cleaned and lubricated before assembly.

Damaged or dirty threads cannot be assembled, since this can cause the thread to jam and may render the tension rod system unusable.

5. *Adjusting the tension rod systems*

In order to make assembly easier, the PFEIFER tension rod system is delivered pre-assembled. The tension rod system can be adjusted to the necessary system length by twisting the rod. This is made possible by a right-hand and left-hand thread in the components.

When making this adjustment, be sure the system is oriented so that the pin can be inserted without tension. Especially for rods with larger diameters and longer systems, it may be necessary to lift the tension rod system slightly in order to allow for tension-free length adjustments. Hitting the pin with a hammer can damage the fork head and the pin itself, so this is not permitted!

The standard tension rod systems come without wrench flats; the components have wrench flats. As a rule, it is sufficient to smaller systems by hand; a strap wrench or chain pipe wrench can be used for larger systems. Pretensioning is generally not necessary.

If systems are ordered with a wrench flat, they can be adjusted using an open-ended wrench. Crescent wrenches (monkey wrenches) are also appropriate when used correctly.

Any chips around the wrench flats must also be treated with zinc powder paint after assembly.

Firmly tightening the counter nuts secures components such as fork heads and bushings. A strap wrench can also be used to tighten the counter nuts in larger systems.

6. *Minimum screw-in depth*

As part of the construction supervision, the minimum screw-in depth for all components must be checked using suitable measures. This check must be documented and logged by the responsible assembly supervisor. The minimum screw-in depth is 1.3 times the thread diameter, and is easy to check on site – if the thread for the rod is completely covered by the counter nut, the minimum screw-in depth is guaranteed. For connections not secured by a counter nut or threads with special lengths, suitable measures must be taken to check the minimum screw-in depth in individual cases.

7. *Corrosion protection*

If the galvanized surface of the system is damaged during installation, the affected areas must be properly repaired in order to guarantee the necessary level of corrosion protection.

8. *Threadlockers*

Threads on tension members must be secured against unwinding after adjustment (e. g. with locking nuts or gluing with bolt lock) unless otherwise specified. In particular bolts for security caps have to be glued. Loctite Threadlockers or similar products of other manufacturers can be used for this purpose. It is essential that the processing instructions (pre-treatment of surfaces to be bonded) of the respective manufacturers are considered.