Testing & Inspections of Latchways Systems

Installation and Commissioning of Horizontal Systems

For systems supplied in kit form by Latchways the swaged connection between the H-Xtenda or swaged termination and cable has been proof tested to 15 kN. Therefore, the system can be directly installed on to the structure without the need for proof testing on site provided the maximum predicted end load does not exceed 15 kN. If the predicted end load is greater than 15 kN then a proof test to the maximum predicted end load shall be carried out as described below.

For systems supplied as individual parts the swage connection will need to be completed on site using the recommended hexagonal dies with a minimum of 3 swage bites. The connection shall be proof tested to the maximum predicted end load before installation of the system. After swaging it is recommended that the across flats dimension is checked. The maximum across flats dimension is 11.2 mm. Any swages greater than 11.2 mm must be rejected. To test the swage connection fit the swaged component assembly to the Latchways recommended Hydrajaws swage tester. Earlier models of swage tester may require the use of a proof test tool or dummy Xtenda.

Apply the recommended test load and hold for 3 minutes, checking for any slippage of the cable. This will be indicated by the gauge not holding load and separation of the swage slip indicator (85025), if fitted, away from the end of the swage termination.

If any signs of slippage are detected the swage joint must be rejected and replaced.

For end anchors secured using resin / chemically fixed anchor bolts, the fixing shall be subjected to an axial pull test of 10kN. This load shall be held for 3 minutes. End anchor fixings not sustaining the test load must be rejected and replaced. For intermediate anchors using resin / chemically fixed anchor bolt(s), the fixing shall be subjected to an axial pull test of 6 kN. This load shall be held for 3 minutes. Intermediate anchors not sustaining the test load must be rejected and replaced.

For mechanically fixed end and intermediate anchors secured to structural steelwork the fixing bolts shall be subjected to a torque check to the recommended values. If the tightening torque value is not achieved the fixing bolts shall be replaced.

For end anchors secured using expansion anchor bolts the fixing shall be subjected to an axial pull test to 10 kN. This load shall be held for 3 minutes. For intermediate anchors secured using expansion anchor bolts the fixing shall be subjected to an axial pull test to 6 kN. This load shall be held for 3 minutes.

Check the surrounding structure at all anchor positions ensuring it is not damaged.

Check the system pre-tension by using the tenser disk arrangement situated at the end anchor assembly. The disk will rotate once the correct pre-tension is achieved.

Check for free passage of the Transfastener unit through the intermediate anchors. Adjust the alignment of the bracket to the Transfastener if necessary.

Check the system warning notice is fixed at the entry/exit position and states the criteria for use i.e. maximum number of users etc.

When all of the above checks have been successfully completed the test certificate can be issued. This should itemize all the checks carried out.

Annual Inspection of Installed Horizontal Systems

Before connecting to the system read the statutory information contained in the site's O & M manual and carry out a visual inspection. The following checks shall be made.

- Check that end anchors are securely attached to the structure and are in good condition. Inspect the surrounding structure at end anchor positions ensuring it is not damaged. Check the torque setting of the fixings; refer to the torque values specified in the installation instructions / data sheets.
- Check for deployment of the H-Xtenda shock absorber. This may be indicated by excessively slack cable and exposure of the H-Xtenda shaft.
- Check the cable pre-tension by turning the tension indicator disk. Adjust if necessary.
- Where practicable check that the cable is securely fixed to the end anchors, fitted through the intermediate anchor brackets and the cable is not fouling the structure.
- Check that the system warning notice is present stating the limitations of use.
- If there is any doubt regarding the condition of the system alternative safe access methods shall be used to inspect and correct system defects.
- Detailed Visual Inspection after Connecting to the System

Following completion of the above checks connect to the system using the Transfastener device.

- Check that all intermediate anchors are securely attached to the structure and are in good condition. Inspect the surrounding structure at intermediate anchor positions ensuring it is not damaged. Check the torque setting of the fixings; refer to the torque values specified in the installation instructions / data sheets.
- Check the swage slip indicator meets the swage termination of the H-Xtenda or swaged termination. If there is any doubt that the gap between the swage slip indicator and swage housing has increased withdraw the system from service. Contact Latchways for advice. Note: for systems that do not have swage slip indicators fitted or are not being inspected by the original installer it is recommended that the swage joint be proof tested to the maximum predicted end load as previously described. Any joint not holding load shall be rejected and replaced.
- Check the cable is clear of the structure and does not foul any protruding steelwork. Check for signs of wear to the cable paying particular attention to the intermediate supports and corner brackets.
- Ensure the Transfastener device passes smoothly through the intermediate and corner brackets.
- Inspect the H-Xtenda for deployment this will be indicated by exposure of the shaft, loose tenser disk and excessively slack cable.
- Check the clevis bolt connecting the cable termination to the end anchor is in good condition and the clevis pin is secured in position by the split pin. Also check that splits are securely fitted to the turnbuckle and entry terminal
- Check that the entry gate is correctly fitted to the entry terminal.

Following successful completion of the above checks the system can be re-certified by recording the inspection checks carried out and updating the system warning notice. The system certification can be issued.

Inspection of Fall Arrest Devices

The following checks should be carried out annually to ensure the Transfastener device remains in a safe operational condition.

- Check the starwheels are freely rotating and fully engaged to the slipper for all types of Transfasteners. Refer to data sheet 85080-97 for detailed inspection instructions.
- Check for free operation of the cover gate for the Removable Transfastener. Refer to data sheet 85085-97 for detailed inspection instructions.
- Check for any signs of damage to the external features (all devices).

Following successful completion of the above checks the device can be re-certified by recording the inspection checks carried out and logging the unique serial number for the device.

If there is any doubt about the condition of the fall arrest device it must be withdrawn from service and returned for servicing or replacement.

If the device has arrested a fall it must be withdrawn from service and be replaced.

Additional Information

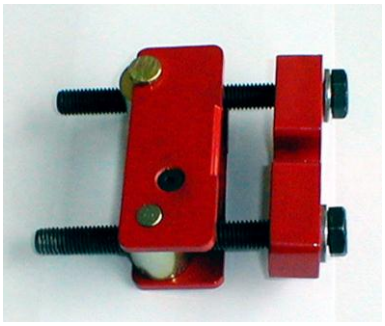
- For detailed product information refer to component part data sheets.
- For systems exposed to high wind locations or subjected to vibration from external sources contact Latchways for advice.
- The Latchways horizontal fall arrest system has been tested to and complies with BS EN 795. The information in this document is pertinent to horizontal cable systems BS EN 795 and BS EN 365.
- The following equipment is required when proof loading the swaged connection.

The complete Latchways recommended Hydrajaws proof testing kit including accessories for; Swage proof testing, Eyebolt testing, & assorted attachments for individual anchor testing.

Other accessories for use with earlier models of proof testing equipment.

Back-to-Back Dummy Xtenda

Dummy Xtenda



Proof Test Tool

Early Model Swage Test Kit