

Safety Recommendations for ITH Hydraulic Tensioning Devices

1. Background

Bent high pressure hoses are significantly stressed at the fittings. If they are bent at too tight a radius, and/or are incorrectly handled, the bending stresses could lead to failure of the fitting or the hose. In case of failure, the stored energy will be released immediately with potential for damage and injury.

The high pressure hoses suitable for bolt tensioning cylinders rated for up to 150MPa, used to be red. These hoses have an overall working lifetime of 5 years, including periods of storage without pressurization (working or test pressure) limited to a maximum of 2 years.

2. High Pressure Hose with Support Spring

For the bolt tensioning cylinders rated for up to 150 MPa a new high-pressure hose (blue) was developed. The newly designed blue hoses are equipped with a support spring for energy absorption in case of a failure and to help reduce bending stresses at the fitting.



ITH-High Pressure Hose 150 MPa with Support Spring

3. Recommendation

ITH recommends replacing all red hoses, currently being used on the 150 MPa tensioning equipment, with the improved blue hoses that have the support spring and increased pressure margin. The blue hoses are designed for an overall working lifetime of 6 years, including periods of storage without pressurization (working or test pressure) limited to a maximum of 2 years. In addition we strongly recommend following the safety instructions during all work with hydraulic tools.

Attachment.: Safety Precautions for ITH High Pressure Hoses