

# Hose Strings and Delivery Hoses

## Operating Manual

### Storage, Installation, Operation and Maintenance

#### Introduction

Hoses for the transport of fluids, dredging materials, bulk goods or similar are categorized as high-pressured components and are therefore subject to the Pressure Equipment Directive 2014/68/EU once the fittings are installed.

For this reason, an assessment procedure must be carried out (according to the Pressure Equipment Directive 2014/68/EU) for categorization of the hoses in order to implement these requirements.

#### Transport

- ⚠ Lifting of the hoses must be conducted in a safe and appropriate manner. Unsafe and inappropriate lifting procedures may cause irreparable damage to the hose.
- ⚠ Similarly, during transportation, the hoses should not be subjected to kinking or excessive bending. Correct transportation must be used.
- ⚠ Forklifts are only to be used if the hoses are suitably packed prior to transport.



#### Storage

- ⚠ Hoses should be stored in a cool, dry and dust-free environment. The storage should be away from direct sun-light to protect the hose from UV-radiation. Exposure to external heat sources, electrical equipment, ozone etc. should be avoided.
- ⚠ Contact of the hoses with certain materials that may cause physical damage or property changes is strictly prohibited. Application of paints, oils, greases etc. to the hose is also prohibited.
- ⚠ Storage should guarantee that transport hoses are in a natural state, as well as ensuring they are as tension-free, kink-free and relaxed as possible. For reeling and curved hoses, the minimum bend radius of the hoses as specified by the manufacturers should not be exceeded.
- ⚠ Hoses that are to be delivered on pallets or in shipping containers are allowed to be stored in the same condition as they are delivered in.
- ⚠ The storage area should be clean and free from any sharp-edged objects. Hoses may only be stacked on top of one another upon approval from the manufacturer and with correct packing measures.
- ⚠ Damage to the hoses due to incorrect or excessive storage is not permitted.

#### Installation

- ⚠ Hoses must be inspected for any damages prior to installation.  
**Damaged hoses must be approved for use by the manufacturer prior to installation and operation!**
- ⚠ The use of sharp-edged tools or fasteners is not permitted.
- ⚠ Prior to every installation, the sealing areas of the flanges must be clean and free of damage.
- ⚠ The installation may only be carried out by suitably qualified and/or trained personnel.
- ⚠ A reduction of the minimum bend radius or permitted kinking during installation can only be performed if approved by the manufacturer
- ⚠ A conductivity check for electrically continuous hoses are recommended to be performed prior to every installation
- ⚠ Torsion of the delivery hoses are only permitted within the specified range
- ⚠ The appropriate torques and tools should be used when performing the tightening of the fasteners. Cross-wise tightening of the fasteners is recommended.
- ⚠ The hoses must be covered and protected appropriately whenever welding and flame cutting work are being performed in the vicinity.

## Operation

**!! The use of a damaged hose in service can cause injury or even death and also may cause severe damage to products!!**

- 👉 The allowable operating pressure must not be exceeded.
- 👉 The allowable operating temperature must not be raised or lowered.
- 👉 Hoses must only be operated with the approved tools and contain the approved products.
- 👉 Application of the hose must be according to the specification.
- 👉 Inner liner thickness shall be maintained at a minimum of 5mm to prevent damages to the load carrying structural components.
- 👉 Additional external loads (e.g. axial loading) is not considered unless specified by the customer and confirmed by the manufacturer.

A regular visual inspection for damages to the hose lining is recommended when the hoses are transporting abrasive materials. If the hose has been equipped with wear indicator layers, operation is not permitted once the abrasion reaches the outermost sealing layer. The hose life can be extended by performing regular rotation of the hose throughout its service life.

Hoses are to be protected from heat, chafing, torsion and buckling. The minimum bend radius must be considered.

- 👉 Hoses are to be inspected before each use and also when the system is idle.
- 👉 The tightening torques of the fastening equipment must be checked regularly
- 👉 Blisters, cracks, cuts or bulges on the hose are not permitted and are deemed as a failure.
- 👉 Leaks on either the hoses or the connections are not permitted.

## Maintenance and Repair

The hose body do not require any maintenance or special care. The technical duty of care lies with the operator and must be conducted through regular visual inspection and functional testing.

Inner liner thickness shall be maintained at a minimum of 5mm to prevent damages to the load carrying structural components.

## Contacts

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