

Storage

Oil & Marine Hoses

2014

Storage

Hose temporary storage

➤ Keep the hoses in their original packing. If the hoses are delivered in containers and exposed to direct sunlight, ensure a ventilation of the containers to avoid reaching excessive temperatures.
If the hoses cannot be left into their original packing, then a temporary storage area should be considered (see Figure 1).

Outdoor storage area shall be an area for that purpose, i.e. free from traffic and work in progress.

This area shall be flat, stable and free from sharp or protruding objects dangerous to the hoses.

- Keep the initial packing : polyethylene film and wooden caps as a protection against U
- Keep in mind the setting up procedure to make the various stacking layers and various lots
- Because often, the available space is limited we authorize a stacking
 - On 2 layers without planks
 - On 5 layers with mandatory intermediate wooden planks between each
- Leave nylon slings in place for next handlings



Figure 1 - Hoses stacking on 2 layers

Long term storage (spare parts)

Before long term storage

Hoses are delivered with:

- White polyethylene film wrapped on the hose
- Wooden cap at both ends.
- Grease and caps into all studed flange holes.

Hoses to be stored shall be visually examined to be sure that no damage occurred during transport prior to final storage.

Storage Oil & Marine Hoses

2014

Prior to long term storage, it is recommended to remove all the end protections to check that no hose gasket has been damaged during the handlings and all the caps are in place for the protection of the studed holes. After this operation, protections at both ends shall be put back.

👉 Hose type and serial number will be recorded for future tracking.

Do not stick staples / screw / nails on the wooden caps

Stacking for long term storage

When steel pallets are available, make sure that each hose is laid out straight and the lower pallet legs are properly positioned into the upper pallet feet (see Figure 2). The stack can be secured through each pallet lifting lugs to avoid any displacement.

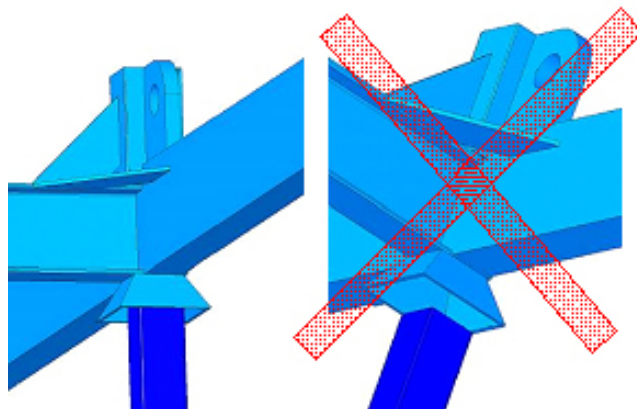


Figure 2 – Pallet feet positioning

Make sure that the number of layers on which the pallets are stacked is well below the load admissible by one pallet.



Figure 3 – Example of pallets stacked on 3 layers

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2014

Pallets shall be in good conditions without steel edges which could be dangerous for the hoses.

When steel pallets are not available, the hoses shall be put on 6 wooden planks (width 400mm minimum and covered by a thick sheet of foam) regularly distributed along the hoses length and the following instructions shall be respected :

- Stacking on 2 layers at the maximum.
- Intermediate wooden blanks between each layer are not mandatory
- Wooden wedges shall be used to avoid rolling of the hoses
- Nylon slings shall be left in place for next handlings
- No other equipment shall be stacked on the top of the hoses



Figure 4 – Hoses stacking on 2 layers

Routine inspection

A visual inspection shall be done at least every six months to make sure that the hoses external protections are not damaged.

Each finding/observation will be recorded and linked to the serial number of the concerned hose.

This first inspection will permit to establish an inventory of the stored spare parts which will be completed with potentials observations made during future inspections.

It will contain at least:

- The quantity of each type of hoses stored, the serial number of each hose, the date of storage and initial packing, and any findings / observations
- The date of any subsequent inspections with findings / observations and if a hose has been repacked

Storage Oil & Marine Hoses

2014

Storage conditions

Temperature

Ambient temperature during long storage shall be as much as possible constant and below 25 °C for 20 years storage, and hoses shall be stored away from direct sources of heat such as boiler, radiators and direct sunlight.

Humidity

The relative humidity shall be such that, given the variations of temperature in storage, condensation does not occur. In any case the relative humidity shall remain under 70%.

Light

Hoses must be protected from light sources, in particular direct sunlight or intense artificial light having a high UV content. This is ensured by the white PE film in which the hoses are wrapped and which acts as a protection against UV. If a repacking is necessary, only use the dedicated PE film supplied by Trelleborg. Never use PVC film for hoses repacking.

Ozone

As ozone is particularly deleterious to rubber, the storage room shall not contain any equipment that is capable of generating ozone, such as mercury vapour lamp or high voltage electrical equipment giving rise to electric sparks or silent electrical discharges...

Combustion gases or organic vapour shall be excluded from storage area as they may give ozone via photochemical processes.

Strains

The hoses must be free of any strain during storage.

Contact

Rubber shall not be in contact with liquid material. Certain metals (in particular copper and manganese) are known to have deleterious effects on rubbers, so hoses must be stored free of any contact with any piece of metal. PVC films are prohibited for repacking, prefer Trelleborg PE film.

Electric and magnetic fields

Hoses shall be stored away from equipment that may generate electric or magnetic fields, as variation/fluctuations in such fields could induce current in metallic parts of the hose, which in turn could generate heat.

Rodent

Necessary precautions shall be taken to guarantee that no rodent can enter the storage area.

Lifting device

Considering long duration of exposition, a fork lift, or any equipment, powered by a combustion engine used for hoses handling in the storage area is a pollution source for rubber.

While it generates ozone, its exhaust gases contain also non burned fuel able to condensate on the hoses which is deleterious for the rubber of the external cover.