

LOGSTOR Handbook for Hauliers



Introduction

Correct handling and transport is an important part of LOGSTOR's quality system. Therefore, please handle our products with care.

In this handbook you will find a short description of the safe and correct handling of our products to ensure that the goods are not damaged during transport and handling.

In general

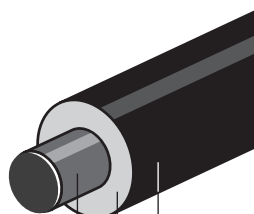
It is important to make sure that the pipes are not damaged during transport and handling.

Defects may cause leaks. In particular, when it comes to jacket ends, where the joint must be totally waterproof.

Contents

Introduction	1
Product information	2
Loading and delivery	3
Unloading pipes in bundles	4
Other instructions for unloading	5
Tables for unloading with crane ...	6 + 7
Safety	8
Unloading with forklift	9
Unloading coils and accessories	10
Unloading containers	11
Returns	12
Storage	13
Contact details	14

What is a pre-insulated pipe?



Carrier pipe:
Steel, plastic (PEX) or copper

Insulation:
Polyurethane foam (PUR)

Jacket:
Polyethylene (PE), black or white

The pipe dimensions are indicated as follows:
76,1 mm / 140 mm

The dimension to the left of the oblique stroke indicates the outside diameter of the inner pipe (carrier pipe), whereas the dimension to the right of the oblique stroke indicates the outside diameter of the outer pipe (jacket).

Product information

Handbook for hauliers

2

LOGSTOR produces 4 standard pipe systems for district heating:

- Bonded system with carrier pipe in steel.
- SteelFlex flexible system with carrier pipe in steel.
- PexFlex flexible system with carrier pipe in PEX.
- CuFlex flexible system with soft copper.

Bonded system

The bonded pipe system is supplied as straight pipes, fittings and joints.

Flexible systems

PexFlex, CuFlex and Flextra are supplied as straight pipes, pipes in coils, fittings and joints.

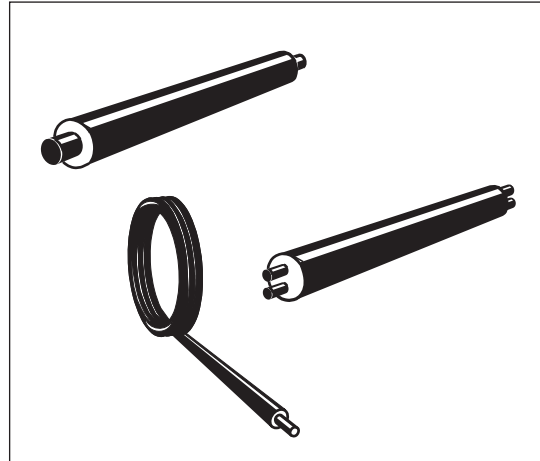
SteelFlex is supplied as pipes in coils, fittings and joints.

Pipes

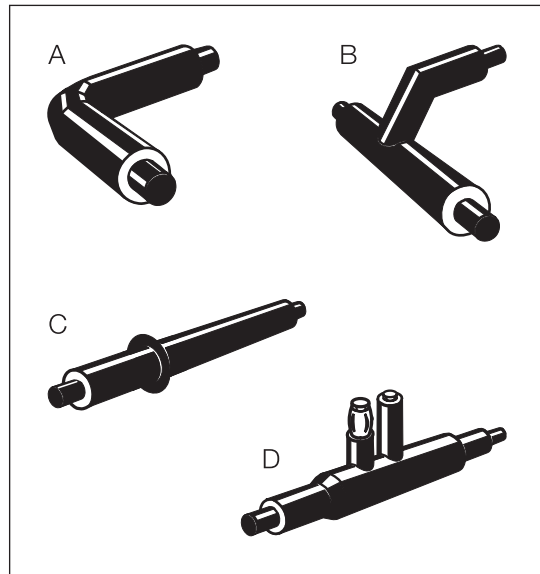
Straight pipes are available in 6, 12, 16 and 18 m or fixed lengths.

Pipes in coils are supplied in lengths of 10-1000 m dependent on the type and dimension of the pipe.

Examples of pipes



Examples of fittings



A: Elbow 90°

B: T-joint

C: Anchor

D: Ball valve

Loading and delivery

10 golden rules for hauliers

- 1 Check the information of the freight bill including time of delivery.
- 2 Notification is very important for customers. Consequently, the customer must always be notified min. 1 hour before arrival, unless delivery is in the morning e.g. 7 a.m. In case of delay the customer must be notified immediately.
- 3 If damages or shortages are found when unloading, LOGSTOR must be informed immediately.
- 4 Handle the products properly and never throw them off the lorry trailer.
- 5 Check the goods and compare them with the specifications on the delivery note.
- 6 Remember readable signature by the customer on the freight bill (if necessary, ask the recipient's name and write it down, if the signature is illegible).
- 7 Always have correct/adequate equipment in the lorry, minimum 12 straps as well as hooks and strapping tools.
- 8 Wooden supports must be returned to LOGSTOR. They are not to be thrown off the lorry trailer.
- 9 Returns must only be transported according to agreement and a return order. The goods must be labelled with a return order number.
(for additional information see page 9)
- 10 The customer is ALWAYS right.
Do not argue with the customer.
In case of doubt contact LOGSTOR.

Delivery

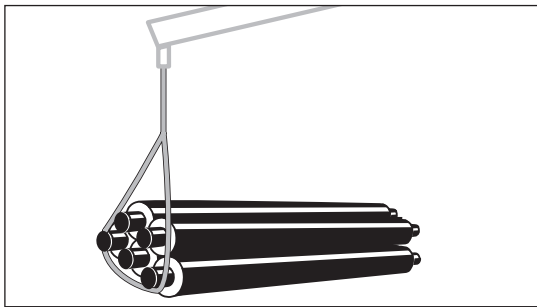
Delivery is normally effected by lorry, if the roads are solid.

As a rule a representative of the consignee will be present at the unloading of the pipes in order to give instructions as to where to place the pipes, assist with the unloading, and sign for the receipt of the products.

However, there may be deliveries where the recipient is not presented. In these cases the products are unloaded without a signature for the receipt. If possible take a photo, when unloading has been completed, as it may be used as documentatin towards the customer in case of a later dispute.

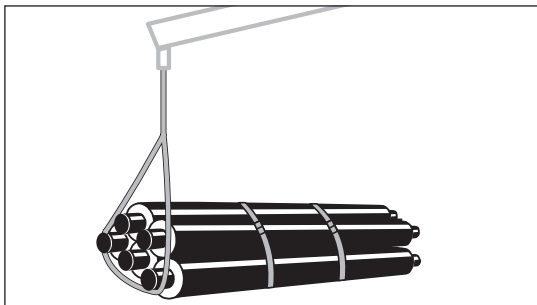
Unloading pipes in bundles

Pipe in dimensions from Ø90 to Ø280 may be lifted in bundles. (See tables on pages 6-7)
Use wide nylon straps or the like – never chains.

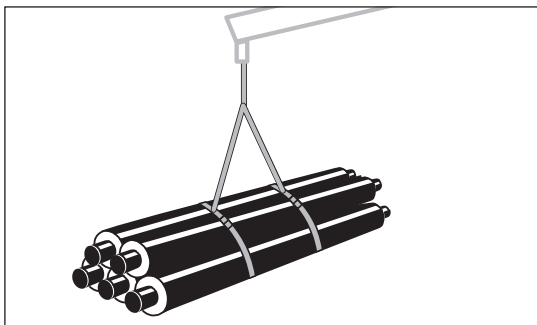


Procedure for unloading pipes in bundles:

Place a strap around the free ends and lift the pipes at one end, making it possible to place straps around the middle of the pipes. If there are various dimensions in a bundle, it is important that the largest dimensions are placed outmost to prevent the pipes from curving.



Place 2 straps around the middle of the pipe bundle approx. 4 m from each pipe end.
Now lower the pipes again onto the lorry.



The pipe bundle is lifted off the lorry trailer by means of the straps.

Please note! All pipes in outer casing dimensions
Ø 90-125 mm and all pipes with steel service pipe dimension \leq Ø 48 mm must be lifted off the lorry trailer by means of the straps as illustrated.

Other instructions for unloading

Hooking, strapping and unloading with crane

For pipe loads with a height of over 1.2 m from the bottom of the trailer hooking/strapping must take place from a non-slip ladder. At the front end the "ladder" of the trailer can be used. Please ensure that the ladder is stable, when hooking/strapping at the rear end of the trailer.

It is the responsibility of the crane operator to arrange with the assistants what their jobs are during unloading.

Likewise, the crane operator is responsible for ensuring that all persons are at a proper distance to the lorry before unloading with the crane commences.

It is not permitted to remove hooks or straps, before the pipe is on the ground.

Always assess the actual conditions, including the weather, slippery surfaces, strong winds, poor visibility or the use of other machines in the same area.

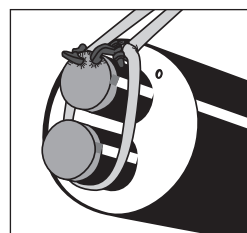
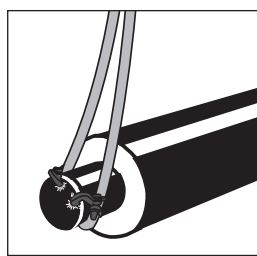
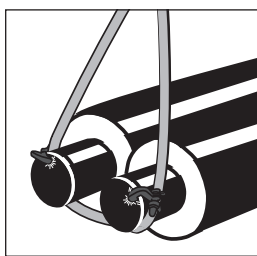
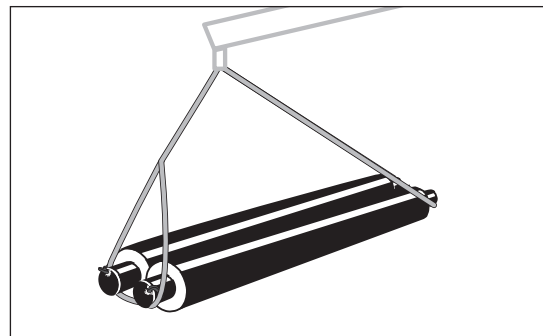
Watch out for persons, live cables, trees and other relevant things when unloading.

Unloading 1 or 2 pipes at a time

If 1 or 2 pipes are unloaded at a time, it is recommended to use hooks (see tables on the next pages).

When unloading one pipe at a time, both hooks must be placed on the pipe.

Important: Do not lift directly by means of the hooks. These are only applied to prevent the straps from getting in contact with the jacket pipe, because that may deform or damage the jacket pipe.



As for 12 m pipes the straps can alternatively be placed as appears from below illustrations. The straps are placed on the outmost third of the pipe end. It is vital to ensure that the straps do not get in contact with the jacket.

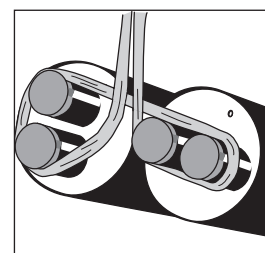
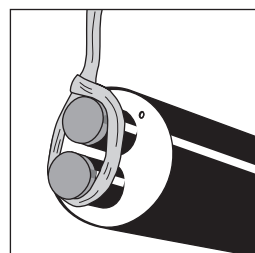


Table for unloading with crane

From below table the maximum number of pipes to be lifted at a time appears.

Min. length of straps used for unloading:

6 m pipes: min. 6 m straps.

12 m pipes: min. 9 m straps.

16 m pipes min. 11 m straps.

Single pipes				
Outside jacket diameter	12 m pipe		16 m pipe	
	Max no. of pipes per lift	Weigth per pipe	Max no. of pipes per lift	Weigth per pipe
90	Unloading in bundles of max 3 tons. Straps around the middle*	38		
110		54		
125		71		
140		87		
160		110		
180		150		
200		182	Unloading in bundles of max 3 tons. Straps around the middle*	212
225		238		258
250		250		334
280		268		357
315	2-3	368	2-3	490
355	2-3	397	2-3	529
400	2	525	2	700
450	2	678	2	904
500	2	765	2	1020
560	2	969	2	1291
630	1	1120	1	1492
710	1	1288	1	1718
800	1	1679	1	2239
900	1	2157	1	2876
1000	1	2668	1	3557
1100	1	3340	1	4454
1200	1	4032	1	5376
1300	1	4465	1	5954
1400	1	5427	1	7237

* unloading according to the drawings on page 4.

Table for unloading with crane

TwinPipes				
Outside jacket diameter	12 m TwinPipe		16 m TwinPipe	
	Max no. of pipes per lift	Weigth per pipe	Max no. of pipes per lift	Weigth per pipe
125	Unloading in bundles of max 3 tons. Straps around the middle*	60		
140		74		
160		103		
180		110		
200		146		
225		184		
250		230		
280		248		
315	2-3	340	2-3	454
355	2-3	370	2-3	492
400	2	453	2	604
450	2	591	2	787
500	2	639	2	852
560	2	872	2	1162
630	1	957	1	1275
710	1	1063	1	1417

* unloading according to the drawings on page 4.

Safety

Safety in general

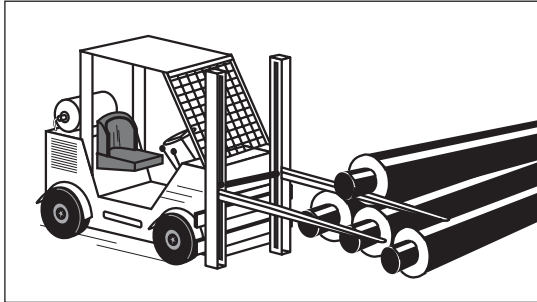
- The haulier shall always wear safety vest and safety shoes during loading and unloading.
- When unloading by means of a crane safety helmet must be used.
- Safety information from the customer must always be respected and observed.
- In case children have been brought along for the ride, they must remain in the driver's cab during loading and unloading.



Traffic safety

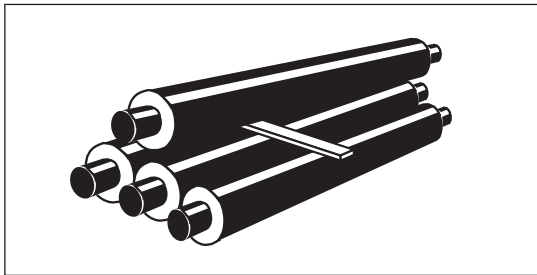
- The haulier is responsible for the goods being carefully secured during transport
- Never exceed the permissible speed limit
- Always use the seat belt
- Do not use the mobile phone while driving
- Do not park the lorry so hazardous situations may occur for other road users or possible evacuations are obstructed

Unloading with forklift

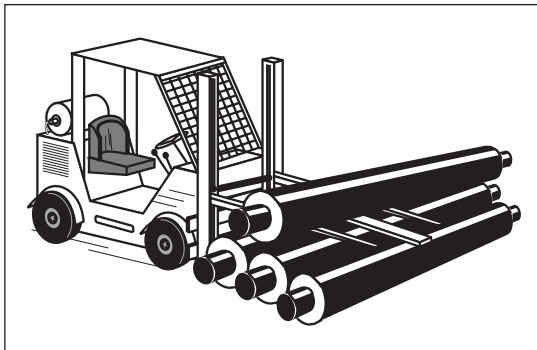


Unloading with forklift

Carefully lift the pipes at one end, making room between the pipes for a wooden sleeper to be inserted. Lift at the free ends.



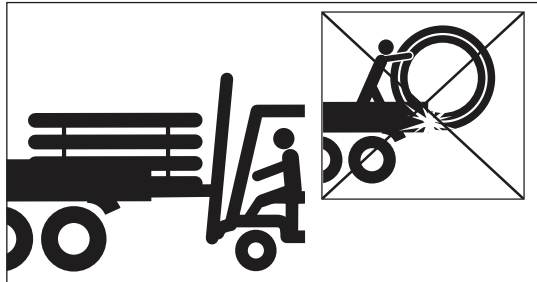
Place a wooden sleeper between the pipes and lower the pipes again.



Carefully lift the pipes off the lorry trailer with the forklift.

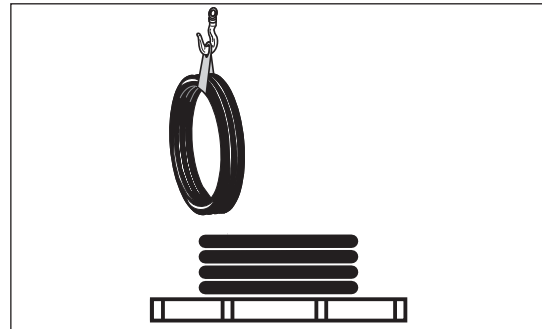
Unloading coils and accessories

Unloading coils and accessories

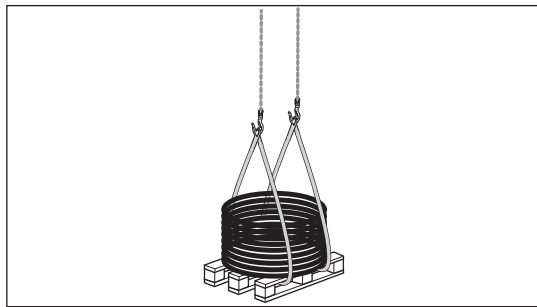


Never tip or throw coils, fittings and pallets off the lorry trailer.

To unload coils on pallets chains with hooks combined with straps or chains alone can be used.

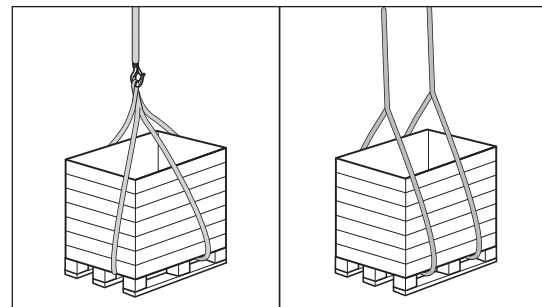


If only the top coil is to be unloaded from a pallet, a flat strap is placed around the the coil as illustrated.

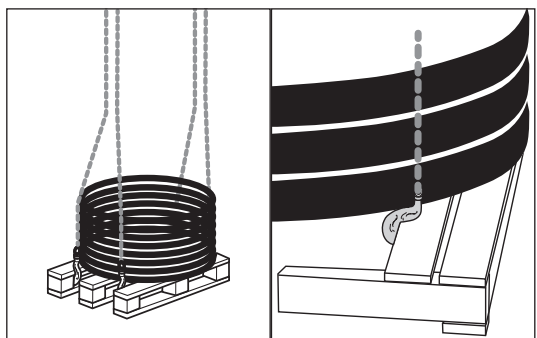


Place the straps under the pallet without the straps getting in contact with the coil.

6 m straps together with 4 m chains are used.

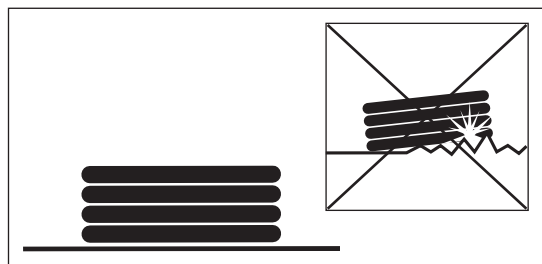


When unloading pallets place the straps under the pallet in one of the following two ways.



If chains are used exclusively, they are placed under the pallet as appears from the illustration.

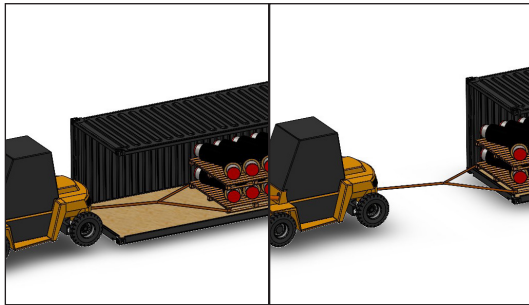
It is crucial that the chains do not get into contact with the coil.



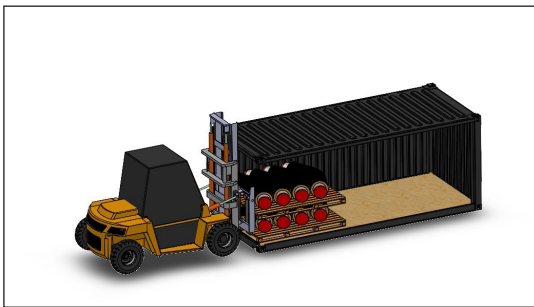
Always place coils on an even surface, so that they have the maximum supporting surface. The substratum must not contain stones that might damage the jacket.

Unloading containers

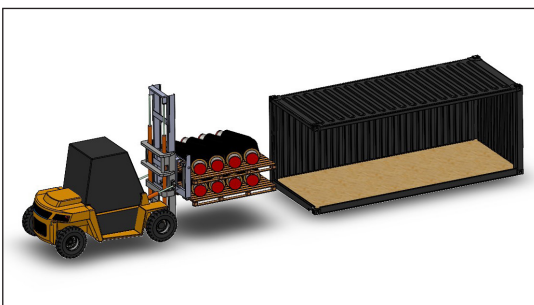
Unloading pallets:



1. Pull the pallet with the goods to the edge of the container, using straps.

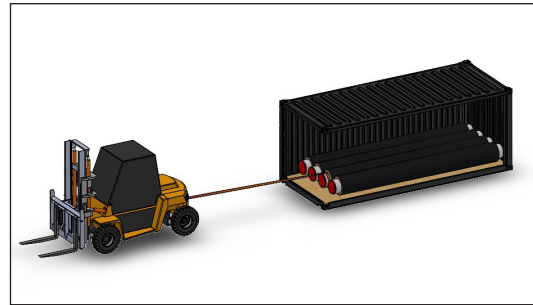


2. Lift the pallet safely, using a forklift or a loader, equipped with forks.

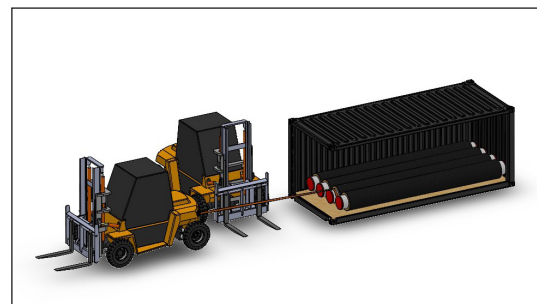


3. Put the pallet in a safe place.
4. Repeat steps 1-3, until all pallets have been unloaded.

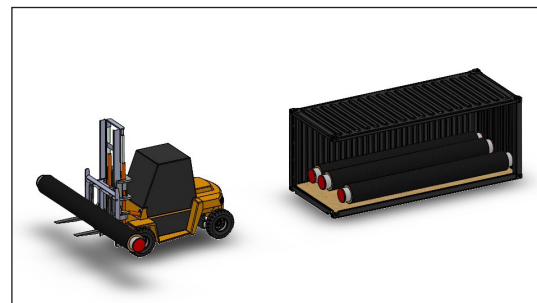
Unloading pipes:



1. Place a strap around the free pipe end and hook it onto the tow bar of the forklift.
2. Pull one pipe end out over the edge of the container, using a forklift, while the other pipe end remains in the container.



3. When enough of the pipe has been pulled out of the container, it is supported from the side by another forklift. Remove the strap.



4. Transport the pipe to its storage place, using a forklift.
5. Repeat steps 1-4, until all pipes have been unloaded from the container.

Returns

Instructions for collecting returns

- If a customer has more return orders than the ones to be loaded according to LOGSTOR, the surplus return orders must not be loaded without prior consent of LOGSTOR.
- If for some reason a return order is not collected, LOGSTOR's transport department must be informed hereof.
- If pallets and crates are loaded, the number is counted and entered into the delivery note.
- Make notes on the delivery note, so your colleagues and LOGSTOR's staff can see what has been loaded in case you do not unload the lorry trailer yourself.
- If the goods are wet on collection, it must be noted on the delivery note.
- On arrival at LOGSTOR report to the porter's lodge prior to unloading, so the returns, received, can be registered.

Storage

If the components are to be stored for some time they must be kept in a place that offers protection from heat and weather.

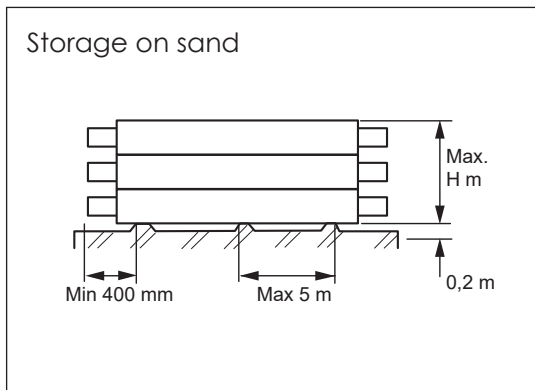
The shrink sleeves are to be kept in a cool place in order to avoid a premature shrinking of the material.

The sleeves are to be stored in a vertical position, resting on one end.

Foam liquids must be stored indoor at 16-22°C.

Max. stacking height appears from the table:

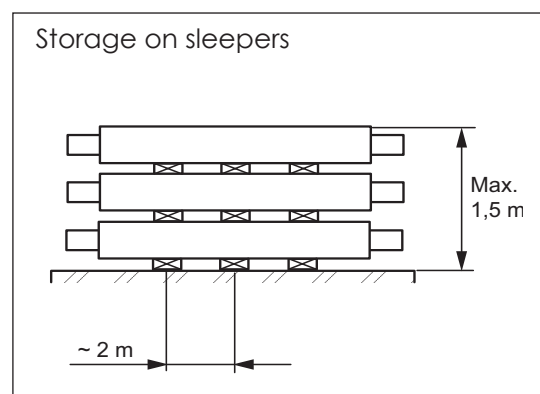
Dimension	Max. stacking height, H (m)	
	Sandbanks	Sleepers
90-160	1.5	1.5
180-1400	2	1.5



The best method of storing straight pipes is to lay them on an even and solid substratum of stonefree sandbanks with a minimum width of 0.5 m and a max. distance of 5 m as illustrated.

In order to prevent heavy showers from soiling the pipe ends, the outmost part of both pipe ends must be left unsupported.

The pipe at the bottom must be deposited at least 0.2 m above the ground.



If pipes are to be stored for some time on sleepers, the sleepers must be placed so the pipes are properly supported.

The minimum sleeper width is 100 mm.

For 12 m pipes 5 sleepers must be used between each layer and for 16 m pipes 7 sleepers must be used between each layer.

Contact details

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