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STORAGE AND HANDLING OF **CONVEYOR BELTS**

YOUR GUIDELINE

SEMPERTRANS

places the utmost importance on the quality of its conveyor belts.

For optimised belting performance and longer service durability, follow our recommendations inside.

Purpose

This guideline describes the recommended procedure for creating optimal conditions for storage and handling of Sempertrans conveyor belts. Only correct storage and proper installation guarantees reliable functioning of the belt on the conveyor.

By following this procedure you also ensure that the belts achieve the highest level of performance and longest life span.

Range of application, range of validity

This procedure is valid across the entire Sempertrans product portfolio. It should be followed upon delivery of the conveyor belt and up to its installation onto the conveyor system.

In case special storage conditions are required, please contact us.

Main responsibility

The customer and all parties involved in the handling and storing of Sempertrans conveyor belts are responsible for ensuring that the recommendations provided in this guideline are complied with.

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The guideline has been prepared carefully to advise our customers and partners. The information contained herein is intended for general use only. While every effort has been made to ensure the accuracy and completeness of this guideline, the advice contained in this guideline may not apply in every circumstance and data is subject to change at any time. Accordingly, no liability is accepted for mistakes or printing errors, incorrect use or application of this guideline. Our Sempertrans experts will be happy to answer any questions you might have.

Procedure/specifications

Storage and handling of Sempertrans conveyor belts must be managed according to the following instructions and in compliance with the International Standard ISO 5285:2012.

1 Safety

Sempertrans belts are packaged in rolls of considerable sizes, exceeding in some cases 4 meters of height and 50 tons of weight. Therefore, it is mandatory to maintain the highest safety standards and vigilance to avoid danger to human life and health and destruction of goods during transport and unloading of the equipment.

! Before unloading the conveyor belt, check that the protection elements integrated onto the rolls are not damaged and make sure that proper and adequate equipment is used during the unloading process.

2 Packing of conveyor belts

Sempertrans belts are rolled on reels made of wood or steel with a square hole in the centre for mounting the lifting core. The diameter of the reel and the hole for the core depends on the weight, width and physical properties of the rolled-up belt.

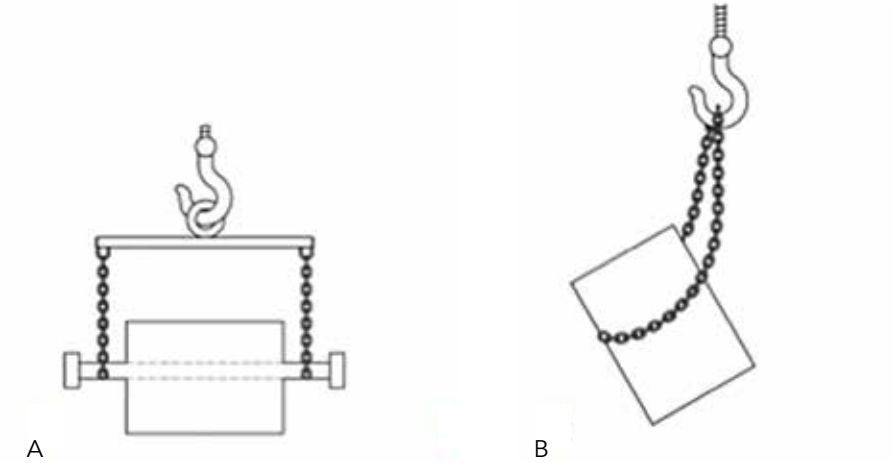
3 Transportation of conveyor belts

In order to avoid injuries and damages, the following requirements must be met.

3.1 Lifting operation

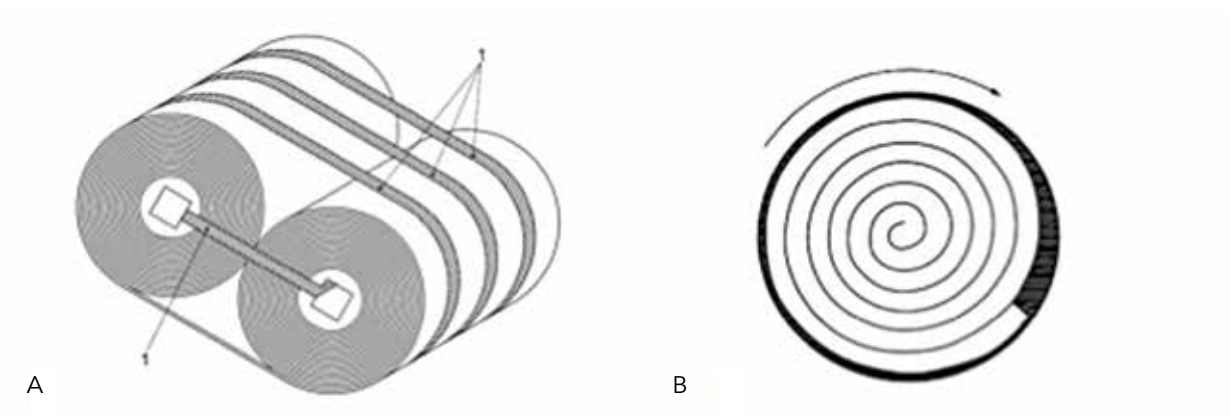
A recommended method for lifting rolls is to insert a steel core of suitable size with a square cross-section through the reel centre hole. Slings, steel cables or chains hanging from a crane/hoist with beam (Pic. 1a/b) are used for fastening. The distance between the fastening points of the steel core sling shall be longer than the width of the belt in order to avoid damages on the belt edges that could be caused by lifting materials.

! Avoid contact between the cables or chains and the belt edges to prevent damaging.
Do not bind up the belt roll with a sling in order to lift it. An uneven load distribution or slipping of the belt layers off the roll may lead to the belt falling down (Pic. 1c), which may cause serious injuries for the operating staff.



Picture 1: ***A) Recommended way of lifting the roll using a suitable lifting traverse***
B) Dangerous and inadmissible way of lifting a belt roll. Source: ISO 5285-2012

In case of double (or cassette) roll packing (Pic. 2), insert two cores through the reel holes. The lifting slings shall be of sufficient length to bind up both cores. Do not try to bind up the rolls around the outer layers of the belt roll. Do not use fastening material such as binding strips for lifting.

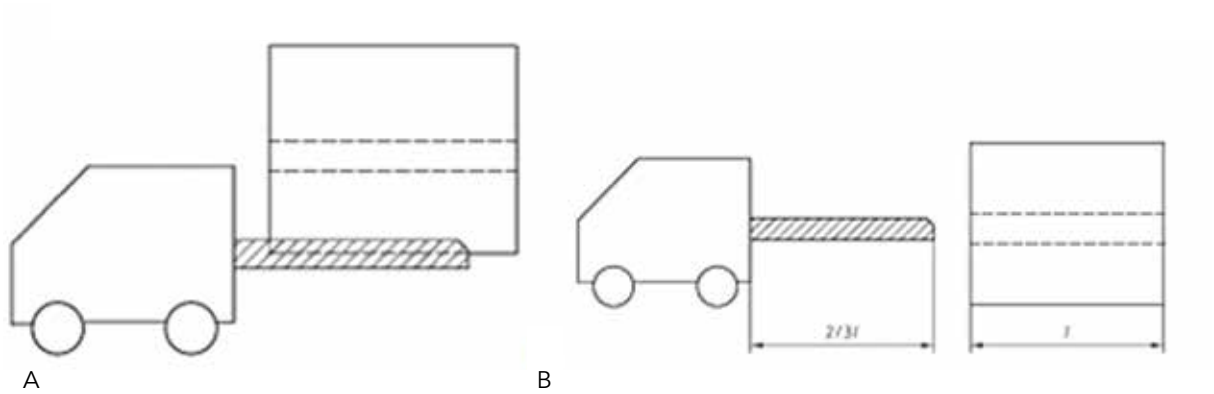


Picture 2: ***A) Two rolls – recommended way of fastening using straps (minimum requirement).***
B) Direction of rolling strapped belt. Source: ISO 5285-2012

Picture 3: ***Open ellipse flat rack containers and open steel reels – recommended way of lifting the roll using suitable lifting equipment (a lifting sling is a minimum requirement).***

3.2 Short distance transport

For short distance transportation conventional trucks with proper loading capacity can be used if the outer layers of the belt rolls are protected against damages by lifting forks. Such damages are avoidable by lining the forks with a cushioning material before lifting the roll (Pic. 4A).



Picture 4: ***A) Recommended way of careful lifting***
B) Lifting with the use of a forklift truck equipped with a jib. Source: ISO 5285-2012

Instead of forks, a jib of suitable diameter to insert the stripped roll can be applied (Pic. 4B). The length of the jib shall be no less than two thirds of the reel length.

Before transportation the belt reels shall be properly secured against unwanted movement which could be hazardous to transport and damage reels, and pose a threat to employees.

- Do not exceed the maximum permissible track load.
- Reels must be wedged and, depending on their dimensions, can be set on metal supports, wooden pallets or on the floor.
- The reels must be stored in a stable position and secured on a wooden base with wire rope and metal supports.
- A representative of the carrier, i.e. the driver, shall be present at loading and supervise the correct execution of security transportation of oversized reels.

Picture 5: Recommended way of ensuring safety and careful protection of the reels before transportation

4 Storage of conveyor belts

All Sempertrans belts offer a high level of protection against UV-Light/Ozone to maintain high performance properties over their lifetime while in operation. To keep these belt properties on a high level also during storage time, the following conditions must be met.

4.1 Receiving the belt

Upon delivery, check the factory packaging for damages such as punctures etc. In case of faulty packaging, make any appropriate claim against the forwarder without delay.

4.2 Storage conditions

It is recommended to store conveyor belts indoors at temperatures of around 15°C. Temperatures should not exceed 25°C to maintain rubber properties intact.

If outdoor storage is unavoidable, the belts shall be:
- protected by covering them with impregnated tarpaulin or other suitable material (e.g. a canvas cover)
- dry and the applied package shall not generate internal water vapor condensation
- stored away from heat sources such as boilers or heaters

In case of storage in temperatures below 0°C it may be necessary to condition the belt for at least 24 hours in temperatures above 10°C before unwinding it for further usage. This manoeuvre helps improve its elastic properties and reduce the risk of failure.

4.3 Form of storage

Belts rolled on reels shall be stored in such a way that their central axis is placed in a horizontal plane.

Belts stored outdoors shall not have direct contact with the ground in order to protect it against damages caused by water, mud, gravel, etc. It is recommended to use pallets placed on a solid and even floor.

Belts stored indoors may be placed directly on a stable foundation intended for storing materials. The belt rolls must be properly wedged in order to protect them from rolling away. It is recommended that the belts are suspended in a structure, tube or similar.

If a suspension of the belts is not possible, wood core reels may be stored for a long time before the belts are installed on the conveyor system. In this case the wood core reels shall be equipped with suitable steel tubes inside the reel in order to secure them against collapse of the centre of the reel and to avoid problems concerning further use. For steel core reels this is not needed. The rolls should not stand on edge or leaned against a wall. It is advisable to rotate the belt occasionally to avoid a constant flex or bend at one point. We recommend rotating the reels 90° every 6 months, or 180° every year if it is packed as "cassette". There is no need to rotate open steel reels and ellipses, since they are packed as suspended and they have steel cores. Footways in warehouses and outdoor storage areas shall be protected using e.g. steel stanchion fixed on the ground. Rolls weighing more than 10 metric tons and having thick rubber protection shall be fixed by a bar inserted in the centre of the reel.

The belts should be installed right before commissioning and should not be stored directly on the conveyor, especially in direct sunlight. This practice may result in undesirable alterations in the parameters and properties of the belt, thus impairing its performance.

4.4 Protection of belts

Conveyor belts should be protected against:

- Light, especially against sunlight and strong artificial light with a large fraction of ultraviolet. UV-protection packing film or other materials (e.g. thick textiles, rubber fabrics) must be used for protection.
- Ozone, in rooms where there are appliances such as fluorescence lamps, high-voltage machines, mercury-arc lamps or other objects which may generate electrical sparks or discharges.
- Combustion gases and organic vapors as they may produce ozone during photochemical processes.
- Chemicals such as acids, oils, caustic solutions or solvents.

Combustible protection packing must be removed from the belts intended for underground use before the belt is transported below ground.

Related documents

ISO 5285-2012

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