

# On a roll!

All you need to know to be at the wheel of our cable drums.



The planet's pathways

# Linking the future

As the worldwide leader in the cable industry, Prysmian believes in the effective, efficient and sustainable supply of energy and information as a primary driver in the development of communities.

With this in mind, we provide major global organisations in many industries with best-in-class cable solutions, based on state-of-the-art technology. Through three renowned commercial brands – Prysmian, Draka and General Cable – based in almost 50 countries, we're constantly close to our customers, enabling them to further develop the world's energy and telecoms infrastructures, and achieve sustainable, profitable growth.

In our energy business, we design, produce, distribute and install cables and systems for the transmission and distribution of power at low, medium and high voltage.

In telecoms, Prysmian is a leading manufacturer of all types of copper and fibre cables, systems and accessories – covering voice, video and data transmission.

Drawing on over 140 years' experience and continuously investing in R&D, we apply excellence, understanding and integrity to everything we do, meeting and exceeding the precise needs of our customers across all continents, at the same time shaping the evolution of our industry.

# All you need to know to be at the wheel of our cable drums.

Cables should work with full performance and the longest duration; therefore, handling, transportation and storage of the cables are extremely important. The most common and safest way to carry cables from the factory to the end user is using cable drums. Here's all you need to know to let it roll nice and easy.

## DRUMS

### Introduction

A cable is a valuable product and it is normally transported on a cable drum. The battens on the drum seem thick enough to remain unbroken, but with a cable weighing more than four tons, it becomes very vulnerable. If the handling is done correctly, the drum will protect the cable from

transportation damages. If the drum is damaged, the cable can also be damaged. And it might not be discovered until after installation, when repairs can be extremely expensive. The purpose of these instructions is to describe how damages can be avoided by correct drum handling.

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COMMITTED TO SUSTAINABILITY

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## Alesea – your cable drums' best buddy.

Alesea is a virtual assistant for cable drums including a smart device installed on the drum, cloud infrastructure for storage and processing, and an intuitive web platform. It provides a full inventory management service, whilst helping reduce the total cost of cable management through better asset use and greater operating efficiency. Optimised logistics and minimised cable waste and scrap help reduce the environmental impact.

Do you want to know more?

Visit our website: [www.prysmiangroup.com](http://www.prysmiangroup.com)

*Intact drums secure  
fully functional cables.*



# Different types of cable drums.

## WOODEN DRUMS

These drums are still the most used on the market. They are sturdy and can handle a lot of weight. Being made of recyclable materials they are also environmentally friendly.



## PLASTIC DRUMS

Plastic drums are used for lighter cables and the total weight is considerably lower compared to other types of drums, making them easier to handle. Being made in recycled plastic these drums have low environmental impact.



## METAL DRUMS

When the tough get going, metal (steel) drums are the best option as they can handle harsh environments and very high loads.

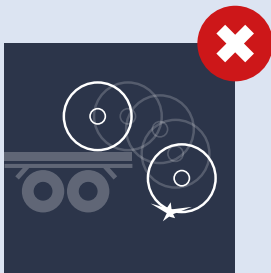


# Handling of cable drums.

Cable drums shall always be handled by trained personnel using appropriate equipment to avoid accidents and damages on the drums or cables.

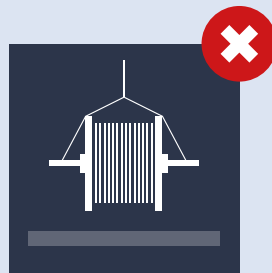
## LOADING/UNLOADING

Drums loaded/unloaded in/from vehicles (trucks, wagons, ships, etc.) shall be carried out using appropriate equipment and necessary precautions shall be taken to prevent damage of the cable or packaging. Never drop a drum on the ground, even from small heights.



When using a fork-lift, the forks shall be long enough to support the full drum width. Always load the drum with the flanges perpendicular to the forks. Never support the drums with the forks placed between the two flanges directly on the cable. The distance between forks shall be enough to guarantee a stable position of the drum.

The lifting of heavy drums containing high voltage cables should only be made with a crane and using a spreader bar. Only use spreader bars that have been designed and certified for lifting a specific drum size, weight and width.

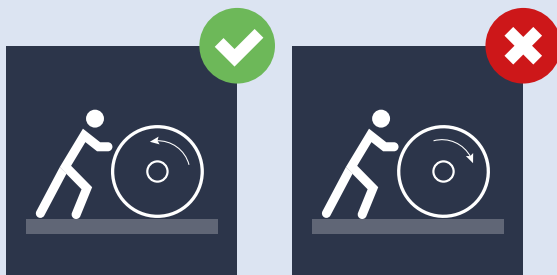


## DRUM ROLLING

Operative personnel shall be properly trained on the safe handling of drums, both full and empty.

The rolling of heavy drums for high voltage cables shall be avoided. In particular circumstances small drums could be rolled for short distances on the flanges, provided that the ground surface is in smooth conditions and without dangerous asperities.

In order to prevent the cable unwinding from the drum, the drum should only be rolled in the direction indicated by the arrow painted on the flanges. In absence of an arrow, the drum should be rolled in the opposite direction of the cable winding.



When rolling drums on the ground they shall be carefully “eased” over any rough surfaces and shall not be abruptly stopped by being rolled against a wall or other object. If a batten is damaged, it must be replaced immediately.

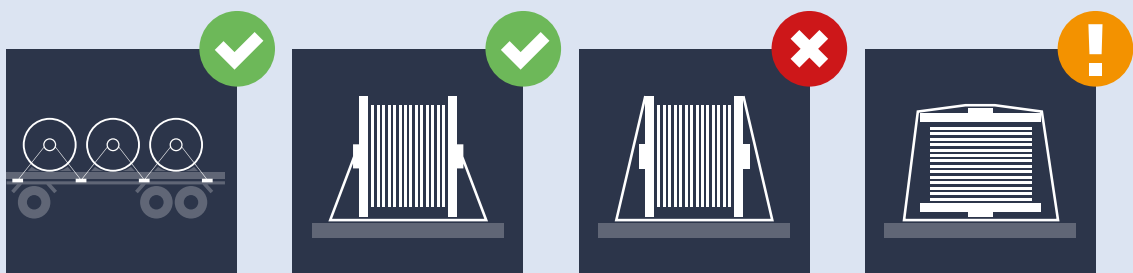
## TRANSPORT

Cable drums must be transported on cars or trucks with the barrel axis in horizontal position, and in such a way that the drum flanges do not touch the cable on the other drums.

To prevent rolling, the drums must be securely blocked or anchored by wedges to the flange base. To fasten drums with ropes wrapped on the two flanges only is strictly forbidden.

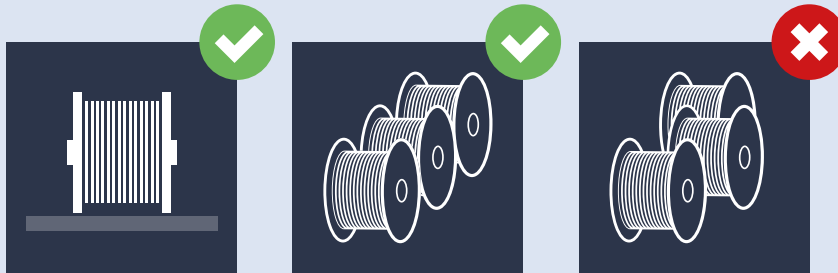
Ensure drums are restrained to restrict movement during sudden stop/starts. Heavy drums should be chained appropriately for transit, with protection from the chain rubbers for the spindle hole in the centre of the drum.

Transport in laying position only allowed up to a flange diameter of 120 cm. The drum has to be fixed on a pallet. Drums with a flange diameter larger than 120 cm must be transported with the barrel axis in horizontal position.



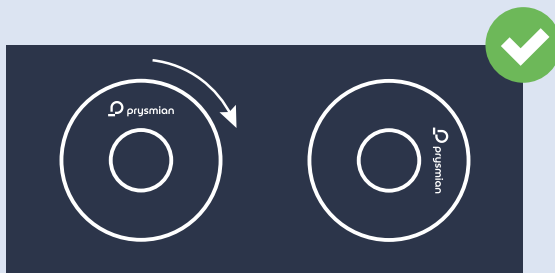
## STORAGE

After unloading and handling, the cable drums must be stored with the barrel axis in horizontal position, and in such a way that the drum flanges do not touch the cable on other drums.



### When storing drums, the following requirements shall be adopted:

- Drums must be stored only in the upright position.
- Storage of drums in multiple layers should be avoided, particularly for heavy drums containing high voltage cables. Smaller drums could be stored in multiple layers provided that the drums' structure is designed to withstand the extra load of the upper layer and that storage is made only with flange-to-flange contact.
- Never store drums putting the flanges in contact with the cable or the cable's protection battens.
- If drums are stored in a high traffic area (fork lifts frequent transit) suitable barriers should be erected to prevent damage from moving equipment.
- The bolts should be tightened at regular intervals.
- During storage, the drums should be rolled to an angle of 90° every three months.



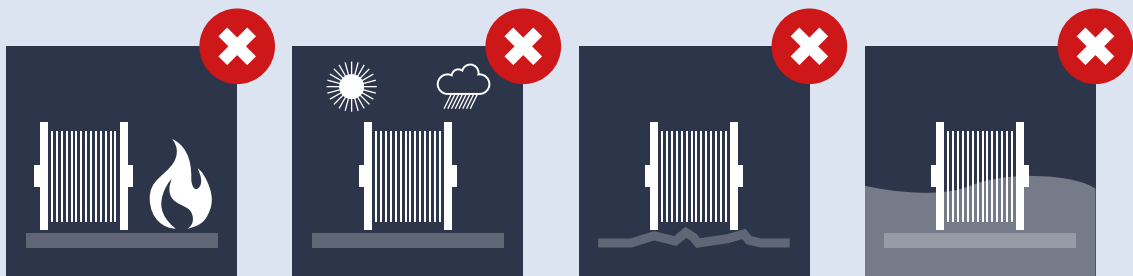
- When only a portion of the cable is used, the open end of the cable remaining on the drum should immediately be re-sealed to prevent the entrance of moisture. Once it has been resealed, the cut end should be fixed to the inside edge of the drum flange to prevent the end from extending beyond the flanges during drum movement.



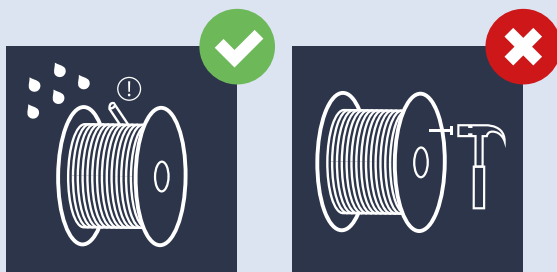
- When it is required to rewind the cable on to another drum, always consider that the diameter of the new drum barrel should be at least the same size of the original drum barrel diameter.



- Choose a storage site that is level and dry, preferably indoors with a concrete surface, with no risk of falling objects, flooding, chemical spills (oil, grease, etc.), open flames or excessive heat.



- Make sure that the cable sealing is intact to prevent moisture from seeping into the cable. Report any damage.
- Avoid using additional nails on drums or cables as the flange thickness vary and some customers prohibit it.



## CABLE PULLING

Since the laying of cables is often carried out by unskilled labour, it is necessary to emphasize that the cable is high value commodity, is very sensitive to damage, and must be handled with necessary care.

Remove all nails, staples or bolts from the inside of wood reels before unreeling the cable.

Care is to be taken to prevent cable from dragging on the cable trailer, ground, pavement, or any other object that could damage the cable.

Support the drum on a jack stand when uncoiling. Pulling cable directly off a truck or tractor may be permitted under some circumstances, but is not recommended.

Pulling cable by hand may be permitted for short lengths of small cables. In this case, the cable should be unwound from the drum with the axis in horizontal position and not vertical, when pulling the cable from the drum.

### **Always pull the cable under controlled conditions:**

- Use smooth, non jerky, movement.
- Pulling tensions should not exceed the allowable tension.
- Secure good communication between the winch operator and the cable let off position.
- Make sure the cable reels are properly braked to prevent cable overrun.
- The winch should have adequate capacity equipped with dynamometer for pre-set maximum line pull and automatic stop by overload.
- Use cable guides and rollers to prevent the cable dragging on the trench or rack bottom.

A leading roller (driver) shall be used to support the cable over the entire drum width immediately before being fed into the final place.

On the straight sections the rollers shall be placed at 2 – 4 m intervals and on corner sections so as not to go below the minimum bending radius recommended and the inner side of the cable not to get pressed against the rollers.

The placement of the rollers shall be planned in advance. The free rotation of rollers must be checked once they are in their places.

Other drivers or supports must have rounded edges and their surface must ensure that the friction between cable's jacket and the drivers remains as small as possible.

When final rollers positions are confirmed, the pulling of cable can be started.

## Made locally

We've been making cables in Germany since 1858. Today we have 2,000 skilled co-workers developing state-of-the-art cables in six plants all over the country. We can offer a complete range of cables covering everything from the deep blue sea, mines and tunnels to skyscrapers and satellites.

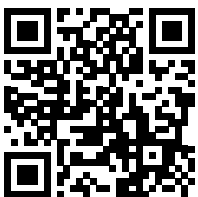
Two of our facilities are Centres of Excellence including R&D departments in which we develop new solutions to meet your specific needs as well as the common challenges of tomorrow.

When that is not enough, we have the largest cable manufacturer in the world to our disposal, Prysmian. That includes 50 countries, 112 plants, 25 R&D centres and about 30,000 skilled professionals doing nothing but developing and producing cable solutions that will solve your current and future needs.



## PRYSMIAN

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