

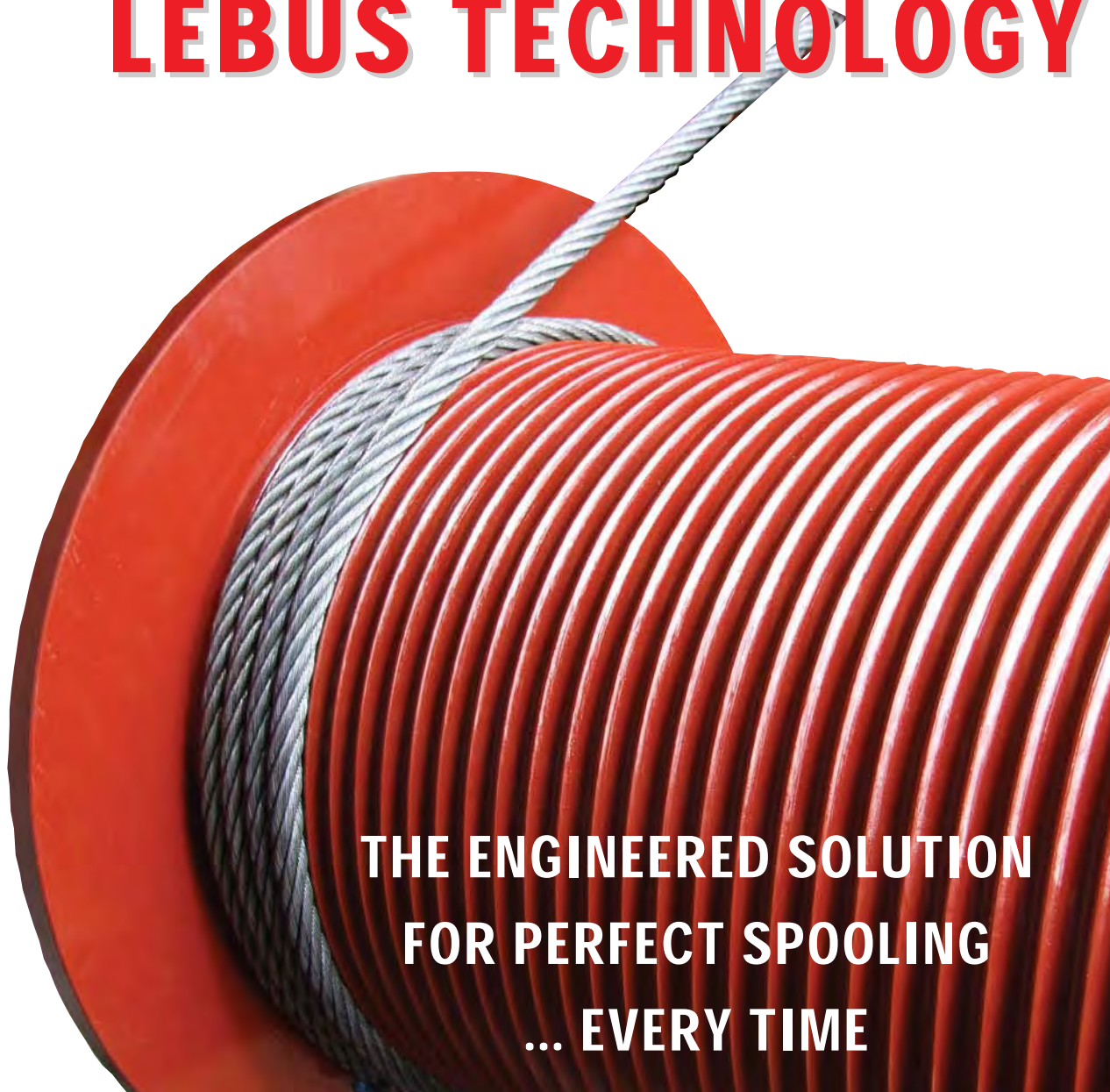


Germany

I N T E R N A T I O N A L

THE ORIGINAL PARALLEL GROOVE
SPOOLING SYSTEM

LEBUS TECHNOLOGY



THE ENGINEERED SOLUTION
FOR PERFECT SPOOLING
... EVERY TIME

www.lebus-germany.com

THE LEBUS SPOOLING SYSTEM

The Lebus Spooling System is designed for any hoisting and winching application that uses multiple layers of wire rope on a drum. The geometry of Lebus grooving, coupled with Lebus know-how, ensures that your wire rope spools smoothly onto and off the rope drum under total control — a dependable performance every time.



WHAT YOU GAIN

- Smooth spooling operations to improve winch performance
- Increased safety and control
- Longer rope life, meaning less money spent on replacing ropes
- Reduced machinery downtime to replace worn ropes

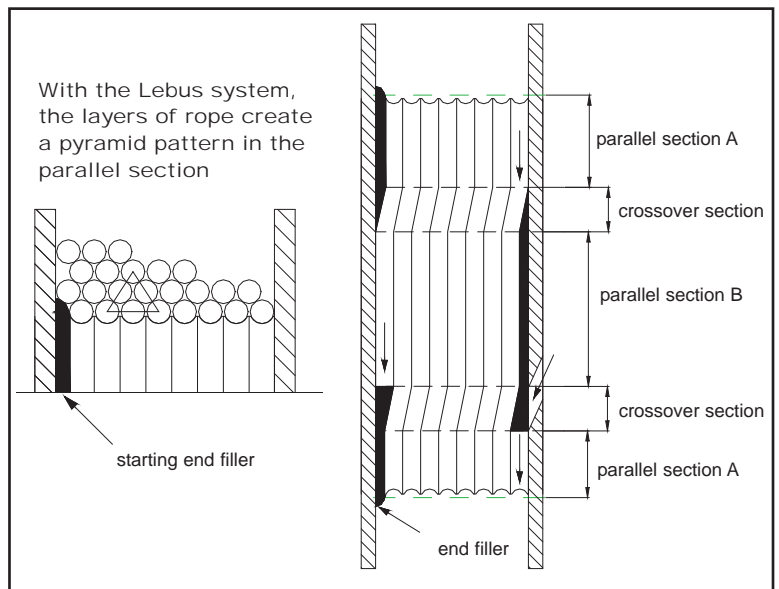
THE LEBUS BENEFIT

The Lebus system keeps the spooled rope in a uniformed pattern, evenly distributing the load between the individual layers of rope. This prevents lower layers being crushed or pinched by upper layers. Independent field tests have proved over the years that the Lebus system can extend rope life by more than 500%.



THE LEBUS GEOMETRY

With the Lebus spooling system, the continuous groove in the drum is parallel to the flange except for two crossover points on each revolution where the groove moves across the drum half a pitch to give a full pitch of movement for each revolution. With Lebus grooving it is possible to calculate the exact forces that the rope imposes on the drum because the spooling is totally controlled. This is not possible with any other spooling system.



ACCEPT ONLY ORIGINAL LEBUS TECHNOLOGY

Lebus has specialised in smooth spooling technology for hoisting and winching applications for more than 50 years. We have developed unmatched expertise in all aspects of wire rope winching and hoisting technology. Accept no imitations.

FACTORS AFFECTING SMOOTH SPOOLING

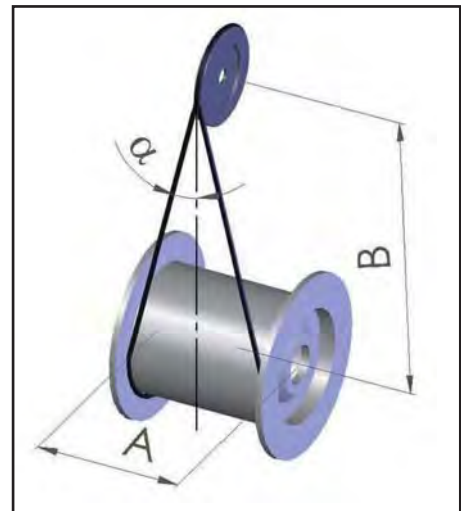
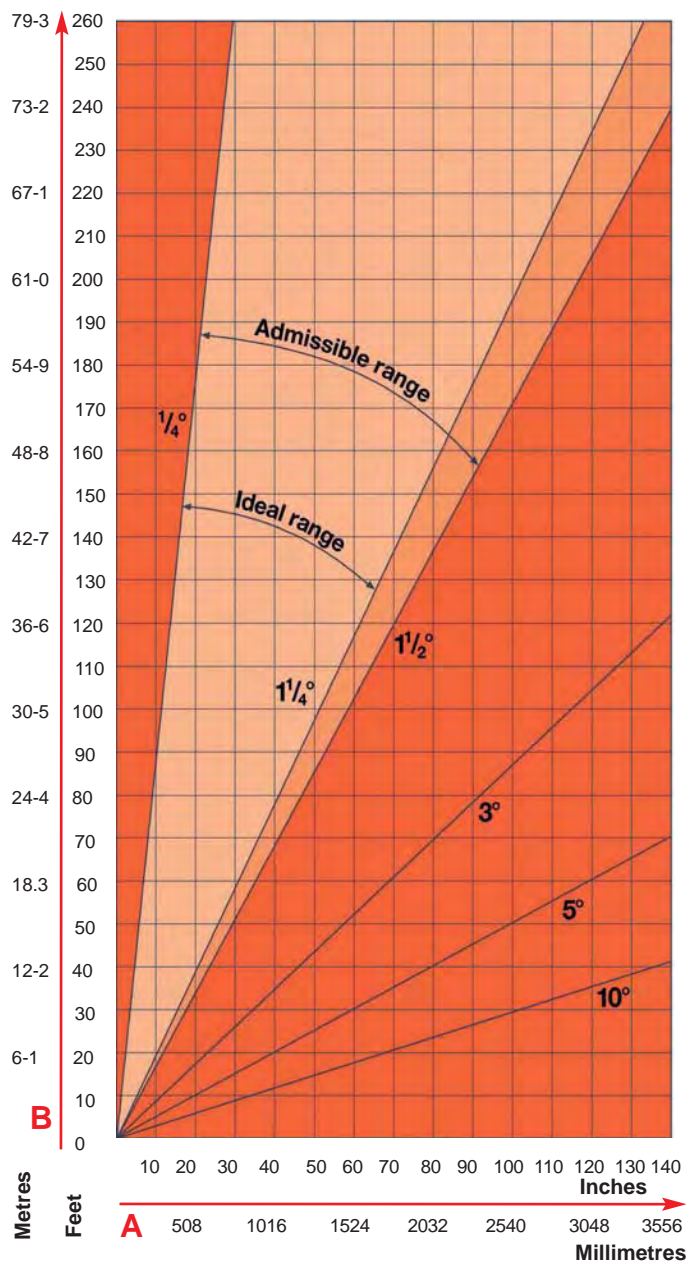
Parallel grooved drums require certain operating conditions:

Application specific:

Every Lebus system must be custom engineered. It is designed and produced specifically to meet the application for which it is used. The groove pattern is engineered to suit the rope's length, diameter and construction type.

Spool under tension:

When first installed on the drum, and during all subsequent spooling, the rope must be kept under tension. This prevents any slack on inner layers that can be crushed or pinched against the groove walls by outer layers. In general, the tighter the line, the better the spooling. Lebus recommends that the rope should be tensioned with at least 2% of the breaking load or 10% of the working load, although provision must also be made for the safety coefficient and the design of the cable.



Fleet angle:

The fleet angle is the angle between the rope coming off the drum and the point at which it meets the first fixed sheave. Our experience has taught us that the fleet angle should generally never be more than 1.5 degrees and not less than 0.25 degrees.

If the fleet angle is outside the recommended range for parallel grooved drums, an angle compensator is available.

Optimum fleet angle depends on the application – the load, the rope construction and the hoist speed.

Please ask us for further guidance.

THE BENEFITS OF SPLIT SLEEVES

LEBUS SPLIT SLEEVES

In some applications a cost-effective solution is to start with a smooth drum and have just an outer sleeve made with parallel grooves carved into it. The sleeve is then cut laterally into two sections and bolted or welded onto the smooth drum.

If in future a different type or size of rope is used, the sleeve can be taken off and replaced with a new sleeve designed for the new application.

Every Lebus drum sleeve is engineered to suit the specific wire rope that is being used.



Lebus can produce split sleeves for the very biggest winch drums



Split sleeves are an effective and economical solution for providing Lebus grooving onto worn old drums. They can be retrofitted either on site or in the customer's own workshop

Saving customers money

Winches working in tough environments, such as at sea, can become worn out after a number of years' service. Replacement can be time-consuming and expensive, particularly when lost revenue from the time out of service is considered. However, it is not always necessary to replace winches. Often, refurbishment is a viable option.

One Lebus customer, Saipem, realised that all 12 anchor winches on its Semac 1 pipe-laying barge were worn out and had come to the end of their useful life. It contacted Lebus about replacing them. Lebus offered a refurbishment option instead, costing much



Case study

less and taking just one week to complete.

Instead of taking out the winches, Lebus simply welded new split sleeves on to the drum, together with false flanges (to make the length of the drum match the new grooving) and compensation plates. Lebus also

adjusted the level winders, which is a mechanical rope guide system, and changed the gear ratio to match the number of pitches on the Lebus groove.

Taking into account that the downtime of the barge was reduced, this refurbishment option saved Saipem hundreds of thousands of dollars.

LEBUS PRODUCTS AND SERVICES

WORLD CLASS PRODUCTION CAPABILITY, WORLD CLASS SERVICE

The manufacturing programme of Lebus International Engineers GmbH

Rope drums

Rope drums with grooves cut directly into them (with or without bolted or welded flanges, as required). Lebus also produces smooth, winch drums without grooving as required.



Split sleeves

Machine-grooved split sleeves, supplied in two sections, that can be placed over smooth, ungrooved drums. These split sleeves are a good solution for retrofitting and for applications where drums may require replacing in future.



Special application winches

Lebus, with its sister company in the UK, also supplies custom engineered winches for special applications.

World class quality guaranteed

All products are designed and built in accordance with the highest International Standards and certified by worldwide authorities, including Lloyd's Register, DNV, ABS, NMD and TÜV. Lebus International Engineers GmbH has been ISO 9001 certified Lloyd's Register and DNV since 1992.

Every Lebus product comes with a lifetime guarantee and a provenance certificate to prove original Lebus authenticity.

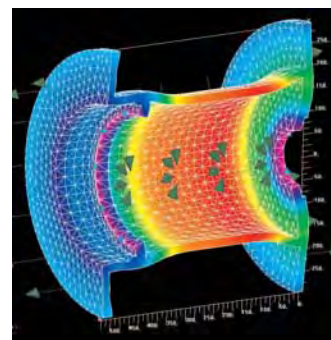
CONSULTANCY SERVICES

For more than 50 years the name Lebus has been synonymous with smooth spooling and the efficient operation of wire rope hoisting systems. No one knows more than Lebus about smooth and efficient rope spooling.

The Lebus technical department can offer you support and advice for all wire rope problems. We promise to present you with a swift response and the most cost-effective solution.

TOTAL CONTROL GUARANTEED

The Lebus System has mathematics on its side. With Lebus grooving it is possible to calculate exactly the direction of the forces that the rope imposes on the drum because the spooling is totally controlled and so the rope's behaviour is entirely predictable. This is not the case with any other spooling system, because **no other spooling system offers the control that only the genuine Lebus System guarantees.**



LEBUS APPLICATIONS

OFFSHORE, SHIP CRANES & PIPE LAYING BARGES



**SNOW
GROOMERS**



LEBUS APPLICATIONS



CONSTRUCTION



MINING & DRILLING





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