

DYNAFORCE

DYNAFORCE PLUS

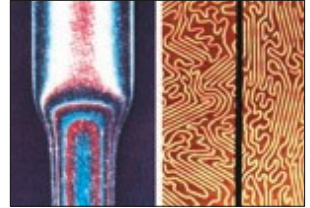
Splicing and operating instructions for Dynaforce and Dynaforce Plus synthetic ropes



The ultra-light winch rope made from Dyneema

Dyneema is the registered trademark of DSM Dyneema in the Netherlands.

- Dyneema is made from ultra-high molecular weight polyethylene in a gel spinning process.
- To do this, the polyethylene is liquefied with a solvent
- This mass is pressed through a nozzle to create a thread.
- In this thread, the molecules are already largely arranged in parallel.
- The stretching (lengthening) process aligns the molecules once again, resulting in very high strength in the longitudinal direction.
- Attention: from 70°C the material properties change.



Organisation and structure

using the example of a 14 mm synthetic rope.

- The individual threads are interwoven with each other to create stronger connections = the so-called yarns.
- Five of these yarns make one strand.
- Twelve strands make the braid = the complete rope.

This rope will be further refined!

- Thanks to a special impregnation and additional compaction, the rope is resistant to moisture, oil and grease. It also has good UV stability.
- The firm structure prevents the braiding from contracting and thus increasing elongation.
- Elongation at 50 % load = 2.5 %!
- The rope has a very high longitudinal strength.
- Knot strength at approx. 40 - 60 %, therefore: never use knots as end stoppers.
- Always make a clean tapered splice = high strength.
- Avoid small deflection radii.

Winding behaviour on the drum

- Dynaforce ropes lie flat and oval on the drum and therefore ride easily onto the next turn without jamming.
- Clean, very even spooling behaviour on the rope drum. Therefore easy to pull out.
- Bruises smooth out again.
- As Dynaforce ropes have no inherent tension, the rope drum brake can be set to the lowest braking power. Only the drum's own momentum needs to be braked.
- In the KWF test, the ergonomics were rated as very good, confirming the ease of use.

Notes on the rope!

- Dynaforce ropes must not be deflected on trees or stumps (tree trunks).
- Any dragging on trees/rocks pulls threads or tears them out of the rope.
This weakens the rope.
- Always use pulley systems that comply with the standard. Rope thickness x 10 = inner pulley diameter. Smaller pulleys lead to more friction and loss of breaking force in the rope.
- The rope must not be pulled over sharp edges, as this will result in increased wear.
- Do not pull through the ground = increased wear.
- The rope pulleys and the rope inlet must be burr-free.
- Mechanical cable infeed brake rollers/outfeed rollers must be dismantled.
- No nodes may be used as connections or end limits.
- Avoid strong distractions when choking.
- Heated rope drums or hot motor parts can damage the rope.

The use

The winch cable is attached to the cable drum like a steel cable. Make sure that at least 8 windings always remain on the cable drum. These windings provide the necessary strength. Unwind the rope exactly as it was spooled. Never remove it from the side of the pulley, as this will cause the rope to twist. Attach a load to the end of the rope so that the rope is wound up tightly. This will prevent the rope from being pulled into the spool. Only use the rope for backing timber. Only use the rope offered by us to attach the logs.

Slings for Dynaforce ropes.

The breaking force of the slings used must be twice as high as the winch pulling capacity.

Attention!

If a sling breaks, the sliders/rope hooks remaining on the rope can be flung through the air. If the winch cable breaks, it immediately falls to the ground due to the low kinetic energy.

Never stand in the rope line when backing up. Always observe the applicable safety regulations.

Experience has shown that the rope is primarily subject to increased wear over the last few metres. You should therefore shorten the rope in good time to prevent it from breaking.



The illustration shows a winch cable that has become slightly furry and can still move many solid cubic metres.

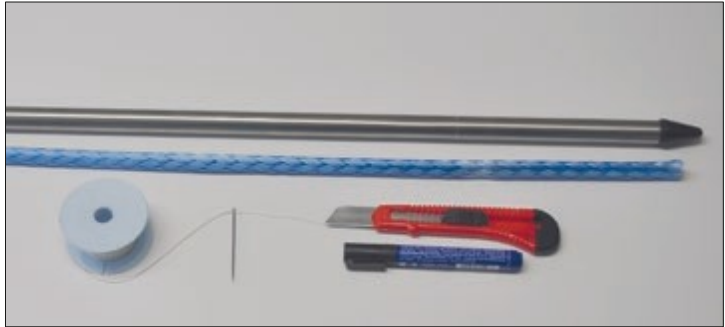


This rope shows heavy wear and should be shortened as soon as possible. Damage to the rope, for example the breakage of several yarns or even an entire strand, should be repaired immediately. As the rope can be easily spliced, the damaged area can be cut out and the rope re-spliced together.

Torn ropes can be spliced together.

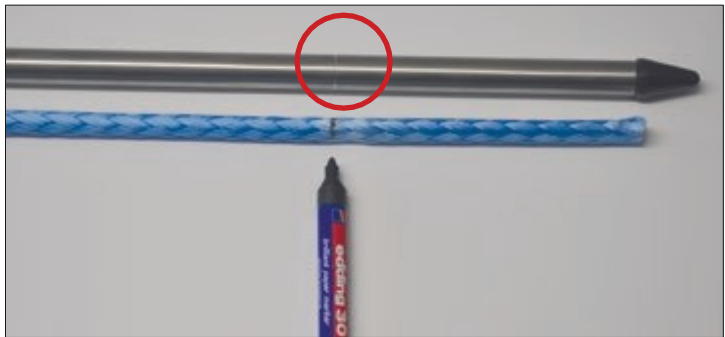
If the rope has become too short due to shortening, we recommend attaching a new piece of rope to the rope drum and continuing to use the old rope by splicing it together.

Splicing instructions Dynaforce plastic winch ropes



Accessories:

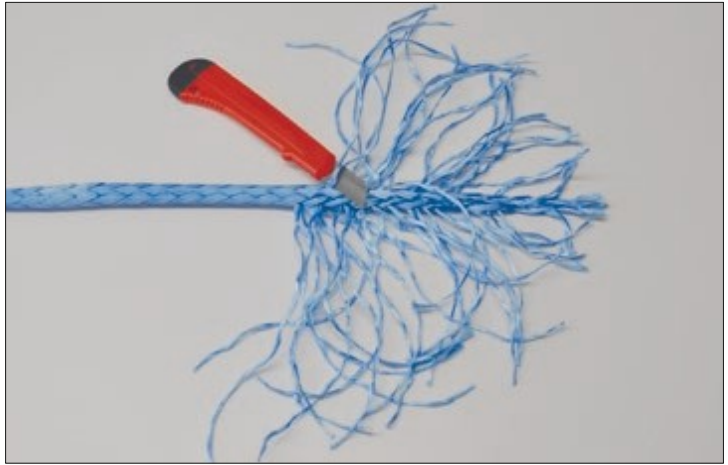
Splice tube (corresponding to the rope \varnothing), rigging twine (No. 71-841), needle for rigging twine (No. 71-842), knife, marking pen, Dyneema rope.



There is a marking on the splice tube for the taper of the rope: short side.



Total length of the splice tube: laid twice in succession = splice length (rope $\varnothing \times 60$ = splice length). Please make markings on the rope. **For example:** Rope \varnothing 14 mm x 60 = 84 cm splice length.



Taper the short end of the rope by pulling out individual yarns evenly up to the tip and cutting them off.



This is what the tapered tip should look like.

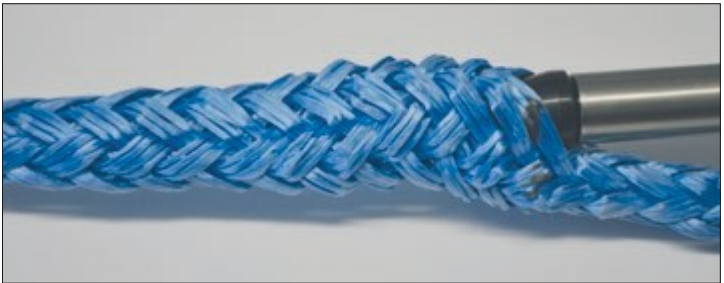


Installation of a thimble:

Place the rope with the splice length on the lower edge of the thimble. Lay the other rope around the thimble and mark the lower edge of the thimble. This mark is the insertion point for the splice tube.



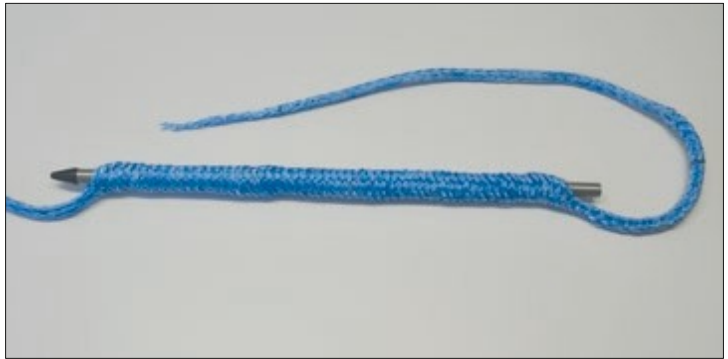
Place the splice tube with the long side against the marking and add the same length twice more. This length is recorded on the splice tube.



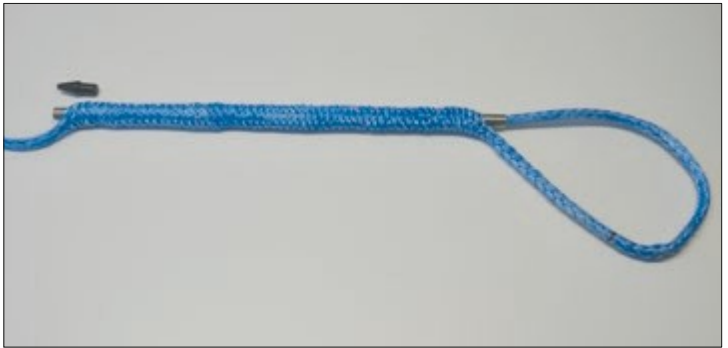
Insert the splice tube with the tip into the rope by pushing the rope together so that a cavity is formed (accordion). Push the splice tube through this cavity up to the last mark.



Push the entire splice tube through the rope by pushing the rope together on the tube.



At the last mark, guide the splice tube out (if the cable does not fit onto the tube, you can insert the end of the cable into the tube at the same time and guide it through).



Remove the tip from the splice tube and insert the end.



Insert the thimble and pull the spliced end against the thimble.



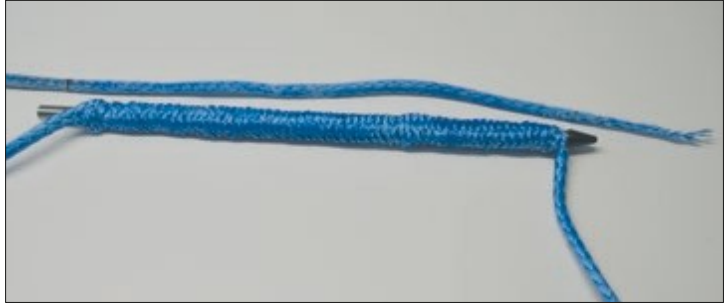
Make sure that the thimble is tight at the splice point. "Milk" the outer rope tightly with a sliding movement.



This is what a correctly spliced thimble looks like.



Torn ropes or ropes for extension are connected with a mutual splice. As already described, mark the taper and twice the tube length = splice length. Repeat this on the other end of the rope.



The splice tube is inserted directly at the splice length mark and, as already described, the other end of the rope is inserted.



The other rope is spliced in the opposite direction to the first at the splice-in length.



By pulling on the thinned rope ends, both ropes are pulled together at the splice point.



Rope ends lying close together.



Both ends of the rope are stretched tightly from the splice point outwards - milked out.



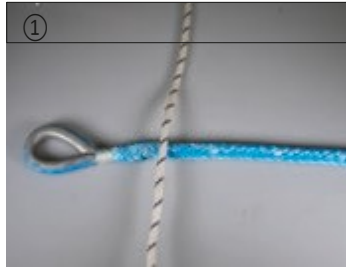
The splices are secured against unintentional loosening by sewing them in a wavy pattern.



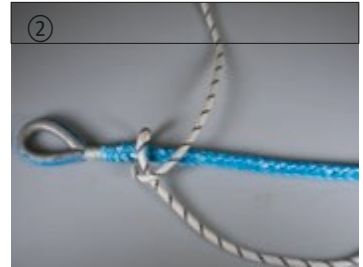
Finished splice. The ends of the rigging twine are knotted and pulled into the rope.

Stopper knot for Dynaforce winch rope

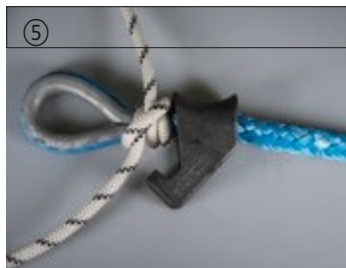
Take an approx. 50 cm long textile rope with a diameter of approx. 8 - 10 mm.



The textile rope is laid once around the main rope and led back crosswise.

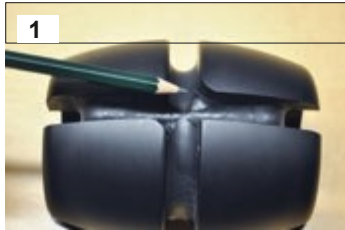


The textile rope is then passed under the main rope again. Now guide the end of the textile rope through the opening that forms.



Then tighten the rope ends and push them against the thimble.

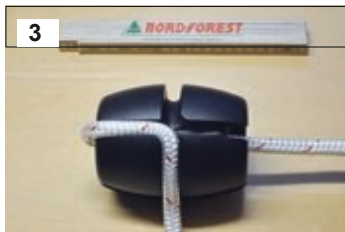
Wrapping instructions for the pull rope with the "Wrapper" end piece (No. 42-444 / 42-447)



Pay attention to the rounded edges during the entire wrapping process.



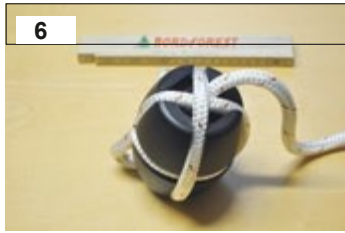
For a 12 / 13 mm Ø rope, measure approx. 120 cm; for 14 / 16 mm approx. 134 cm. Insert a pin across the rope as a marker, for example.



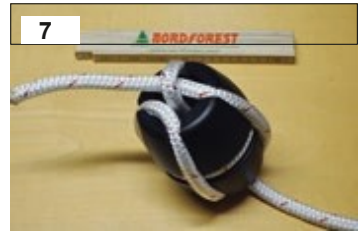
Guide the cable through the centre hole until the marking is aligned. Then guide the cable in the longitudinal groove, then around the transverse groove. Make sure that the cable is only guided around the round edges.



Then once in the longitudinal groove on the face side, do not cross back again next to the longitudinal groove.



6
A "cross" is created in the direction of the winch the front. centre hole



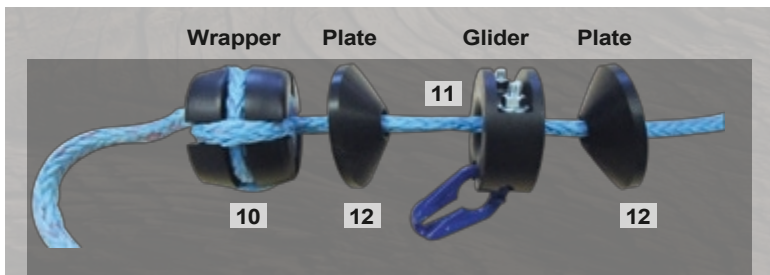
7
created in the direction of the winch in the longitudinal groove towards the front. Now remove the rope from the



8
Push the short rope underneath, and when under load, the baffle plate presses. Keep the short end taut and pull the rope (with the flat side towards the short end piece) tight in the direction of the winch. The rope is pushed firmly into the grooves.



9
slightly higher.



10 Dynaforce end piece "Wrapper" M
Suitable for 10 and 12 mm ropes.
No. 42-447

11 Dynaforce glider M
No. 42-446/6 For 6 mm choker chains
No. 42-446/8 For 8 mm choker chains

12 Dynaforce plate M Required in front of the end piece and in

front of the winch.
No. 42-448

Winding instructions for the pull rope with the "Wrapper"
10 Dynaforce end piece Wrapper L Suitable for 14 and 16 mm ropes
no. 42-444

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11 Dynaforce glider L

No. 42-443/8 For 8 mm choker chains

No. 42-443/10 For 10 mm choker chains

12 Dynaforce plate L Required in front of the end piece and in front of the winch.

No. 42-445

User instructions Dynaforce & Dynaforce Plus winch cable



The advantages of synthetic winch ropes are

- Fast splicing with the aid of a splicing tube
- Larger rope capacity due to smaller rope diameter
- Low risk of injury if the rope breaks
- Greater effectiveness by lengthening the rope

Safety instructions:

- The Dynaforce winch cable may only be used for pulling on level ground
- the rope must never be knotted. The rope must be spliced to create an end connection or to connect two ends
- Splicing must be carried out exactly as instructed in the operating instructions
- the minimum breaking load of the rope must always be twice the maximum pulling capacity of the cable winch
- The rope may only be used for backing wood
- Mechanical cable infeed or outfeed pulleys on the cable winch must be removed

Structure and function:

- the winch cable is fixed to the drum in the same way as a steel cable
- Only rope sliders, deflection pulleys or end connections specially approved for synthetic ropes may be used

Testing and maintenance:

- Before starting work, the splice condition of the end connections and the rope condition must be checked
- All sliders and guide rollers must be checked for burrs or sharp edges. If necessary, these must be replaced
- The rope should always be well impregnated. Our Lubi Fill impregnating agent can be used for this purpose

Discarding instructions:

- Breakage of a strand in a rope strand or damage to more than 10 % of the material of all strands in a rope strand
- Severely roughened and extensive damage to the rope surface (abrasion)
- Damage to the construction due to yarns being pulled out
- cross-section-destroying deformation of the rope strands such as shearing
- Melting of the rope surface due to the effect of heat and the resulting burns, scorching and embrittlement
- Influence of chemicals

Manufacturer

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