~~Multi-strand hybrid rope~~ HYBRID ROPE OR HYBRID STRAND

Description

Technical Field

[0001] The invention relates to a hybrid rope comprising a core element and outer metallic closed layers, to the termination of the rope and to a method of producing such a hybrid rope.

Background Art

[0002] Conventional wire ropes and cables normally feature a metallic core surrounded by an outer layer of helically laid steel wire or wire strands. The cable with metallic core has a disadvantage of being exceedingly heavy in long lengths.

[0003] Therefore, ropes with a core of natural or synthetic fibers twisted together with metallic wire strands, i. e. so called hybrid ropes, are introduced to impart various characteristics to the ropes depending on the type of natural or synthetic fibers used.

[0004] An advantage of a hybrid rope in view of a fully steel rope is the lower weight of the rope and improved performance like e.g. tension and bending fatigue.

[0005] The advantage of the hybrid rope in view of a fully synthetic rope, e.g. nylon, is that the hybrid rope is highly resistant to abrasion, crushing and stretch while also exhibiting the desired characteristics of toughness and excellent impact strength.

[0006] US-A-4 034 547 discloses a composite cable 10 which comprise a synthetic core 12 and a metal jacket 14 as illustrated in Fig. 1. The synthetic core 12 is formed of a bundle or construction of high performance fibers and the jacket 14 is formed of a plurality of wires or wire strands 16. This patent further discloses that a weight approximate 30 % lighter than the weight of the corresponding size steel cable can be achieved by the composite cable.

[0007] The advantage of hybrid ropes comes into effect in particular in the case of ropes of great length for suspended use, such as hauling or hoisting ropes