

Alternatingly Twisted Cable

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Brief Description of Drawings

FIG. 1 is a cross-sectional diagram of one example of a cable according to the present invention; FIG. 2 is an oblique view thereof; and FIG. 3 is a side view of another embodiment of a core that is used in the present invention.

Detailed Explanation of the Invention

The present invention relates to an improvement of an alternatingly twisted cable, and, in particular, relates to an alternatingly twisted cable that prevents twisting of a wire core from becoming undone. There is a trend to often using, as communication cables, so-called "alternatingly twisted cables," wherein that wherein a large number of strands of insulated wires or pairs thereof or quad strands, or units thereof, are twisted together so as to reverse the direction of twisting thereof with given periodicity. However, there is a shortcoming with this type of cable in that, when a tensile force is applied in the lengthwise direction of the cable core prior to application of the cable sheathing, in particular, the twisting of the cable core becomes undone, and while there has been a variety of innovations to prevent this, each has problems in practice.

The present invention focuses on this point, and a first invention thereof is an alternatingly twisted cable wherein a large number of insulated wire strands, or that wherein the insulated wire strands are twisted together, are laid, while twisting along the surfaces, along both surfaces of a core material that is made by forming a plate-shaped body so that the direction of the surface thereof gradually changes in a reciprocatingly twisted shape, applying a pressing coil on the outer periphery thereof, and covering the outer periphery thereof with a cable sheath, and a second invention is an alternatingly twisted cable wherein a portion of the aforementioned core body is replaced with a connecting portion.

Explaining this for an illustrated embodiment, 1 is an insulated wire or that wherein insulated wires are twisted together, laid divided onto both sides of a core material 2, with the outer periphery thereof wrapped with a rough wrapping yarn for applying pressure, with the outer periphery then covered with a cable sheath 4. The core material 2 is formed in a reciprocatingly twisted shape so that the directions of both sides gradually change along the lengthwise direction thereof, as depicted best in FIG. 2. This can be obtained through twisting a flat plate-shaped hard plastic, or the like, while maintaining a given temperature, so as to reverse, with a constant periodicity,

the direction in which the surface of the plate faces. In laying the insulated wires, while twisting depending on the direction of the surface, in proximity to both surfaces of the core material that is obtained in this way, the core material may be twisted reciprocatingly by a guide hole that is provided in the center of a revolving plate, and the revolving plate may be rotated reciprocatingly, to match the twist of the core material, while pulling the tip end of each of the insulated wire groups through dice after passing the individual insulated wire groups through guide holes that are provided at the periphery of edges. A pressing wrapping 3, which presses from the normal direction, and a cable sheath 4 are produced on the outer periphery of the wire core that is produced in this way. As described above, the alternatingly twisted cable according to the present invention has a core material, which is formed with a reciprocatingly twisted shape, interposed between the insulated wires; thus the twisting will not become undone even when a tensile force is applied, in the lengthwise direction, to the wire core. Additionally, because the wire core is twisted reciprocatingly in accordance with on the shape of the core material, that is, is twisted together so as to be the same as the alternating twisting, when connecting together or repairing, etc., the wire core, the operation can be achieved easily because slack is produced in the wire core if the core material is cut to a given length.

The second invention of the present application is formed in the same manner as the first invention. However, as depicted in FIG. 3, the core material is formed through connecting a plurality of connecting rods 6 of a twisted plate 5 that is formed so that the direction of the surface of a plate-shaped body will gradually change, and the wire cores are laid, while twisting into a reciprocatingly twisted shape, on both faces of the core material, in the same manner as in the first invention. In the second invention of the present application, structured in this way, the same effects as in the first invention are produced.

Scope of Patent Claims

1. An alternatingly twisted cable obtained through laying, while twisting along a surface of a core material, a large number of insulated wires, or that wherein insulated wires are twisted together, on both surfaces of a core material wherein a plate-shaped body is formed so that the direction of a surface thereof is gradually varied into a reciprocatingly twisted shape, and a pressing yarn and a cable sheath are provided on the outer periphery thereof.

2. An alternatingly twisted cable obtained through laying, while twisting along a surface of a core material, a large number of insulated wires, or that wherein insulated wires are twisted together, on both surfaces of a core material wherein plate-shaped bodies are formed so that the direction of a surface thereof is gradually varied into a twisted shape are connected together through a plurality of connecting rods, and a pressing yarn and a cable sheath are provided on the outer periphery thereof.

(2)

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FIG. 1

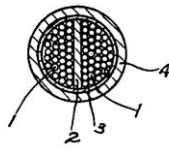


FIG. 2

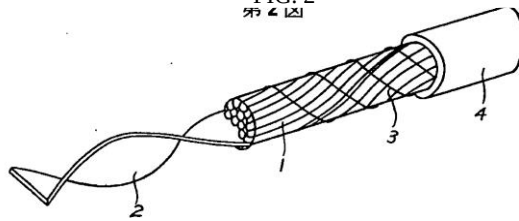
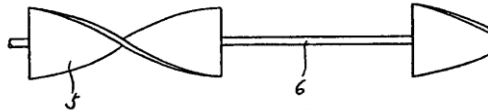


FIG. 3



TRANSLATOR CERTIFICATION

Date: June 12, 2023

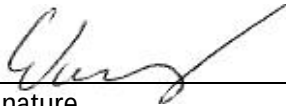
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