Claims

1. A rope terminal assembly of an elevator fixing an elevator rope to a fixing base such as an elevator unit, said elevator being suitable for transporting passengers and/or goods, which assembly comprises at least the following components:

    - an elevator rope, whose width is larger than its thickness in a rope transverse direction, with at least one end having an end face,
    - one or more wedge elements,
    - a wedge housing,

    wherein the rope terminal assembly comprises a rope gap through which said elevator rope passes, **characterized in that** said wedge element is arranged to wedge between said rope and said wedge housing thus locking said elevator rope in the gap, and at least one component of the rope terminal assembly is made of fiber reinforced polymer composite material, and **in that** said wedge housing comprises reinforcing fibers such as fiberglass or carbon fibers embedded in polymer matrix material.

2. The rope terminal assembly according to claim 1, **characterized in that** said wedge housing is a one piece structure of predetermined size with round cross section.

3. The rope terminal assembly according to any one of the previous claims, **characterized in that** said wedge housing comprises reinforcing fibers in fiber orientation between 0 and ±90 deg with respect to the longitudinal axis of the wedge housing.

4. The rope terminal assembly according to any one of the previous claims, **characterized in that** said wedge housing comprises multiple zones that each possesses different angles for fiber orientation.

5. The rope terminal assembly according to any one of the previous claims, **characterized in that** one or more sections of said wedge housing comprises a metal or non-metal reinforcement ring or insert.

6. The rope terminal assembly according to any one of the previous claims, **characterized in that** one or more components of the rope terminal assembly is constructed using filament winding method, resin transfer molding method or fabricated from prepregs.

7. The rope terminal assembly according to any one of the previous claims, **characterized in that** one or more components of the rope terminal assembly comprises carbon fiber reinforcements embedded in polyimide resin or phenolic resin matrix material.

8. The rope terminal assembly according to any one of the previous claims, **characterized in that** said wedge element is an elongated element comprising a contact surface portion arranged against said wedge housing element and a contact surface portion arranged against said elevator rope surface.

9. The rope terminal assembly according to any one of the previous claims, **characterized in that** said wedge element is constructed sandwich-structured comprising a core and metal or non-metal skins attached to the core.

10. The rope terminal assembly according to any one of the previous claims, **characterized in that** said assembly comprises a rope end block attached to said rope end, and said rope end block is attached on said end face side of the elevator rope with respect to the wedge element.

11. The rope terminal assembly according to any one of the previous claims, **characterized in that** said rope end block is made from plastics or some other electrically non-conductive material.

12. The rope terminal assembly according to any one of the previous claims, **characterized in that** said elevator rope is electrically connected to a rope condition monitoring means via said rope end block comprising one or more electrically conductive short circuit elements and fastening means.

13. The rope terminal assembly according to any one of the previous claims, **characterized in that** said elevator rope comprises one or more non-metallic such as carbon fiber reinforced polymer composite load bearing parts.

14. Elevator suitable for transporting passengers and/or goods, which elevator comprises:

    - a hoistway,
    - at least one elevator unit movable in the hoistway, including at least an elevator car,
    - lifting means comprising a lifting device and one or more elevator ropes connected to at least one elevator unit,

    characterized in that said elevator rope is fixed to a fixing base such as an elevator unit with a rope terminal assembly according to any of claims 1 to 13.