Claims

1. A method for temporary transportation of an overload within an elevator installation (1) having a car (2) and a counterweight (4) interconnected by one or more suspension ropes (6) engaging a traction sheave (12) which is driven by a motor (10), the method comprising the step of:
detecting an overload,
enhancing traction between the suspension ropes (6) and the traction sheave (12) independently of the counterweight (4)
switching internal parameters of a drive (8) driving the motor to protect the drive and motor during the intended overload transportation, and/ or
switching the motor armature windings from parallel to series configuration.

2. A method according to claim 1 wherein enhancing traction is achieved by increasing the tension on a compensation rope (18) suspended between the car (2) and counterweight (4).

3. A method according to claim 1 wherein enhancing traction is achieved by squeezing the ropes (6) in grooves (50;52;54) on the traction sheave (12).

4. A method according to claim 1 wherein enhancing traction is achieved by introducing a liner (48) between the traction sheave (12) and the suspension ropes (6).

5. A method according to claim 1 wherein enhancing traction is achieved by exerting pressure on the suspension ropes (6) as they pass over the traction sheave (12).

6. A method according to claim 1 wherein enhancing traction is achieved by increasing a wrap angle (α) over which the suspension ropes (6) engage the traction sheave (12).

7. A method according to claim 1, to protect the drive and motor during the intended overload transportation further comprising the step of reducing the speed and/or the acceleration of the elevator (1) for transportation of the overload.

8. A method according to claim 1, to protect the drive and motor during the intended

overload transportation further comprising the step of transporting the overload with intermediate stops and/or restricting the number of starts the elevator can make in an hour.

9. A method according to claim 1, to protect the drive and motor during the intended overload transportation further comprising the step of introducing forced cooling through the motor (10) and its associated drive (8).

10. An elevator installation (1) comprising a car (2) and a counterweight (4) interconnected by one or more suspension ropes (6) engaging a traction sheave (12) which is driven by a motor (10), and configured to enhance traction between the suspension ropes (6) and the traction sheave (12) independently of the counterweight (4) for temporary transportation of an overload, wherein the motor (10) windings are switchable from parallel to series configuration.

11. An elevator installation (1) according to claim 10, further comprising an actuator (24) applying force (F_c) to a compensation rope (6) suspended between the car (2) and the counterweight (4).

12. An elevator installation (1) according to claim 10 wherein the suspension ropes (6) between the car (2) and the counterweight (4) follow a path over the traction sheave (12) and a deflection pulley (14) whereby the deflection pulley (14) is displaceable.

13. An elevator installation (1) according to claim 10 wherein the suspension ropes (6) between the car (2) and the counterweight (4) follow a path over the traction sheave (12) and a deflection pulley (14) further comprising an additional pulley (30) between the sheave (12) and the deflection pulley (14).

14. An elevator installation (1) according to claim 10, further comprising a pressure exertion device (40) to exert a pressure on the suspension ropes (6) as they engage the traction sheave (12) over a wrap angle (α).

15. An elevator installation (1) according to claim 14 wherein the pressure exertion device (40) comprises a tensioned, closed-loop belt (42) entrained over one or more rollers (44).

16. An elevator installation (1) according to claim 10, further comprising a traction sheave

liner (48) between the traction sheave (12) and the suspension ropes (6).

17. An elevator installation (1) according to claim 10 wherein the counterweight (4) is designed so that its total mass is equal to or greater than the sum of the mass of the empty elevator car (2) plus 50% of the nominal rated load so that during temporary transportation of the overload the elevator is underbalanced.