CLAIMS

1. A method for absorbing energy during an overload event using an energy absorber (2) in order to reduce loads on an object (103) being transported on a loading unit (100),

wherein the energy absorber (2) is suitable for absorbing energy at least during a single overload event, which introduces such a high degree of energy that without an energy absorber, damage to the object is probable or overwhelmingly likely, in order to reduce, during the overload event, the resulting load on the object by means of the energy absorption by the energy absorber (2),

wherein a sensor device (61) periodically captures measurement values (62) of the present state of the loading unit (100),

wherein a control device (48) detects an overload event (65) from the captured measurement values (62), characterized in

that a measure of the weight of the object intended for transport (103) is determined, and that a threshold value (68) for a load on the object intended for transport
(103) is determined from the measure of the weight,
specifying an overload event threshold (67) depending on the threshold value (68) derived from the measured weight; said overload event threshold being lower than the threshold value (68);

and that upon detection of the overload event (65), when the load on the object (103) exceeds the overload event threshold (67), controlling a damping of the energy absorber (2) and periodically adapting the damping of the energy absorber (2) to maintain the load on the object intended for transport (103) remains beneath the threshold value (68) defined by the measured weight, as long as the measurement values (62) exceed the overload event threshold (67) derived from the measured weight.

2. The method according to claim 1, wherein at least after detecting the overload event (65), the damping of the energy absorber (2) is periodically adapted by means of the periodically captured measurement values (62).

3. The method according to claim 1 or 2, wherein the control device periodically derives from the measurement values (62), characteristic parameters for a load on the loading unit (100).

4. The method according to any one of the preceding claims, wherein the loading unit (100) is provided with a shear device (42) which shears off as the load acting on the loading unit (100) exceeds an overload event threshold (67), wherein the control device (48) detects

an overload event (65) when shearing of the shear device (42) is detected.

5. The method according to any one of the preceding claims, wherein the control device (48) detects an overload event (65) when a characteristic value (65) exceeds an overload event threshold (67).

6. The method according to any one of the preceding claims, wherein the overload event threshold (67) is specified in dependence on the threshold value (68).

7. The method according to any of the preceding claims, wherein the measure of the weight of the object intended for transport (103) is determined from the load on the loading unit (100) in the state of rest.

8. The method according to any one of the preceding claims, wherein the measure of the weight of the object intended for transport (103) is determined from a time average (38) of the load on the loading unit (100).

9. The method according to the preceding claim, wherein the load on the loading unit (100) is determined immediately upon activation.

10. The method according to any one of the preceding claims, wherein the type of the object intended for transport (103) is determined.

11. The method according to the preceding claim, wherein an identification unit (109) of the object intended for transport (103) is detected.

12. The method according to the preceding claim, wherein a memory (110) of the identification unit (109) of the object intended for transport (103) is read out.

13. The method according to any one of the preceding claims, wherein comfort damping (71) is performed for a portion of the vertical lift of the energy absorber (2).

14. The method according to any one of the preceding claims, wherein the overload event threshold (67) and/or the maximum load (68) of the object intended for transport (103) is variable.

15. The method according to the preceding claim, wherein a presetting for a maximum load (68) is stored in the identification unit (109).

16. The method according to claim 14 or claim 15, wherein the maximum load (68) is dependent on the gender and/or the age of a person intended for transport.

17. An assembly (1) including a loading unit (100) for transporting objects (103) and an energy absorber (2) for absorbing energy at least in an overload event, to reduce loads acting on an object (103) being transported on a loading unit (100),

wherein the energy absorber (2) is suitable and set up to absorb energy in a single overload event (65) involving energy input that is so high that absent an energy absorber (2), damage to the object (103) is possible or highly probable, so as to reduce resulting loads acting on the object in the overload event (65) by way of energy absorption by means of the energy absorber (2),

wherein a control device (48) and at least one sensor device (61) for capturing measurement values (62) about the present state of the loading unit (100) and at least the energy absorber (2) are provided, the control device (48) controlling the energy absorber (2) by way of the measurement values (62),

wherein the control device (48) is set up and configured to detect an overload event (65) from the captured measurement values (62), characterized in

that the control device (48) set up and configured to determine the measure of the weight of the object intended for transport (103), and to determine from the measure of the weight, a threshold value for a load (68) on the object intended for transport (103), the control device further configured to specify an overload event threshold (67) depending on the threshold value (68) derived from the measured weight; said overload event threshold (67) being lower than the threshold value (68),

and that the control device (48) set up and configured, upon detection of the overload event (65) to control damping of the energy absorber (2) such that the load on the object intended for transport (103) remains beneath the threshold value (68) defined by the measured weight, so long as the measurement values (62) exceed the overload event threshold (67) derived from the measured weight.

18. The assembly (1) according to the preceding claim, wherein the sensor device (61) is attached to the assembly (1), and wherein the sensor device (61) is in particular attached to a dampened part (4) of the assembly (1).

19. The assembly (1) according to claim 17 or 18, wherein the sensor device (61) comprises

at least one sensor such as a weighing cell, a load transducer and/or an expansion measuring strip.

20. The assembly (1) according to any one of claims 17-19, wherein the energy absorber (2) is provided with at least one absorber valve (13), the damping of which is controlled by the strength of an applied magnetic field.

21. The assembly (1) according to any one of claims 17-20, wherein the loading unit (100) is provided with a shear device (42) which shears off as the load acting on the loading unit (100) exceeds a predetermined amount (67).

22. The assembly (1) according to any one of claims 17-21, wherein the loading unit (100) is configured as a seat device (21) in a transport means such as a vehicle or a boat, the seat device (21) comprising a receiving unit (101) configured as a seat, and a supporting device (102) configured as a seat frame, with the energy absorber (2) disposed between the seat and the seat frame.