CLAIMS

1. 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 during a single overload event, which introduces such a degree of energy into the loading unit that would cause the object to be damaged without an energy absorber, in order to reduce the resulting load on the object during the overload event by means of the energy absorption of the energy absorber (2), wherein a sensor device (61) detects measurement values (62) about the current state of the loading unit (100), characterised in that a control device (48) detects an overload event (63) from the recorded measurement values (62) and that, at least immediately after an overload event (63) is detected, a damping of the energy absorber (2) is set to a high value that is closer to a maximum value than to a minimum value and the damping is maintained for a specified time period (67), wherein the specified time period (67) is calculated in such a way that during said specified time period (67) a plurality of successive measurement values (62) is detected and that after the specified time period (67) the damping is controlled dependent on the measurement values (62) detected during the overload event, in order to initially increase the load on objects (103) being transported on the loading unit (100) up to a specified threshold load (64) during the specified time period (67) and to control said load after the specified time period (67) dependent on the measurement values (62) detected during the overload event.

2. Method according to claim 1, wherein the control device periodically derives characteristic parameters (65) for a load on the loading unit (100) from the measurement values (62).

3. Method according to any of the previous claims, wherein a shear device (42) is provided in the loading unit (100), which is sheared off when the load being applied to the loading unit (100) exceeds a predetermined amount (66), wherein

the control device (48) detects an overload event (63) when a shear sensor (67) detects the shear device (42) being sheared.

4. Method according to any of the previous claims, wherein the control device (48) detects and overload event (63) when a characteristic parameter exceeds a predetermined amount (66).

5. Method according to the previous claim, wherein the damping is reduced to a lower value of the damping (71) immediately after the specified time period (67), and then controlled and/or increased again dependent on the characteristic parameter (65).

6. Method according to any of the previous claims, wherein the damping is maintained at the high value beyond the specified time period.

7. Method according to any of the previous claims, wherein the energy absorber (2) is maximally damped during the specified time period (67) after an overload event (63) is detected.

8. Method according to any of claims 2 to 7, wherein after the specified time period (67) has ended, the energy absorber (2) is time-dependently controlled dependent on the respective currently derived characteristic parameter (65).

9. Method according to any of claims 2 to 8, wherein the damping of the energy absorber (2) is reduced when the characteristic parameter (65) reaches or exceeds a specified threshold load (64) acceptable for persons.

10. Method according to any of the previous claims, wherein the acceptable threshold load (64) is predetermined for a standard person.

11. Method according to any of the previous claims, wherein the sensor values of a sensor unit (68) located on an object (103) are taken into consideration.

12. Method according to any of the previous claims, wherein a sensor means is coupled with the loading unit (100), in order to determine a weight of an object (103) being transported and/or an acceleration of the loading unit (100).

13. Method according to any of the previous claims, wherein a comfort function is provided and minor impacts below an overload event threshold (69) are damped.

14. Method according to any of the previous claims, wherein the energy absorber (2) has an absorber valve (13), the damping of which is controlled by means of the strength of an applied magnetic field.

15. Assembly (1) with a loading unit (100) for transporting objects (103) and an energy absorber (2) for absorbing energy during an overload event, in order to reduce loads on an object (103) being transported on a loading unit (100), wherein the energy absorber (2) is suitable and arranged for absorbing energy during a single overload event, which introduces such a degree of energy into the loading unit that would cause the object to be damaged without an energy absorber, in order to reduce the resulting load on the object during the overload event by means of the energy absorption of the energy absorber (2), wherein a control device (48) and at least one sensor device (61) are provided to detect measurement values (62) about the current state of the loading unit (100) and at least the energy absorber (2), wherein the energy absorber (2) can controlled with the measurement values (62) using the control device (48), characterised in that the control device (48) is arranged and formed to detect an overload event (63) from the detected measurement values (62) and, at least immediately after an overload event (63) is detected, to set a damping of the energy absorber (2) to a high value that is closer to a maximum value than to a minimum value and to maintain the damping for a specified time period (67), wherein said specified time period (67) is calculated in such a way that during said specified time period (67) a plurality of successive measurement values (62) is detected and that after the specified time period (67) the damping can be controlled dependent on the measurement values (62) detected during the overload event,

in order to initially increase the load on objects (103) being transported on the loading unit (100) up to a specified threshold load (64) and to control said load after the specified time period (67) dependent on the measurement values (62) detected during the overload event.

16. Assembly (1) according to the previous claim, wherein the sensor device (61) is attached to the assembly (1) and/or a sensor unit (68) is provided that can be placed on an object (103), which can be coupled using a wire or wirelessly.

17. Assembly (1) according to any of the two previous claims, wherein a sensor means is coupled with the loading unit (100), in order to determine a weight of an object (103) being transported and/or an acceleration of the loading unit (100).

18. Assembly (1) according to any of the three previous claims, wherein the energy absorber (2) has at least one absorber valve (13), the damping of which is controlled by means of the strength of an applied magnetic field.

19. Assembly (1) according to any of the four previous claims, wherein a shear device (42) is provided in the loading unit (100), which can be sheared off when the load being applied to the loading unit (100) exceeds a predetermined amount (66).

20. Assembly (1) according to any of the five previous claims, wherein the loading unit (100) is formed as a seat assembly (21) of a vehicle, wherein the seat assembly (21) comprises a mounting unit (101) formed as a seat and a bearing unit (102) formed as a seat frame seat assembly (21), wherein the energy absorber (2) is fitted between the seat and the seat frame.