PATENT CLAIMS

1. An energy absorption device ~~(100)~~ for protecting a vehicle element ~~(10, 10', 10''), in particular of a military vehicle (1', 1', 1''),~~ against a detonation effect, comprising

a first fastening element ~~(110)~~ which ~~can be~~is ~~connected~~ connectable to a vehicle chassis ~~(2)~~ and/or a vehicle hull ~~(2)~~, and

a second fastening element ~~(120)~~ which ~~can be~~ is ~~connected~~ connectable to the vehicle element ~~(10, 10', 10'')~~ which is to be protected,

at least two webs ~~(130, 140, 150, 160)~~ being arranged between the first and the second fastening element ~~(110, 120)~~,

~~characterized in that~~wherein

the at least two webs ~~(130, 140, 150, 160)~~ are arranged in such a way that they lie above one another in a common plane ~~(E)~~,

wherein

flexurally reinforced transition zones are configured between the fastening elements and the respective adjoining at least two webs,

internal radii are configured between the at least two webs in a flexurally reinforced corner, and/or internal radii are configured in the flexurally reinforced transition zones,

flexurally reinforced corners are configured in each case between the at least two webs, and

the internal radii between the at least two webs in the flexurally reinforced corners and/or internal radii in the flexurally reinforced transition zones become greater from the second fastening element toward the first fastening element.

2. The energy absorption device ~~(100)~~ as claimed in claim 1, ~~characterized in that~~wherein the at least two webs ~~(130, 140, 150, 160)~~ have at least one deformation zone ~~(172, 174, 182, 184, 192, 194)~~.

3. The energy absorption device ~~(100)~~ as claimed in claim 2, ~~characterized in that~~wherein the first fastening element ~~(110)~~, the second fastening element ~~(120)~~, the at least two webs ~~(130, 140, 150, 160)~~ and the at least one deformation zone ~~(172, 174, 182, 184, 192, 194)~~ are arranged in such a way that they lie above one another in the common plane ~~(E)~~ which lies perpendicularly with respect to the first and the second fastening element ~~(110, 120)~~.

4. The energy absorption device ~~(100)~~ as claimed in any one of the preceding claims, ~~characterized in that~~wherein the at least two webs ~~(130, 140, 150, 160)~~ are of resiliently flexible configuration.

~~5. The energy absorption device (100) as claimed in one of the preceding claims, characterized in that flexurally reinforced transition zones (112, 122) are configured between the fastening means (110, 120) and the respective adjoining webs (130, 160).~~

~~6~~5. The energy absorption device ~~(100)~~ as claimed in any one of claims 1 to ~~4~~5, ~~characterized in that~~wherein at least one deformation zone ~~transition deformation zones~~ ~~(115, 125) are~~ is configured so ~~as~~ to adjoin the flexurally reinforced transition zone~~s (112, 122)~~ to at least one web.

~~7. The energy absorption device (100) as claimed in one of the preceding claims, characterized in that flexurally reinforced corners (170, 180, 190) are configured in each case between the webs (130, 140, 150, 160).~~

~~8~~6. The energy absorption device ~~(100)~~ as claimed in claim ~~7~~2 or any one of claims 3 to 5 when directly or indirectly dependent on claim 2, ~~characterized in that~~wherein the at least one deformation zone~~s~~ ~~(172, 174, 182, 184, 192, 194) are~~ is configured so as to adjoin the flexurally reinforced corners ~~(170, 180, 190)~~.

~~9~~7. The energy absorption device ~~(100)~~ as claimed in claim 2 or any one of claims ~~2~~3 to ~~8~~6 when directly or indirectly dependent on claim 2, ~~characterized in that~~wherein, from the second fastening element ~~(120)~~ toward the first fastening element ~~(110)~~, the at least one deformation zone~~s~~ ~~(172, 174, 182, 184, 192, 194) are~~ is configured such that ~~they can~~it is at least partially ~~be deformed~~ deformable with greater difficulty than the preceding at least one deformation zone~~s (172, 174, 182, 184, 192, 194)~~, with the result that the energy absorption device ~~(100)~~ has a progressive deformation characteristic curve.

~~10~~8. The energy absorption device ~~(100)~~ as claimed in any one of the preceding claims, ~~characterized in that~~wherein ~~the~~a thickness ~~(t_1, t_2, t_3, t_4)~~ of the at least two webs ~~(130, 140, 150, 160)~~ becomes greater from the second fastening element ~~(120)~~ toward the first fastening element ~~(110)~~, with the result that the

energy absorption device ~~(100)~~ has a progressive spring characteristic curve.

~~11~~9. The energy absorption device ~~(100)~~ as claimed in any one of the preceding claims, ~~characterized in that~~wherein the at least two webs ~~(130, 140, 150, 160)~~ are arranged in a sawtooth-like manner in alternating directions.

10. The energy absorption device as claimed in any one of claims 1 to 9, wherein the vehicle element is of a military vehicle.

~~12. The energy absorption device (100) as claimed in one of the preceding claims, characterized in that internal radii (R_2, R_3, R_4) are configured between the webs (130, 140, 150, 160) in the flexurally rigid corners (170, 180, 190), and/or internal radii (R_1, R_5) are configured in the transition zones (112, 122).~~

~~13. The energy absorption device (100) as claimed in one of claims 7 to 12, characterized in that the internal radii (R_2, R_3, R_4) between the webs (130, 140, 150, 160) in the flexurally rigid corners (170, 180, 190) and/or internal radii (R_1, R_5) in the transition zones (112, 122) become greater from the second fastening element (120) toward the first fastening element (110).~~

~~14~~11. A vehicle ~~(1, 1', 1'')~~ comprising an energy absorption device ~~(100)~~ as claimed in any one of claims 1 to ~~13~~ 10 and a vehicle element ~~(10, 10', 10'')~~, the vehicle element ~~(10, 10', 10'')~~ being connected via the

energy absorption device ~~(100)~~ to the vehicle~~ (1, 1', 1'')~~.

~~15~~12. The vehicle ~~(1, 1', 1'')~~ as claimed in claim ~~14~~11, the vehicle element ~~(10, 10', 10'')~~ being a cab, ~~in particular a vehicle cab,~~ a floor, an intermediate floor, a vehicle body, a foot plate, a seat means, a weapons system, a device mount or a shelf.

13. The vehicle as claimed in claim 12, wherein the cab is a vehicle cab.