Claims

[Claim 1]

A fender structure (1) comprising:

a fender body (11), made of an elastic material, mounted on a quay (80) or the like, including a bumper portion (13) for buffering an impact at the time of aboardage of a ship (81); and

a bumper portion covering body (41), made of an elastic material, separably mounted on the fender body, covering a whole of a surface (14) of the bumper portion of the fender body, wherein

the fender structure further comprises:

the fender body has a hollow portion (23) opened on both ends,

the bumper portion covering body includes a fixing member (65) for fixing the fender body and the bumper portion covering body to each other,

the fixing member consists of a cordlike member (66) fixed on one side of the back surface of the bumper portion covering body and a cordlike member fixture (67) fixed on another side of the back surface of the bumper portion covering body for fixing the cordlike member, and

the cordlike member is arranged on the back side (15) of the bumper portion through the hollow portion and fixed by the cordlike member fixture.

[Claim 2]

The fender structure comprising:

a fender body (11), made of an elastic material, fixed on a quay (80) or the like, including a bumper portion (13) for buffering an impact at the time of aboardage of a ship (81); and

a bumper portion covering body (41), made of an elastic material, separably mounted on the fender body, covering a whole of a surface (14) of the bumper portion of the fender body; wherein

the fender structure further comprises:

the bumper portion covering body includes a cover body portion (43) covering at least a part of the bumper surface and a sheetlike support portion (44) integrally provided on the cover body portion and having a forward end portion detachably fixed to the quay or the like.

[Claim 3]

A fender structure comprising:

a fender body (11), made of an elastic material, mounted on a quay (80) or the like, including a bumper portion (13) for buffering an impact at the time of aboardage of a ship (81); and

a bumper portion covering body (41), made of an elastic material, separably mounted on the fender body, covering at least a part of a surface (14) of the bumper portion of the fender body; wherein

the fender structure further comprises:

the fender body includes at least one concave- or convex-shaped first engaging portion (55a to 55d) on the bumper portion, while the bumper portion covering body includes at least one convex- or concave-shaped second engaging portion (56a to 56d) on a flat surface in contact with the bumper portion of the fender body,

the first engaging portion and the second engaging portion are arranged to engage with each other, and

force in a direction parallel to the flat surface in contact with the bumper portion of the fender body is so applied to the bumper portion covering body as to generate first force causing shear fracture in the fender body through the first engaging portion and second force causing shear fracture in the bumper portion covering body through the second engaging portion, and the magnitude of the first force is set to be greater than the magnitude of the second force.

[Claim 4]

The fender structure according to any of claim 1 to claim 3, wherein

at least a part of the bumper portion covering body is relatively movable in a direction deviating with respect to a bumper surface (22) of the bumper portion.

[Claim 5]

The fender structure according to any of claim 1 to claim

4, provided on a surface of the bumper portion covering body with a plurality of projecting bodies (51) in contact with the bumper portion of the fender body.

[Claim 6]

The fender structure according to any of claim 1, claim 2, claim 4 depending on claim 1 or 2, claim 5 depending on claim 1 or 2, wherein

the fender body includes at least one concave- or convex-shaped first engaging portion (55a to 55d) on the bumper portion, while the bumper portion covering body includes at least one convex- or concave-shaped second engaging portion (56a to 56d) on a flat surface in contact with the bumper portion of the fender body, and

the first engaging portion and the second engaging portion are arranged to engage with each other.

[Claim 7]

The fender structure according to claim 6, wherein

a force in a direction parallel to the flat surface in contact with the bumper portion of the fender body is so applied to the bumper portion covering body as to generate a first force causing shear fracture in the fender body through the first engaging portion and a second force causing shear fracture in the bumper portion covering body through the second engaging portion, and the magnitude of the first force is set to be greater than the magnitude of the second force.

[Claim 8]

The fender structure according to any of claim 1 to claim 7, wherein

the bumper portion covering body covers the whole surface of the bumper portion of the fender body, and further includes a protective member (61a, 61b) covering at least a part, closer to the bumper portion, of the corresponding side surface portion (17a, 17b) of the fender body on at least one of end portions in the horizontal direction.

[Claim 9]

The fender structure according to any of claim 1 to claim 7, wherein

the bumper portion covering body covers the whole surface of the bumper portion of the fender body, and further includes a protective member covering at least a part, closer to the bumper portion, of at least one side surface portion (27a, 27b) in the longitudinal direction of the fender body.

[Claim 10]

The fender structure according to any of claim 1 to claim 9, wherein

the bumper portion covering body is constituted of a plurality of cover units (42a to 42e).