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The invention relates to renewable energy conversion systems, namely to the structure of spars of the wind turbine rotor blades.

The wind turbine rotor blade comprises a casing (1) with an aerodynamic profile, made of composite material, inside which is placed a spar, consisting of two longitudinal plates (4) and (5), made of composite material, between which is perpendicularly installed a third plate (6). The spar (2) comprises a cap, which consists of a fixing plate (3), connected to the longitudinal plates (4) and (5), wherein the fixing plate (3) and the adjacent portions of the longitudinal plates (4), (5) and of the plate (6) at a distance of $\frac{1}{4}$ from the length of the blade are made of carbon fibers, bidirectionally reunited in a plurality of layers. Between the longitudinal plates (4) and (5) of the spar (2), in the vicinity of the fixing plate (3), can be rigidly fixed crosspieces, made of a shape memory alloy. Also, in the structure of the longitudinal plate (4) can be embedded fibers (11), made of shape memory alloy.

Claims: 3
Fig.: 5