【CLAIMS】

【Claim 1】

A prefabricated steel assembly for a steel concrete composite column with permanent forms, comprising:

a plurality of shape steel members (1) having sections of shapes corresponding to corners of the steel concrete composite column having a polygonal shape in such a manner as to be internally spaced apart from the column surfaces on the corners of the steel concrete composite column to build the steel concrete composite column;

a plurality of support bars (2) coupled to outer surfaces of the shape steel members (1) to connect the neighboring shape steel members (1) to each other, each support bar (2) having a ‘L’-shaped section to allow a web (21) to be fixedly coupled to the shape steel members (1); and

the permanent forms (3) disposed on the column surfaces and coupled to outer ends of lower flanges (22) of the support bars (2), each permanent form (3) having a flat plate (31) adapted to build an outer surface of the column, protrusions (32) having ‘L’-shaped sections in such a manner as to protrude from the inner surface of the flat plate (31) in a longitudinal direction of the column, a bent corner portion (33) bent vertically from one side end of the flat plate (31) toward the neighboring column surface, and an outer protrusion (34) having a ‘L’-shaped section, protruding from the inner end of the bent corner portion (33) in the longitudinal direction of the column, and laid on top of a protrusion (32’) formed on an outermost position of the permanent form (3’) coupled to the neighboring column surface,

wherein the lower flange (22) of each support bar (2) has ‘L’-shaped locking holes (221) whose inlet are larger than widths of the protrusions (32), so that the protrusions (32) of the permanent form (3) are inserted into locking holes (221) on the front surfaces of the locking holes (221) and are then slidingly moved laterally and locked onto the locking holes (221), and an extended support (24) extended from one end thereof toward the bent corner portion (33) in such a manner as to be inserted into the inside of the corresponding protrusion (32) to support the corresponding protrusion (32).

【Claim 2】

The prefabricated steel assembly according to claim 1, wherein corner stiffeners (4) are coupled to the inside of the bent corner portion (33).

【Claim 3】

The prefabricated steel assembly according to claim 2, wherein each corner stiffener (4) comprises a first extended portion (42) extended from a protrusion side end portion thereof in such a manner as to surround the protrusion (32) and a second extended portion (43) extended from an outer protrusion side end portion thereof in such a manner as to be inserted into the inside of the outer protrusion (34).

【Claim 4】

The prefabricated steel assembly according to claim 2, wherein each corner stiffener (4) has support wings (44) bent vertically from sides coming into contact with the bent corner portion (33) in such a manner as to be supported against the surfaces of the bent corner portion (33).

【Claim 5】

The prefabricated steel assembly according to claim 1, wherein the shape steel members (1) located at the corners facing each other are connected to each other by means of bracing members (5).