CLAIMS

1. A connection of a steel tube column infilled with concrete and a reinforced concrete slab, wherein

a plurality of ribs are connected to the steel tube column through slits provided in the steel tube column, such that the largest planes of the ribs coincide with a substantially vertical plane, each of the ribs having two parts, one part being located inside the steel tube column and the other part being located inside the reinforced concrete slab,

a bearing steel plate is connected to the outer circumferential surface of the steel tube column and to the lower ends of the plurality of ribs, such that the largest plane of the bearing steel plate coincides with a substantially horizontal plane,

the reinforced concrete slab is mounted on the bearing steel plate, ~~and~~

each of the ribs has at least one first through-hole in the one part located inside the steel tube column,

each of the ribs has at least one second through-hole in the other part located inside the reinforced concrete slab,

an auxiliary reinforcing bar threaded through the at least one second through-hole of each of the ribs is arranged inside the reinforced concrete slab, and

at least some of slab reinforcements are U-shaped reinforcing bars, as viewed in a vertical plane, which are arranged such that their U-shaped portions catch and hold the auxiliary reinforcing bar.

2. The connection according to claim 1, wherein each of the ribs has a plurality of the first through-holes along a substantially vertical direction.

~~3. The connection according to claim 1 or 2, wherein~~

~~each of the ribs has at least one second through-hole in the other part located inside the reinforced concrete slab,~~

~~an auxiliary reinforcing bar threaded through the second through-hole is arranged inside the reinforced concrete slab, and~~

~~at least some of slab reinforcements are U-shaped reinforcing bars, as viewed in a vertical plane, which are arranged such that their U-shaped~~

~~portions catch and hold the auxiliary reinforcing bar.~~

~~4~~3. The connection according to claim ~~3~~ 1 or 2, wherein each of the ribs has a plurality of the second through-holes along a substantially vertical direction.

~~5~~4. The connection according to any one of claims 1 to 3 ~~or 4~~, wherein the auxiliary reinforcing bar(s) are ring-shaped reinforcing bar(s) threaded

through the second through-hole(s) in each of the ribs and extending to surround, as viewed in a horizontal plane, the steel tube column.

~~6~~5. The connection according to any one of claims 1 to 3 ~~or 4~~, wherein the auxiliary reinforcing bars are at least four linear reinforcing bars arranged to surround, as viewed in a horizontal plane, the steel tube column.

~~7~~6. The connection according to any one of claims 1 to ~~6~~ 5, wherein the connecting of the plurality of ribs to the steel tube column and/or the connecting of the bearing steel plate to the outer circumferential surface of the steel tube column and to the lower ends of the plurality of ribs are performed by fillet welding.

~~8~~7. The connection according to any one of claims 1 to ~~7~~ 6, wherein an auxiliary steel plate is connected to the outer circumferential surface of the steel tube column and to the upper ends of the plurality of ribs, such that the largest plane of the auxiliary steel plate coincides with a substantially horizontal plane.