CLAIMS

1. A coupler for joining opposing structural elements during construction comprising:

a threaded post adapted to be attached to a first structural element;

a one-piece, non-rotating seating stud comprising a shank including an integral seating head with a centring protrusion, the seating stud adapted to be attached to a corresponding opposite second structural element;

an adjusting coupler member having an inner threaded and an outer threaded wall and an end wall, the end wall complementarily configured to receive the centring protrusion;

the adjusting coupler member adapted to be screwed onto the threaded post so the end wall can be rotated against the one-piece, non-rotating seating stud, wherein the end wall on engaging the protrusion, assists to align the opposing first and second structural elements;

an enclosing coupler member having an inner threaded wall and an end wall aperture;

the enclosing coupler member adapted to be screwed onto the adjusting coupler member with the shank of the seating stud passing through the aperture;

the adjusting coupler member adapted to be screwed on the threaded post to engage and apply a pushing force against the seating head wherein the position of the first structural element to the second structural element can be adjusted, and wherein on achieving the desired final position, the enclosing coupler member can be screwed onto the adjusting coupler member to enclose and lock the seating head against the adjusting coupler.

2. The coupler of claim 1 wherein the seating stud is of a unitary or one piece construction and the seating head comprises a cylindrical boss with the centring protrusion located at the centre of its upper surface.

3. The coupler of claim 1 wherein the shank of the seating stud has a neck of a reduced size to provide increased sideways movement or lateral tolerance when located in the aperture of the enclosing coupler member.

4. The coupler of claim 1 wherein the centring protrusion of the seating head is of a conical, frusta conical or tapered configuration.

5. The coupler of claim 1 wherein the end wall of the adjusting coupler member adapted to receive the protrusion comprises an indentation or aperture which on fully engaging the protrusion there is a gap between the protrusion and the indentation or aperture of at least three millimetres in width.

6. The coupler of claim 1 wherein the end wall of the adjusting coupler member adapted to receive the protrusion comprises an indentation or aperture which on fully engaging the protrusion there is a gap between the protrusion and the indentation or aperture of less than three millimetres in width.

7. The coupler of claim 1 wherein the adjusting and enclosing couplers have facets or flats machined on an external face for the application of one or more spanners to turn and to tighten the adjusting and outer couplers together.

8. The coupler of claim 1 wherein the threaded post has an enlarged, un-threaded portion at one end as a safety feature to prevent the adjusting coupler member from being wound past its threaded engagement with the threaded post.

9. The coupler of claim 1 wherein the threaded post has an indentation or aperture at one end to afford the centring protrusion more vertical adjustment space and/or to reduce the overall length of the assembled coupler.

10. The coupler of claim 1 wherein there is a lock nut on the threaded post to be tightened against the adjusting coupler member to lock and confine overall slippage or elongation of the assembled coupler when under tensile or compressive load.

11. The coupler of claim 1 wherein a flowable, hard-setting filler, cementitious grout or epoxy, is injected into an internal void internal void formed on screwing together the adjusting and enclosing coupler members.

12. The coupler of claim 1 wherein there is a feed-hole in the adjusting coupler member for the injection of a filler.

13. The coupler of claim 1 wherein there is a bleed hole in the adjusting coupler to allow air to escape.

14. The coupler of claim 1 wherein the shank of the seating stud and enclosing coupler have complementary threaded portions to temporarily hold the enclosing coupler out of the way while the adjusting coupler engages the seating head prior to achieving the desired final position and the enclosing coupler member is screwed onto the adjusting coupler member to couple the first and second structural members .

15. The coupler of claim 1 modified for use as a tensioning coupler, the modifications including:

the adjusting coupler member lengthened to provide additional threads on its inner and outer walls;

the enclosing coupler member lengthened to provide additional thread on its inner wall;

wherein on assembly, the elongated threaded walls of both coupler members enables the end wall of the enclosing coupler to engage the seating head before the adjusting coupler member contacts the seating head, and wherein continued screwing together of the adjusting and enclosing coupler members draws together the opposing first and second structural members under tension.

16. A method of adjusting the position of concrete building structures located above one another through their first and second structural elements using the coupler as claimed in claim 1 including the steps of:

a) attaching the threaded posts with adjusting coupler members screwed on, to the first structural element;

b) attaching the seating studs passed through the enclosing coupler members to the corresponding opposite second structural element;

c) screwing the enclosing coupler members onto the complementary threaded portions of the seating studs to temporarily hold the enclosing couplers out of the way;

d) screwing the adjusting coupler members on the posts to engage the seating heads to co axially align and apply a lifting or pushing force to adjust the position of the first and second structural elements with respect to one another;

e) on completion of adjustment, screwing the enclosing coupler members on the adjusting coupler members to enclose and lock the seating heads and couple the rebar;

f) tightening any lock nuts to further secure individual components of the coupler assemblies;

g) optionally filling any voids in the coupler assemblies with filler, before

h) permanently embedding the coupler assemblies in concrete.

17. A coupler for joining opposing structural elements during construction comprising:

a post adapted to be attached to a first structural element;

a one-piece seating stud comprising a shank including an integral seating head, the seating stud adapted to be attached to a corresponding opposite second structural element;

an adjusting coupler member having an inner threaded and an outer threaded wall and an end wall;

the adjusting coupler member associated with the post so the end wall can be rotated against the one-piece, seating stud,

an enclosing coupler member having an inner threaded wall and an end wall aperture;

the enclosing coupler member adapted to be screwed onto the adjusting coupler member with the shank of the seating stud passing through the aperture;

the adjusting coupler member adapted to be screwed on the post to engage and apply a pushing force against the seating head, wherein the position of the first structural element to the second structural element can be adjusted, and wherein on achieving the desired final position, the enclosing coupler member can be screwed onto the adjusting coupler member to enclose and lock the seating head against the adjusting coupler.

18. The coupler of claim 1 or claim 17 when embedded in concrete.

19. The coupler of claim 17 wherein the adjusting and enclosing couplers are embedded in concrete.