Levelling and support system

The present invention relates to a levelling and support system comprising at least one base plate and at least one packer element, wherein the at least one base plate comprises at least a first leg portion lying in a first plane and at least a second leg portion lying in a second plane, the first and second planes not being coincident. The at least one packer element comprises at least one connection means for facilitating releasable connection with at least one of the at least first and/or at least second leg portions of the at least one base plate.

The present invention also relates to a base plate and a packer element for use in the levelling and support system, and to a method of levelling and supporting a wall or panel or other structure.
Description

[0001] The present invention relates to a levelling and support system and, in particular, to a levelling and support system for use in the construction/installation of walls and/or panels in buildings and other structures.

[0002] In addition, the present invention has particular utility in the construction/installation of timber framed walls, or of other modular walls or panels used in the construction of a building or other structure.

[0003] During the construction of buildings and other structures, the walls and/or panels are typically built or installed on a foundation, substructure or other supporting surface/membrane. An example of the latter scenario is in multiple storey construction, and storey to storey connection in particular. It is important that loads from such walls and/or panels (comprising both horizontal and vertical loads) are properly transferred to the foundation, substructure or other supporting surface/membrane on which they are mounted or supported. It is also preferable that the walls and/or panels are mounted or supported in a substantially level orientation.

[0004] It is, of course, preferred that any foundation, substructure or other supporting surface/member is provided in a reasonably level form to support the wall or panel. However, in reality, it is inevitable that required tolerances are not always met and that gaps exist between the foundation, substructure or other supporting surface/member and a required level, requiring structural packing of up to 20mm or more thickness in certain circumstances.

[0005] Presently, there are three published options for packing underneath of sole plates used to support walls or panels. These are as follows:

1) Permanent structural packers under the sole plate
   The sole plate is levelled on temporary packers. Permanent packing is placed under the sole plate once the first lift construction has been erected. This permanent packing can be:
   
   (a) free flowing non-shrinkable grout for the full length and width of the sole plate, or
   (b) individual packers placed under each load point.

2) Bedding of sole plate
   The sole plate is laid and levelled on a continuous bed of mortar, prior to the erection of the wall panels. The bedding should extend the full length and width of the sole plate.

3) Double sole plate sandwich

[0006] The lower sole plate is fixed to follow the contours of the supporting structure. The upper sole plate is fixed on top and levelled with temporary packers inserted between the sole plates. Permanent packers are to be inserted under each load point once the first lift construction has been erected.

[0007] The process of installing sole plates on an uneven substructure is problematic in that some of the preferred systems are 2 part processes. No matter which of the above options is employed, the levelling medium should be durable and not deform under load. Problems with these prior art options include:

   a) loosening or breakout of the bedding material when fixing through the timber sole plate and bedding material with mechanical anchors;
   b) delay in erecting the frame to allow for the bedding to go off (set);
   c) secondary visit required to replace temporary packers/spacers with permanent packers/spacers;
   d) non-structural temporary packers/spacers used to level sole plate are then not replaced with permanent structural packers/spacers when the first lift of timber frame is erected;
   e) temporary and permanent packers/spacers are poorly fitted and fall out;
   f) no durable packers/spacers are used; and
   g) compressible packers/spacers are used.

[0008] It is important that permanent packers should be designed and approved to suit the loading on the sole plate and should be at least the same plan area as the load points.

[0009] Packers should be designed only to take the vertical loadings imposed from the wall system to the substructure.

[0010] To transfer the horizontal loadings from the wall system into the substructure it is necessary to use a secondary fixing method. This is usually done by either:

   (a) fixing through the sole plate directly into the substructure with a mechanical anchor; or
   (b) using a 3-dimensional nailing plate which is mechanically anchored to the substructure and mechanically fixed to the timber sole plates.

[0011] At present, there is no one system that adequately combines the functions of levelling and anchoring the timber sole plate or other constructional element whilst providing horizontal and vertical load transfer.

[0012] The present invention addresses this issue. Furthermore, the present invention addresses the problem of enabling a sole plate to be installed economically onto an uneven substructure, and of enabling an open panel timber frame wall section or other wall, panel or constructional element to be installed economically onto an uneven substructure. The present invention also addresses the problem of providing a system for quick and easy levelling of a timber or other sole plate (or other constructional element), and of providing a means of transferring vertical and horizontal loads from the sole plate or other constructional element to the substructure. The present invention also provides a means of aiding
the accurate setting out of sole plates or other constructional elements. In addition, the present invention provides for levelling, support and anchoring of constructional elements against lateral and uplift forces.

[0013] The present invention provides, in a first aspect, a levelling and support system comprising:

- at least one base plate; and
- at least one packer element, wherein:

  - the at least one base plate comprises at least a first leg portion lying in a first plane and at least a second leg portion lying in a second plane, the first and second planes not being coincident;
  - the at least one packer element comprising at least one connection means for facilitating releasable connection with at least one of the at least first and/or at least second leg portions of the at least one base plate.

[0014] In a second aspect, the present invention provides a method of levelling and supporting a wall or panel or other structure comprising the steps of:

  - locating at least one base plate according to claim 5 or claim 6 in a gap formed between a foundation, substructure or other supporting surface/member and the wall or panel or other structure to be supported;
  - optionally anchoring the at least one base plate to the foundation, substructure or other supporting surface/member;
  - releasably connecting one or more packer elements according to claim 7 to at least one of the at least first or second leg portions of the at least one base plate using the connection means so as to fill the gap and to effect a desired levelling of the wall or panel or other structure to be supported; and
  - optionally anchoring the wall or panel or other structure to be supported to the at least one base plate.

[0015] Preferred embodiments of the present invention will now be described by way of example only with reference to the accompanying drawings, in which:

Figure 1 is a schematic illustration of a levelling and support system according to a preferred embodiment of the present invention installed in a first preferred configuration.

Figure 2 is a schematic front perspective view of a base plate and packer elements of the levelling and support system of Figure 1.

Figure 3 is a schematic rear perspective view of the base plate and packer elements of the levelling and support system of Figure 2.

Figure 4 is a schematic underside perspective view of the base plate and packer elements of the levelling and support system of Figure 2.

Figure 5 is a schematic front perspective view of the base plate of Figure 1.

Figure 6 is a schematic illustration of a packer element according to the present invention.

Figures 7 and 8 are schematic front perspective views of alternative embodiments of base plate according to the present invention.

Figures 9 to 13 are schematic perspective illustrations of alternative embodiments of packer element according to the present invention.

Figure 14 is a schematic rear perspective view of the base plate of Figure 5 using the packing elements of Figures 6 and 12 in an alternative arrangement of a yet further embodiment according the present invention.

Figure 15 is a schematic perspective illustration of a series of packer elements of different thickness according to the present invention.

Figure 16 is a schematic illustration of a levelling and support system according to a further embodiment of the present invention in an installed configuration.

Figure 17 is a schematic perspective view of a base plate and packer elements of the levelling and support system according to a further embodiment of the present invention.

Figure 18 is a schematic illustration of the installation of a levelling and support system using the base plate and packer element configuration of Figure 17.

[0016] Referring first to Figure 1, there is illustrated a base plate 10 and packing elements 20 according to the present invention installed in a first preferred configuration 100. A foundation, substructure or other supporting surface/member 101 provides support for a timber sole plate 40 of a wall or panel structure which further comprises a vertical timber stud member 42, a timber bottom rail 44, and the sheathing 46, typically plasterboard. The vertical timber stud member 42 rests on or is connected to the timber sole plate 40 via a timber bottom rail 44, and the sheathing 46 provides a surface to the wall or panel, supported by the vertical stud member 42 and the sole plate 40. The sheathing 46 may extend to the foundation, substructure or other supporting surface/member 101, as shown, or may stop short. A skirting board (not shown) may be provided.

[0017] As explained above, it is inevitable that required tolerances are not always met and hence gaps 50 may exist between the foundation, substructure or other supporting surface/member 101 and a required level (indicated by the level of the sole plate 40), resulting in the need for structural packing to fill the gaps 50.

[0018] The levelling and support system according to the present invention bridges gaps 50 and comprises at least a base plate 10 and as many packer elements 20 as are required to fill the gap 50. The base plate 10 is first located in position and may be mechanically fixed to the foundation, substructure or other supporting surface/member 101 using one or more fasteners or anchors 30.
Each packer element 20 is connected to the base plate 10 by means of a locking interaction of a T-shaped protrusion provided on the packer element 20 which can be inserted through a slot provided in the base plate 10 when the packer element 20 is in a first "insertion" position or configuration and which is restrained by the slot in the base plate 10 when the packer element 20 is in a second "in-use" position or configuration.

0019] Once installed between the foundation, substructure or other supporting surface/member 101 and sole plate 40, the base plate 10 and packer element(s) 20 provide firstly the levelling means and secondly the vertical load transfer. The sole plate 40 may then be mechanically fixed to the base plate 10 of the levelling and support system using fasteners (not shown) to provide horizontal (lateral) load transfer and to prevent uplift in the vertical direction.

0020] Referring next to Figures 2 to 6, more detailed views of the base plate 10 and packing elements 20 according to a first preferred embodiment of the present invention are shown.

0021] The base plate 10 can be seen (see Figure 5 in particular) to comprise a vertical leg 11 and a horizontal leg 12 arranged substantially perpendicular to one another. Each leg 11, 12 is provided with a plurality of fixing holes 13 for flexibility and ease of installation, some of which may be elongate 14 to allow for extra flexibility of installation (i.e. to provide for installation tolerances). A slot 15 is provided in the base plate which extends at least partially along the centre of each leg 11, 12. At each end of the slot 15 is provided an aperture 16 for receiving a protrusion of a packer element 20. The provision of a slot 15 and aperture 16 in each leg 11, 12 provides for flexibility of installation as the base plate 10 may be used in more than one orientation. Each leg 11, 12 is also provided with a plurality of notches 17 to allow for the attachment of a string line(s) for flexibility and ease of installation.

0022] Each packer element 20 is substantially planar, of a prescribed thickness and comprises a T-shaped protrusion 21 (see Figure 6 in particular). The T-shaped protrusion, comprising a head portion 22 and a leg portion 23, is provided for insertion through the aperture 16 of the base plate 10 when in a first "insertion" position or configuration. The leg portion 23 of the T-shape is then received in the slot 15 as the packer element 20 is slid down into the slot 15 provided in the base plate 10 until it rests on the leg 11, 12 of the base plate 10 (in the case that no other packer elements 20 have been employed) or on another packer element 20 (in the case that one or more other packer elements 20 have been employed). The head portion 22 of the T-shape is retained behind the leg 11, 12 by the slot 15 in the base plate 10 when the packer element 20 is in this second "in-use" position or configuration. Where space permits, the packer element 20 may avoid having to use the aperture 16 in the base plate 10 by being first orientated such that the planar body is vertical or almost vertical (i.e. rotated back by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be inserted direct into the slot 15 of the base plate 10 when in a first "insertion" position or configuration. The packer element can then be orientated such that the planar body is horizontal or almost horizontal (i.e. rotated back by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be retained behind the leg 11, 12 by the slot 15 in the base plate 10 when the packer element 20 is in the second "in-use" position or configuration. The leg portion 22 of the T-shape is retained by the slot 15 as the packer element 20 is slid down into the slot 15 provided in the base plate 10 until it rests on the leg 11, 12 of the base plate 10 (in the case that no other packer elements 20 have been employed) or on another packer element 20 (in the case that one or more other packer elements 20 have been employed).

0023] Each packer element 20 is also provided with a locking tab 24 integrally formed in the centre of the planar body. At least a portion of the locking tab 24 extends out of the plane of the packer element 20 and, in use, interacts with the aperture 16 of the leg 11, 12 of the base plate to aid in positioning and/or locking the packer element 20 in place. In the case that a packer element 20 is already in place, the locking tab 24 of the further packer element 20 interacts with the corresponding aperture formed by the locking tab 24 of the in-situ packer element 20 to aid in positioning and/or locking the packer element 20 in place. The locking tab 24 thus assists the T-shaped protrusion 21 in resisting lateral (horizontal) forces and movement.

0024] Each packer element 20 is also provided with fastener holes 25. These fastener holes 25 allow a mechanical fastener to pass through the packer element 20 and although not generally used, they may be used in certain installations where extreme lateral (horizontal) forces and movement could be encountered or where the packer element 20 is used independently of the base plate.

0025] Referring next to Figures 7 and 8, there are shown schematic front perspective views of alternative embodiments of base plate 110, 210 according to the present invention.

0026] In Figure 7, there is shown a base plate 110 of more basic form than the base plate 10 of Figure 5. The base plate 110 is suitable for use in only one orientation as the horizontal leg 112 does not comprise a slot 115 or aperture 116 for receiving the T-shaped protrusion 21 of a packer element 20.

0027] In Figure 8, there is shown a base plate 210 also of more basic form than the base plate 10 of Figure 5. The base plate 210 is likewise suitable for use in only one orientation as the horizontal leg 212 does not comprise a slot 215 or aperture 16. In addition, the vertical leg 211 of base plate 210 does not comprise an aperture 16. Accordingly, when using a packer element 20, the head portion 22 of the T-shaped protrusion 21 must be
inserted direct into the slot 215 of the vertical leg 211 of the base plate 210 in a first "insertion" position or configuration. This is achieved by first orientating the packer element 20 such that the planar body is vertical or almost vertical (i.e. rotated by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be inserted direct into the slot 215 of the vertical leg 211 of the base plate 210 when in a first "insertion" position or configuration. The packer element 20 must then be orientated such that the planar body is horizontal or almost horizontal (i.e. rotated back by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be retained behind the vertical leg 211 by the slot 215 in the base plate 210 when the packer element 20 is in the second "in-use" position or configuration. Furthermore, the horizontal leg 212 of base plate 210 comprises a raised guide potion 218 to aid screed levelling in an installation. In addition, one or more elongate slots 219 are provided in vertical leg 211 to allow the vertical leg to be easily bent over the top of the supported timber.

It will be appreciated that many alternative embodiments of base plate and respective slot and/or aperture configurations are possible, and that these may take any suitable form, e.g. no aperture 16, as illustrated in Figure 8, or alternative shapes and configurations of slot and aperture, as illustrated in Figures 17 and 18. The shape and form of the base plate can be varied as appropriate.

Referring next to Figures 9 to 12 and Figure 14, there are shown schematic perspective illustrations of alternative embodiments of packer element 120, 220, 320, 420, 520 according to the present invention.

In Figure 9, the packer element 120 is identical to the packer element 20 described above in all respects apart from not being provided with the optional fastener holes 25.

In Figure 10, the packer element 220 is similar to the packer element 120, but is additionally provided with a female aperture 226 shaped so as to receive a T-shaped protrusion 21, 121, 221 of another packer element 20, 120, 220. This provides extra functionality (a modular system) as it permits respective packer elements to be connected together along their longitudinal axes, extending the length over which the support span can be provided (for use in the present system or where the packer elements are used independently of the base plate, or for use with an alternative form of base plate, e.g. one having one or more elongate legs upon which the extra length of packer element can rest).

In Figure 11, the packer element 320 is identical to the packer element 220 described above in all respects apart from not being provided with the optional locking tab 224.

In Figure 12, the packer element 420 is identical to the packer element 20 described above in all respects apart from not being provided with the T-shaped protrusion 21, 121, 221, 321. Instead, the packer element 420 is used in conjunction with other packer elements 20, 120, 220 provided with a T-shaped protrusion 21, 121, 221, 321, locking tab 24, 124, 224 and/or fastener holes 25, 225. In the case that a packer element 20, 120, 220 is already in place, or will be used in addition, the locking tab 24, 124, 224 or fastener holes 25, 225 of the or these other packer elements 20, 120, 220 interact(s) with the corresponding locking tab 424 and/or fastener holes 425 of packer element 420 to aid in positioning and/or locking the packer element 420 in place, thus assisting in resisting lateral (horizontal) forces and movement. Such a configuration is illustrated in Figure 14 where packer elements 20, 120, 220 provided with the T-shaped protrusion 21, 121, 221, 321 are used alternately with packer elements 420 without a T-shaped protrusion 21, 121, 221, 321. Of course, these different packer elements 20, 120, 220, 420 need not be simply alternated; any suitable configuration may be adopted.

In Figure 13, the packer element 620 is identical to the packer element 20 described above in all respects apart from being provided with an additional locking tab 624. This aids in positioning and/or locking the packer element 620 in place. The locking tabs 624 may be provided in any suitable position or orientation. Indeed, more than two locking tabs 624 may be provided.

In Figure 15, there is schematically illustrated in perspective view a series of packer elements 520 of different thickness according to the present invention. Whilst the packer elements 520 can be seen to comprise only T-shaped protrusions 521, any feature of features of the alternative embodiments of packer elements 20, 120, 220, 320, 420 described above may be added, deleted or implemented in any configuration.

Referring to Figure 16, there is illustrated a base plate 10 and packing elements 20 according to the present invention installed in a further preferred configuration 200. A foundation, substructure or other supporting surface/member 201 provides support for a bottom plate 240 of a wall or panel structure which wall or panel structure further comprises a vertical stud member 242, insulation 244 and sheathing 246. Fasteners 248 connect together the bottom plate 240, vertical stud member 242 and sheathing 246. The sheathing 246 may extend to the foundation, substructure or other supporting surface/member 201, or stop short (as shown). A skirting board (not shown) may be provided.

Again, gaps 50 may exist between the foundation, substructure or other supporting surface/member 201 and a required level (indicated by the level of the bottom plate 240), resulting in the need for structural packing to fill the gaps 50.

The levelling and support system according to the present invention bridges gaps 50 and comprises at least a base plate 10, 110, 210 and as many packer elements 20, 120, 220, 320, 420, 520, 620 as are required to fill the gap 50. The base plate 10, 110, 210 is first located in position and may be mechanically fixed to the foundation, substructure or other supporting surface/
member 201 using one or more fasteners or anchors 30. Each packer element 20, 120, 220, 320, 420, 520, 620 is connected to the base plate 10, 110, 210 by means of its locking interaction (a T-shaped protrusion 21, 121, 221, 321, 521, 621 and/or locking tab 24, 124, 224 as described above).

[0039] Once installed between the foundation, substructure or other supporting surface/member 201 and bottom plate 240, the base plate 10 and packer element(s) 20 provide firstly the levelling means and secondly the vertical load transfer. The bottom plate 240 and/or other one or more of any of the vertical stud member 2246 and sheathing 246 may then be mechanically fixed to the base plate 10 of the levelling and support system using fasteners (not shown) to provide horizontal load transfer.

[0040] Referring next to Figures 17 and 18, an alternative installation of base plate 10 and packing elements 20 according to a further preferred embodiment of the present invention are shown.

[0041] As before, the base plate 10 can be seen (see Figure 17 in particular) to comprise a vertical leg 11 and a horizontal leg 12 arranged substantially perpendicular to one another. Each leg 11, 12 is provided with a plurality of fixing holes 13 for flexibility and ease of installation. A slot 15 is provided in the base plate which extends at least partially along the centre of each leg 11, 12. At each end of the slot 15 is provided an off-set aperture 16 for receiving a protrusion of a packer element 20. The provision of a slot 15 and aperture 16 in each leg 11, 12 provides for flexibility of installation as the base plate 10 may be used in more than one orientation.

[0042] Each packer element 20 is substantially planar, of a prescribed thickness and comprises a T-shaped protrusion 21 (see Figure 17 in particular). The T-shaped protrusion, comprising a head portion 22 and a leg portion 23, is provided for insertion through the aperture 16 of the base plate 10 when in a first "insertion" position or configuration. The difference in this embodiment is that the packer element(s) 20 is/are inserted from, and in use positioned on, the other side of the "upstanding" leg 11, 12 of the base plate 10. Then, as before, the leg portion 23 of the T-shape of each packer element 20 is then received in the slot 15 as it is slid down into the slot 15 provided in the base plate 10 until it rests on the foundation, substructure or other supporting surface/member rather than the leg 11, 12 of the base plate 10 (in the case that no other packer elements 20 have been employed) or on another packer element 20 (in the case that one or more other packer elements 20 have been employed). The head portion 22 of the T-shape is retained behind the leg 11, 12 by the slot 15 in the base plate 10 when the packer element 20 is in this second "in-use" position or configuration. Where space permits, the packer element 20 may avoid having to use the aperture 16 in the base plate 10 by being first orientated such that the planar body is vertical or almost vertical (i.e. rotated by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be inserted direct into the slot 15 of the base plate 10 when in a first "insertion" position or configuration. The packer element can then be orientated such that the planar body is horizontal or almost horizontal (i.e. rotated back by up to 90 degrees along its longitudinal axis). This enables the head portion 22 of the T-shaped protrusion 21 to be retained behind the leg 11, 12 by the slot 15 in the base plate 10 when the packer element 20 is in the second "in-use" position or configuration. The leg portion 22 of the T-shape is retained by the slot 15 as the packer element 20 is slid down into the slot 15 provided in the base plate 10 until it rests on the foundation, substructure or other supporting surface/member rather than the leg 11, 12 of the base plate 10 (in the case that no other packer elements 20 have been employed) or on another packer element 20 (in the case that one or more other packer elements 20 have been employed).

[0043] This is repeated for the necessary number of support points. Next, using the levelling system as a guide, mortar or screed is infilled between the respective base plates at the support points to produce a level base for the sole plate or other constructional element to sit on - ensuring the mortar or screed bed is the full width of the sole plate or other constructional element.

[0044] Each feature disclosed in this specification (including the accompanying claims and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features. In addition, all of the features disclosed in this specification (including the accompanying claims and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive. Accordingly, while many different embodiments of the present invention have been described above, any one or more or all of the features described, illustrated and/or claimed in the appended claims may be used in isolation or in various combinations in any embodiment. As such, any one or more feature may be removed, substituted and/or added to any of the feature combinations described, illustrated and/or claimed. For the avoidance of doubt, any one or more of the features of any embodiment may be combined and/or used separately in a different embodiment with any other feature or features from any of the embodiments. As such, the true scope of the invention is that as set out in the appended claims.

[0045] Whilst preferred embodiments of the present invention have been described above and illustrated in the drawings, these are by way of example only and non-limiting. It will be appreciated by those skilled in the art that many alternatives are possible within the ambit of the invention. For example, the installation may take many different forms. The number of base plates and/or packer elements used in an installation may be increased/reduced, and their relative positions and num-
3. A levelling and support system as claimed in claim 2.

4. A levelling and support system as claimed in any one of the preceding claims wherein the first and second planes are substantially perpendicular to one another.

5. A base plate for use in the levelling and support system of any one of the preceding claims comprising a first leg portion lying in a first plane and at least a second leg portion lying in a second plane, wherein the first and second planes are not coincident.

6. A base plate as claimed in claim 5 wherein the first and second planes are substantially perpendicular to one another.

7. A packer element for use in the levelling and support system of any one of claims 1 to 4 or with the base plate of claims 5 or 6 comprising at least one connection means for facilitating releasable connection with at least one of the at least first or second leg portions of the at least one base plate.

8. A method of levelling and supporting a wall or panel or other structure comprising the steps of:

   (a) locating at least one base plate according to claim 5 or claim 6 in a gap formed between a foundation, substructure or other supporting surface/member and the wall or panel or other structure to be supported;

   (b) optionally anchoring the at least one base plate to the foundation, substructure or other supporting surface/member;

   (c) releasably connecting one or more packer elements according to claim 7 to at least one of the at least first or second leg portions of the at least one base plate using the connection means so as to fill the gap and to effect a desired levelling of the wall or panel or other structure to be supported; and

   (d) optionally anchoring the wall or panel or other structure to be supported to the at least one base plate.

9. A method of levelling and supporting a wall or panel or other structure as claimed in claim 8 wherein the foundation, substructure or other supporting surface/member is uneven.

10. A method of levelling and supporting a wall or panel or other structure as claimed in claim 8 or claim 9 wherein the wall or panel or other structure to be supported is an open panel timber frame wall sec-
11. A method of levelling and supporting a wall or panel or other structure as claimed in any one of claims 8 to 10 to provide a means of transferring vertical loads from the wall or panel or other structure to the foundation, substructure or other supporting surface/member.

12. A method of levelling and supporting a wall or panel or other structure as claimed in any one of claims 8 to 11 to provide a means of transferring horizontal loads from the wall or panel or other structure to the foundation, substructure or other supporting surface/member.

13. Use of the levelling and supporting system of claims 1 to 4 to provide a means of aiding the accurate setting out of sole plates.

14. A base plate as claimed in claim 5 or claim 6 wherein the first and second leg portions are of different and/or variable lengths to accommodate different widths of wall or panel or other structure.

15. A base plate as claimed in claim 5, claim 6 or claim 14 comprising multiple fixing apertures to aid flexibility of installation.

16. A base plate as claimed in claim 15 wherein at least one of the multiple fixing apertures is elongate or slotted to enable the position of the base plate be adjusted after anchoring.

17. A base plate as claimed in any one of claims 5, 6, or claims 14 to 16 comprising a slot provided in at least one of the at least first and second leg portions to accommodate a connecting projection of at least one packer element.

18. A base plate as claimed in any one of claims 5, 6, or claims 14 to 17 comprising an aperture provided in at least one of the at least first and second leg portions to receive a connecting projection of at least one packer element.

19. A base plate as claimed in claim 17 or claim 18 wherein the slot and/or aperture provided in at least one of the at least first and second leg portions provides a connection means for facilitating, in use, releasable connection with a connecting projection of at least one packer element.

20. A levelling and support system as claimed in any one of claims 1 to 4 wherein the at least one base plate comprises at least one connection means for facilitating releasable connection with the at least one connection means of the at least one packer element.

21. A levelling and support system as claimed in any one of claims 1 to 4 and claim 20 wherein the releasable connection between the connection means of the at least one base plate and the at least one packer element constrains lateral movement therebetween.

22. A levelling and support system as claimed in claim 20 or claim 21 wherein the releasable connection between the connection means of the at least one base plate and the at least one packer element is by way of mechanical interface and requires no additional fasteners or components.

23. A levelling and support system or base plate or packer element substantially as hereinbefore described with reference to or as shown in the accompanying drawings.

24. A method of levelling and supporting a wall or panel or other structure substantially as hereinbefore described with reference to or as shown in the accompanying drawings.

25. Use of a levelling and support system or base plate or packer element substantially as hereinbefore described with reference to or as shown in the accompanying drawings.