

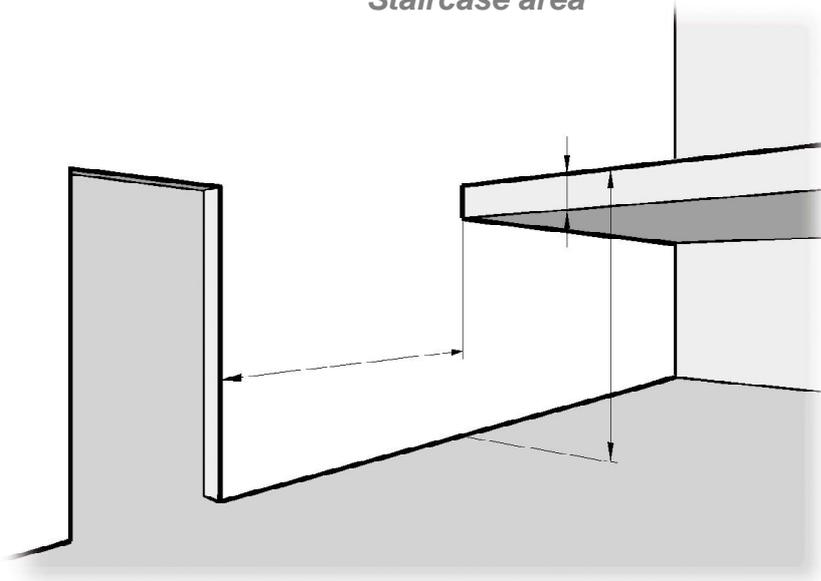
MOUNTING INSTRUCTIONS V20



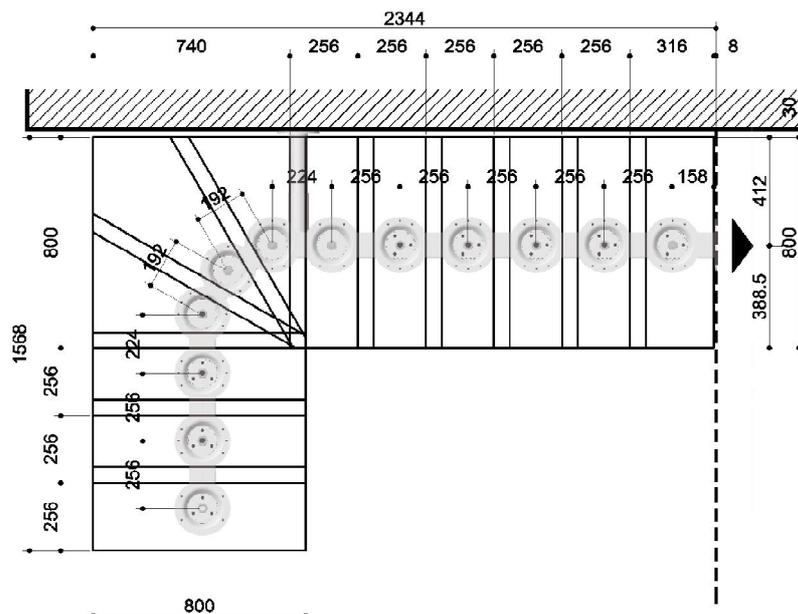
- ENGLISH -

Before proceeding with the mounting of the staircase, please check the dimensions of the area where the stair has to be fitted and verify them with the drawing ones.

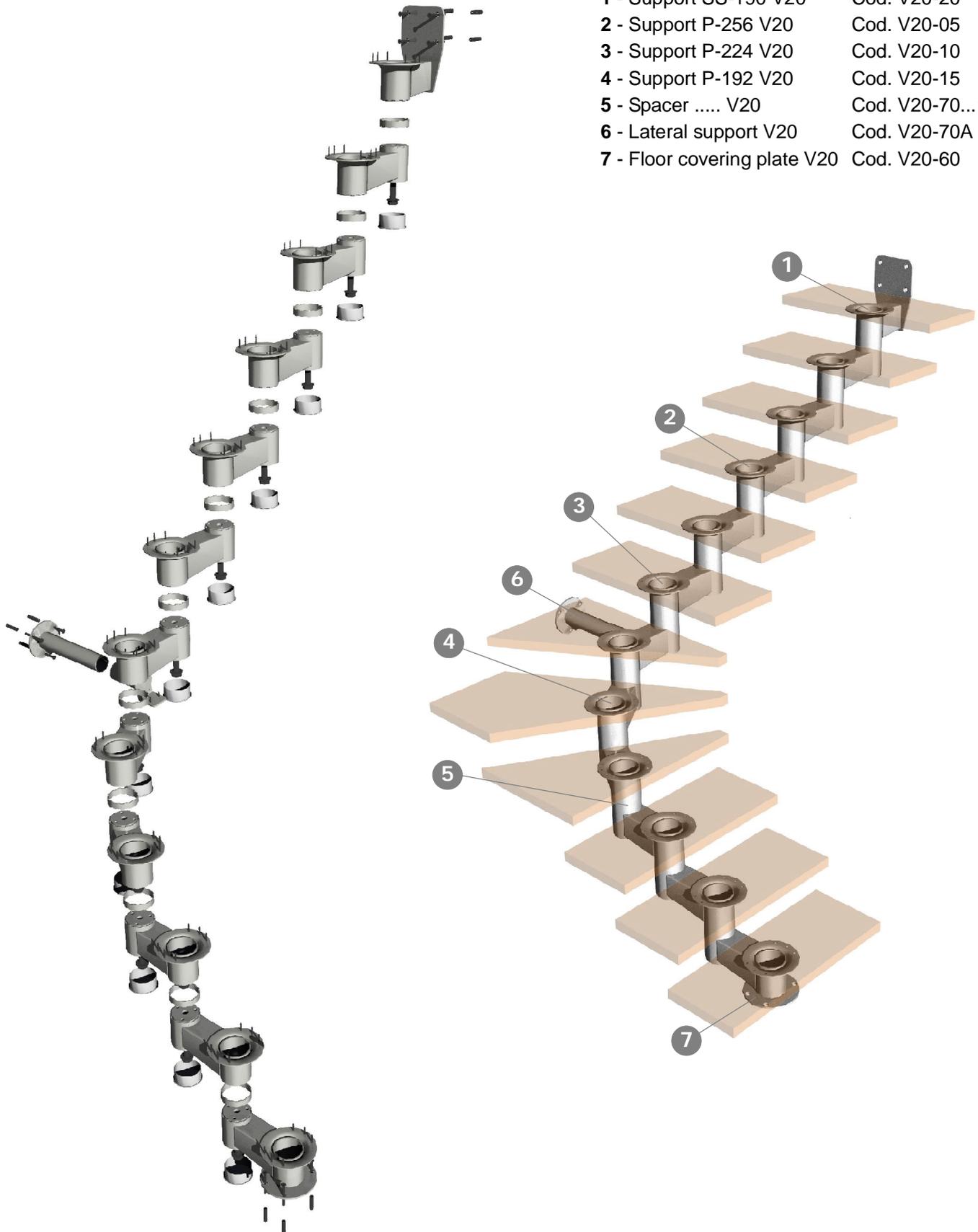
"Staircase area"



"Staircase drawing"



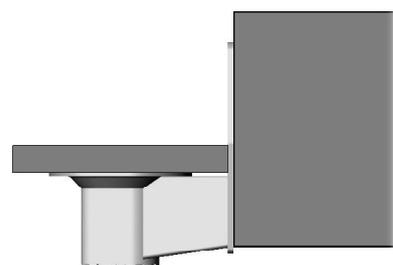
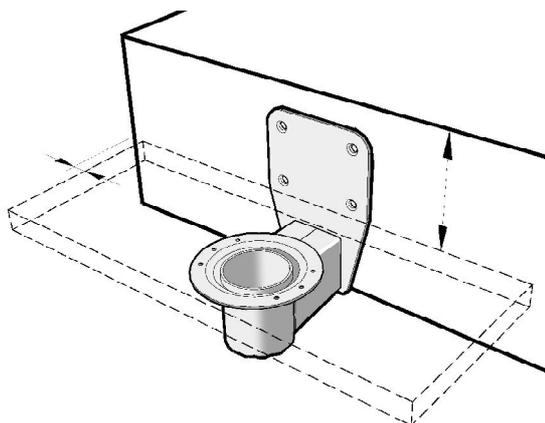
- | | |
|-------------------------------------|--------------------------|
| 1 - Support SS-190 V20 | Cod. V20-20 |
| 2 - Support P-256 V20 | Cod. V20-05 |
| 3 - Support P-224 V20 | Cod. V20-10 |
| 4 - Support P-192 V20 | Cod. V20-15 |
| 5 - Spacer V20 | Cod. V20-70...145 |
| 6 - Lateral support V20 | Cod. V20-70A |
| 7 - Floor covering plate V20 | Cod. V20-60 |



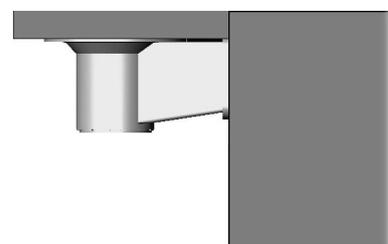
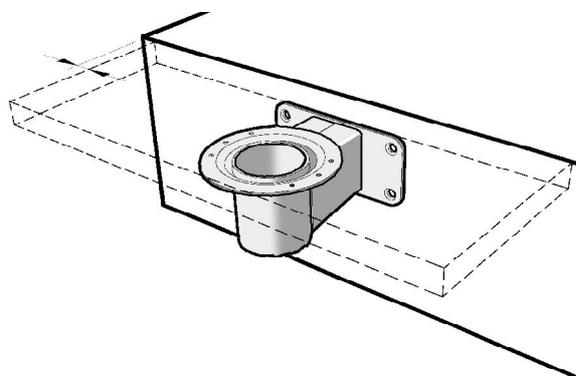
Place the supporting element at the stair landing and use the tread to mark the exact position.
 Check the rise dimension, the distance from the wall and the tread levelling.

Mark the four holes of the plate.

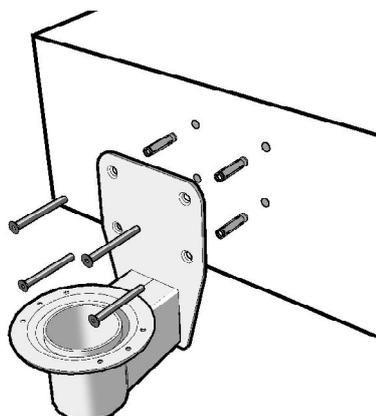
Landing underneath floor level



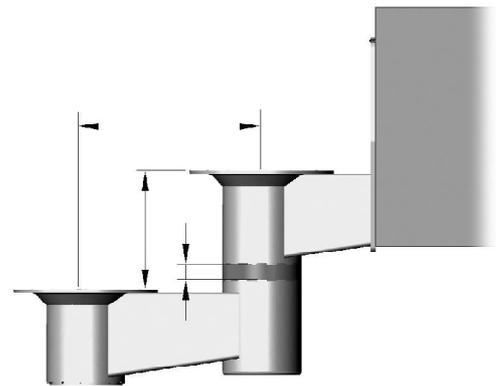
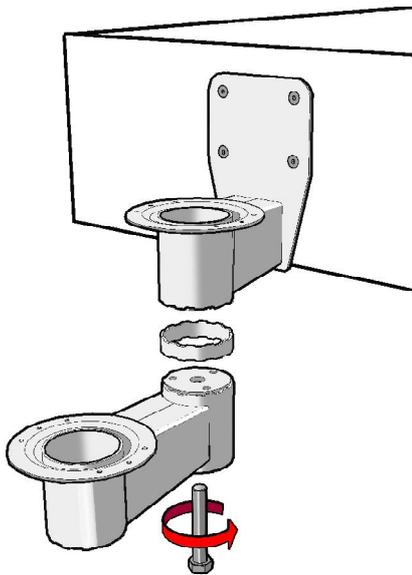
Landing at floor level



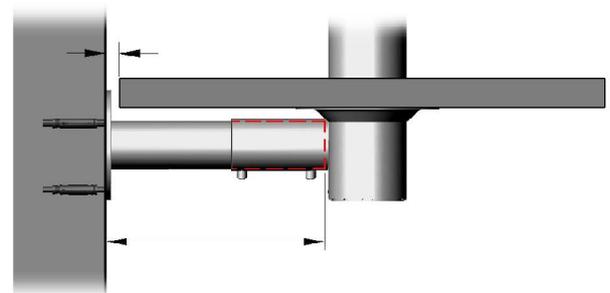
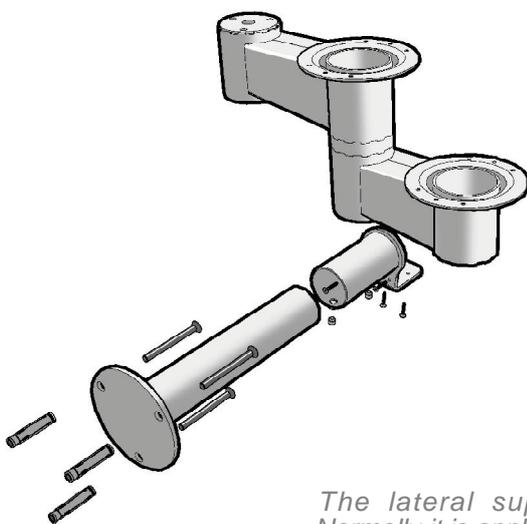
Drill the landing wall in order to insert the expanding screws.
 Fix the supporting element with the pertinent screws.



Assemble the supporting structure elements and place the spacers, then fix the elements with the pertinent screw, thus ensuring a good screwing pressure. The spacer size is normally stated in the stair drawing, however, one can consult the "**Spacers Table**".

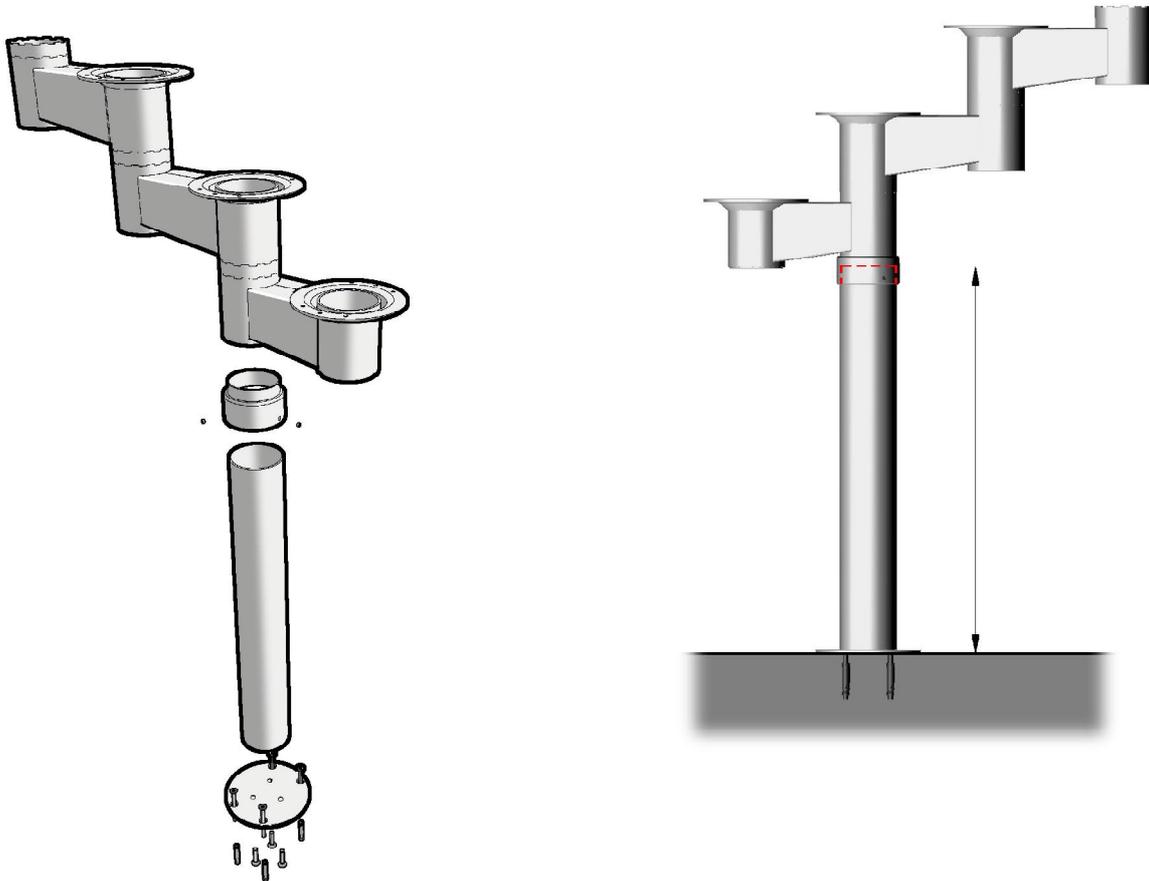


Place the lateral supporting element, previously cut to size, to the supporting structure. The lateral support is self sliding in order to regulate the structure distance from the side wall. Please check that the structure and the wall are parallel, thus controlling the structure level; then fix the plate to the wall with both ordinary and expanding screws.

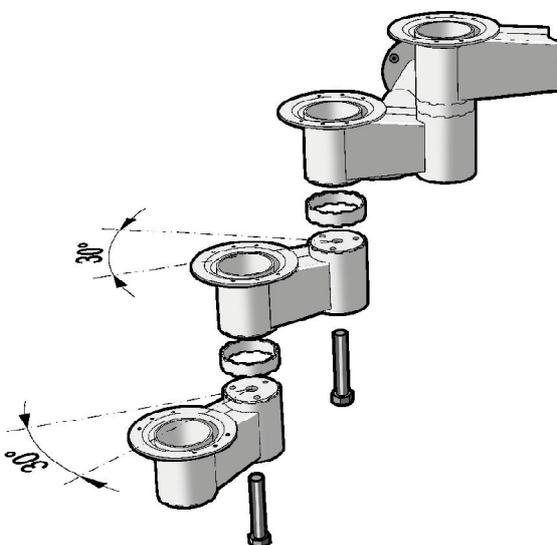


The lateral support provides a proper stair rigidity. Normally it is applied towards the middle of the staircase and in the climbing direction in order to contrast with the compression force.

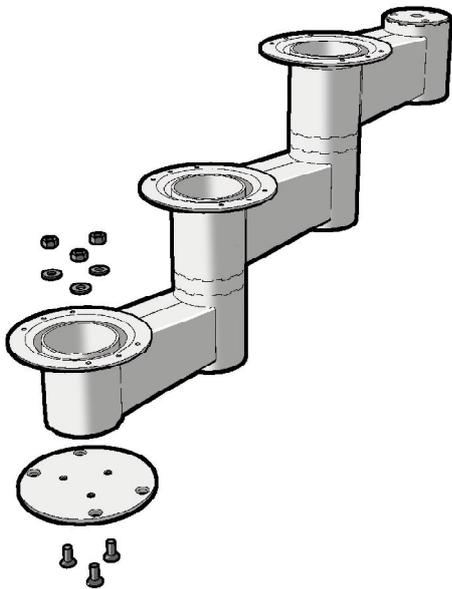
In the event that the lateral wall is not made out of strong material, one can place a floor support as an alternative to the lateral support. The floor supporting post has to be cut at the proper height in order to fit into the BOCCOLA (inserting element) and adjusted with the stair level.



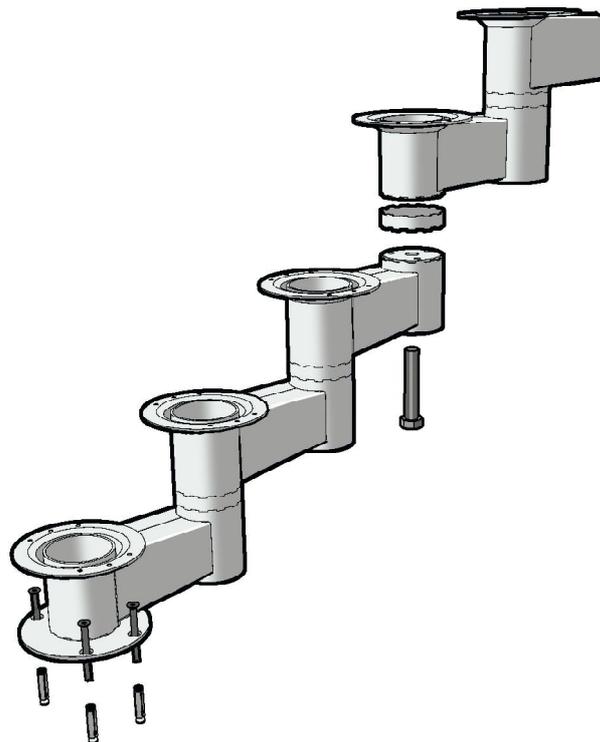
The proceed with the assembly of the remaining supports. In the winding treads, the supports rotate by one slot in the spacer CREMAGLIERA, thus allowing a perfect tread alignment.



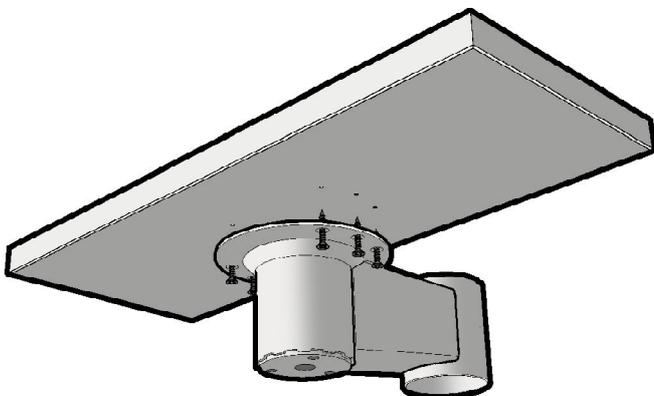
Assemble the first 3 treads separately, then fix the starting plate in the first supporting element.



Fix the 3 treads onto the supporting elements and make sure that the starting plate is positioned properly; mark the floor, drill and fix the structure to the floor with the screws provided.

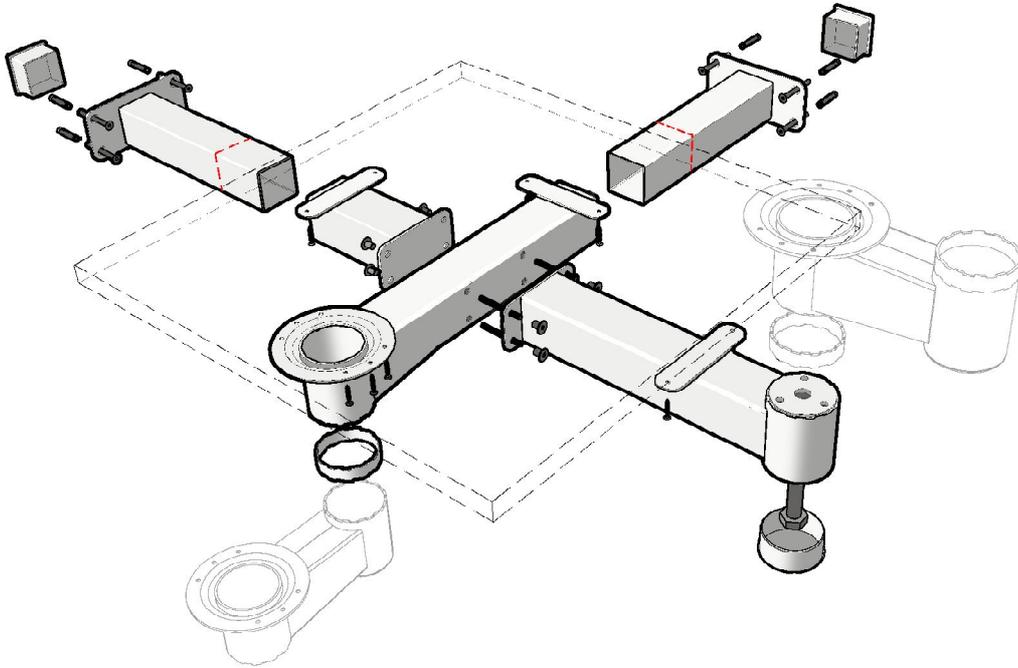


Position the treads to the structure and fix them with the appropriate wood screws.

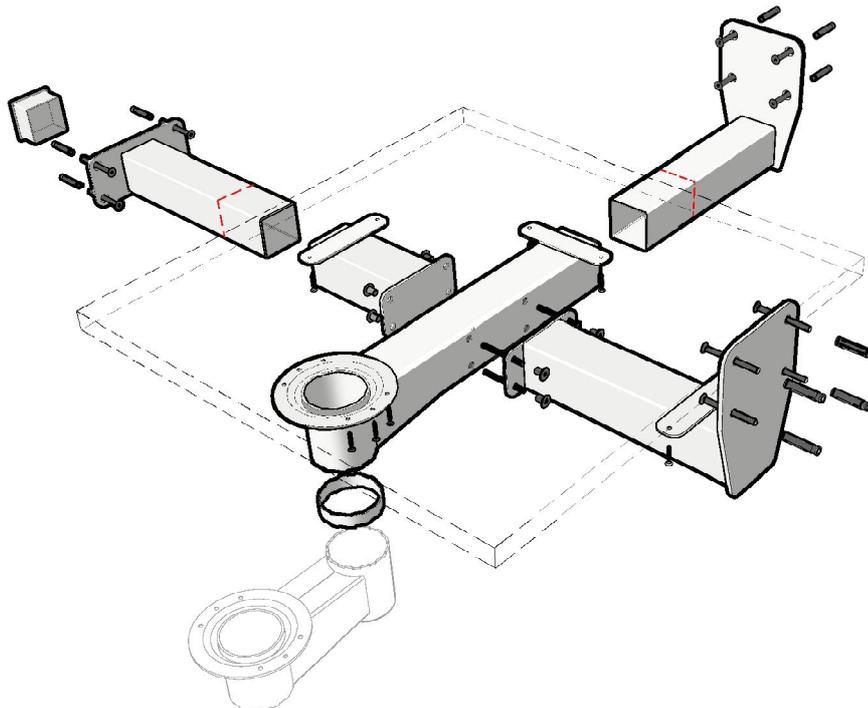


"The modular structure V20 allows, by means its rotation angle regulation system, to mount the stair structure without the aid of the treads. However, one can mount the structure with the treads fixed onto the supporting elements: in this way one can achieve a more practical positioning of the stair structure in the agreed stair space area".

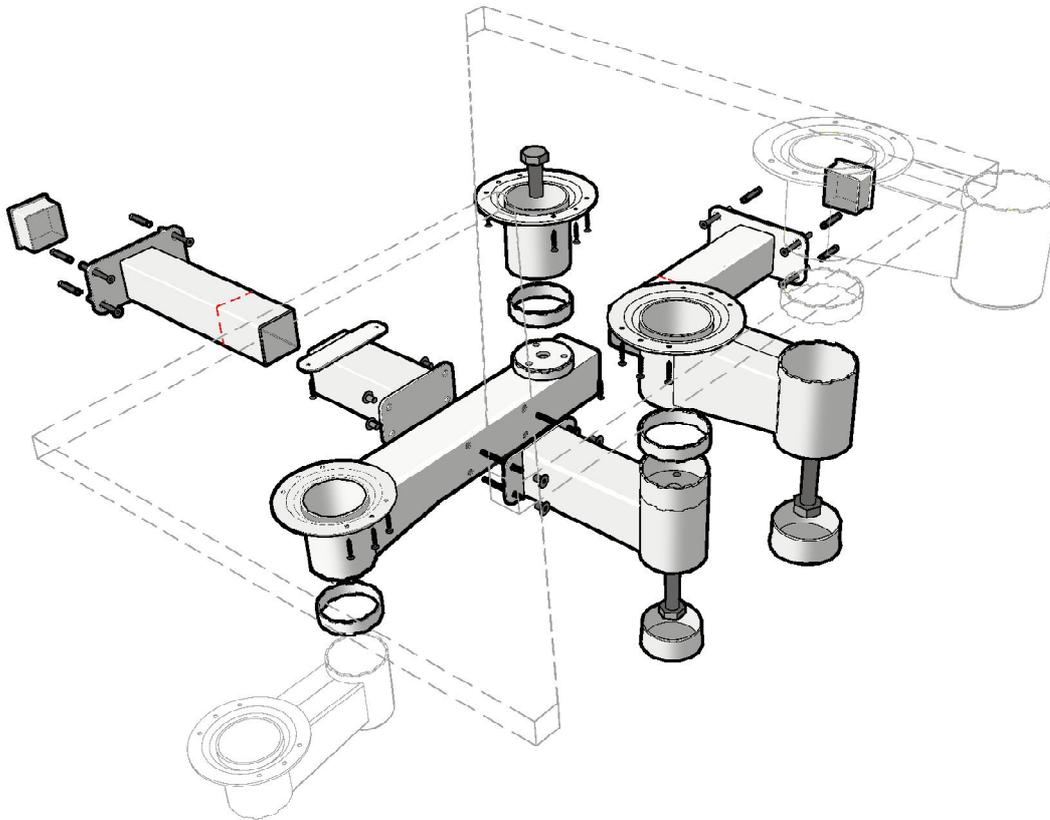
"Intermediate platform"



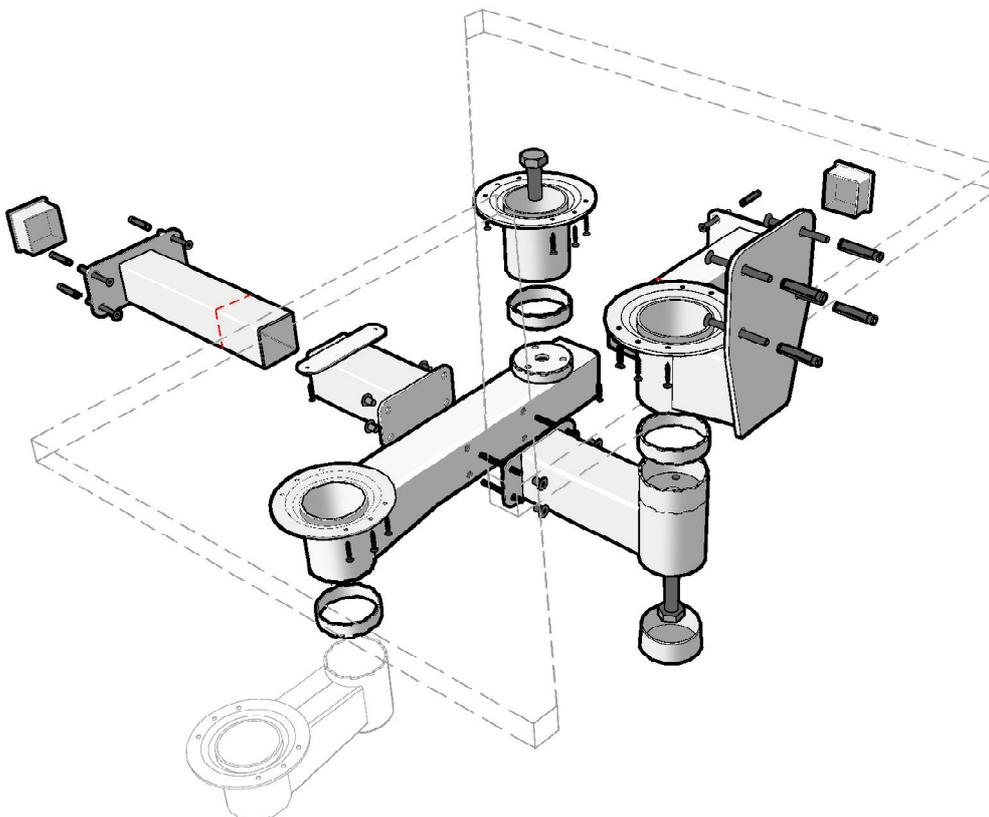
"Landing platform"

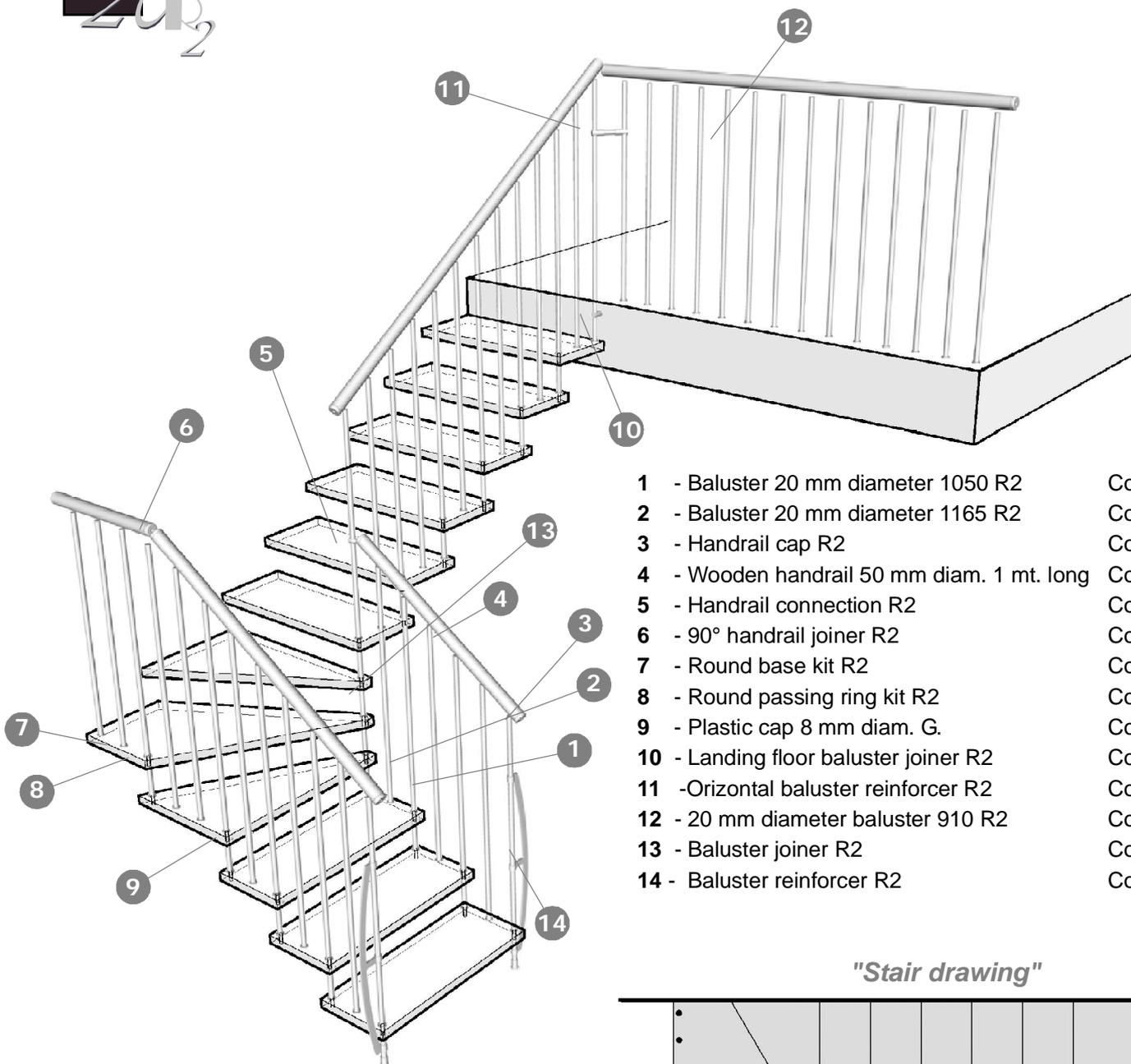


"Intermediate winding treads 45°"



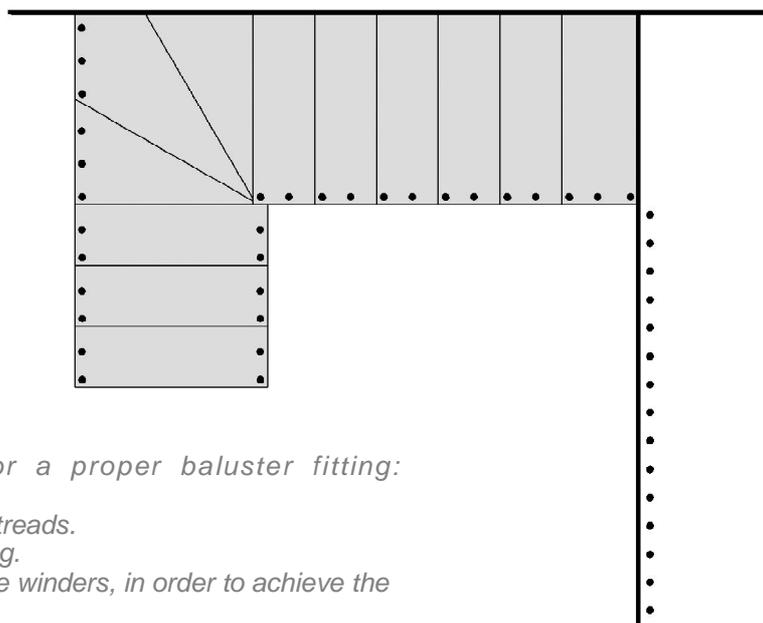
"Landing platform 45°"





- | | |
|--|----------------|
| 1 - Baluster 20 mm diameter 1050 R2 | Cod. R2-40A GA |
| 2 - Baluster 20 mm diameter 1165 R2 | Cod. R2-35A |
| 3 - Handrail cap R2 | Cod. R2-60 |
| 4 - Wooden handrail 50 mm diam. 1 mt. long | Cod. LE-05 |
| 5 - Handrail connection R2 | Cod. R2-25A |
| 6 - 90° handrail joiner R2 | Cod. R2-30A |
| 7 - Round base kit R2 | Cod. R2T-205A |
| 8 - Round passing ring kit R2 | Cod. R2T-210A |
| 9 - Plastic cap 8 mm diam. G. | Cod. BU-265-PL |
| 10 - Landing floor baluster joiner R2 | Cod. R2-35 |
| 11 - Orizontal baluster reinforcer R2 | Cod. R2-15A |
| 12 - 20 mm diameter baluster 910 R2 | Cod. R2-65A GA |
| 13 - Baluster joiner R2 | Cod. R2-180A |
| 14 - Baluster reinforcer R2 | Cod. R2-175 |

"Stair drawing"



Please note the following suggestions for a proper baluster fitting:

- Place the longer balusters through the overlapping treads.
- Place the shorter balusters in the middle of the going.
- Spread out evenly the balusters at the far side of the winders, in order to achieve the same distance as the ones in the straight stair flight.
- The very same principle has to be applied while mounting the balustrade balusters.

Cutting the balusters on the stair flight

Passing through baluster, 1165mm long
 Intermediate baluster, 1165mm less half the height of "A"

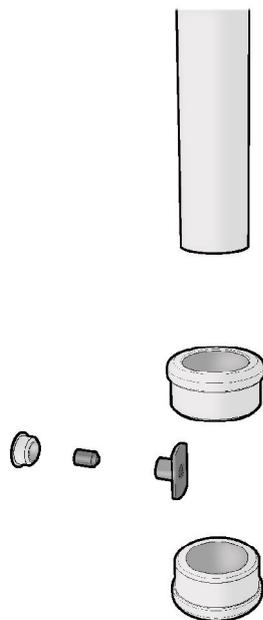
Baluster top and bottom "Mounting scheme"



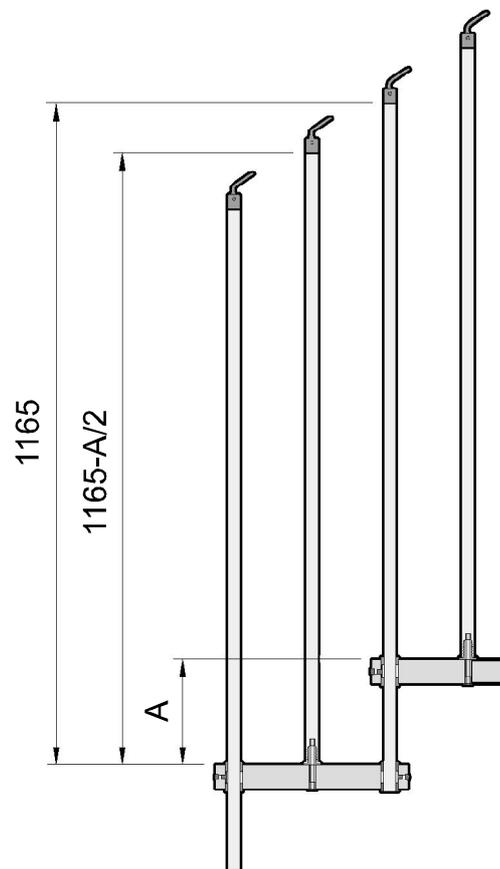
Top group of elements



Bottom group of elements



Bottom passing through group of elements



Fixing the balusters on the tread

Passing through balusters:

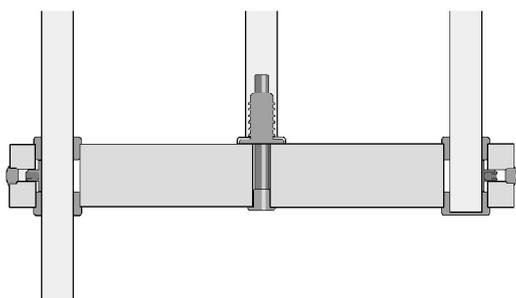
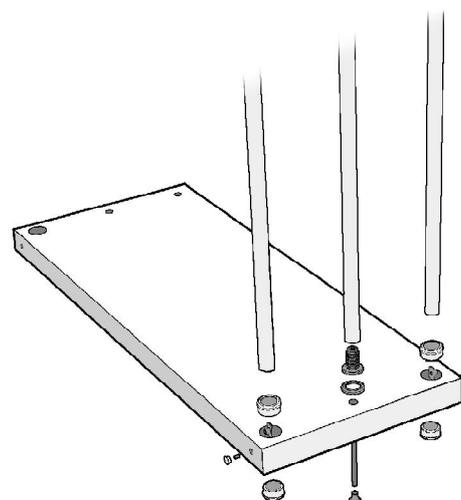
Insert in the front hole the "soldering nut" and apply the "bottom passing through element", both upper and lower, into the 28mm diam. tread hole.

Insert the passing through baluster that will block itself inside the tread, by means of a M6 grub-screw, which is screwed from the front hole to the "soldering nut".

Close the front hole with the proper plastic little cap.

Intermediate balusters:

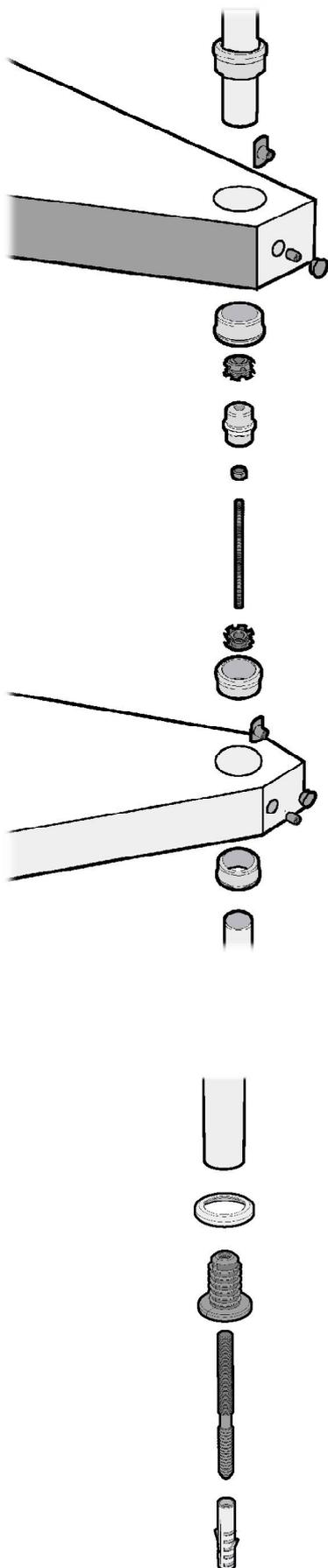
Insert the "short passing ring" and the "base baluster" inside the baluster and screw the self threaded screw and its nut from underneath the tread.



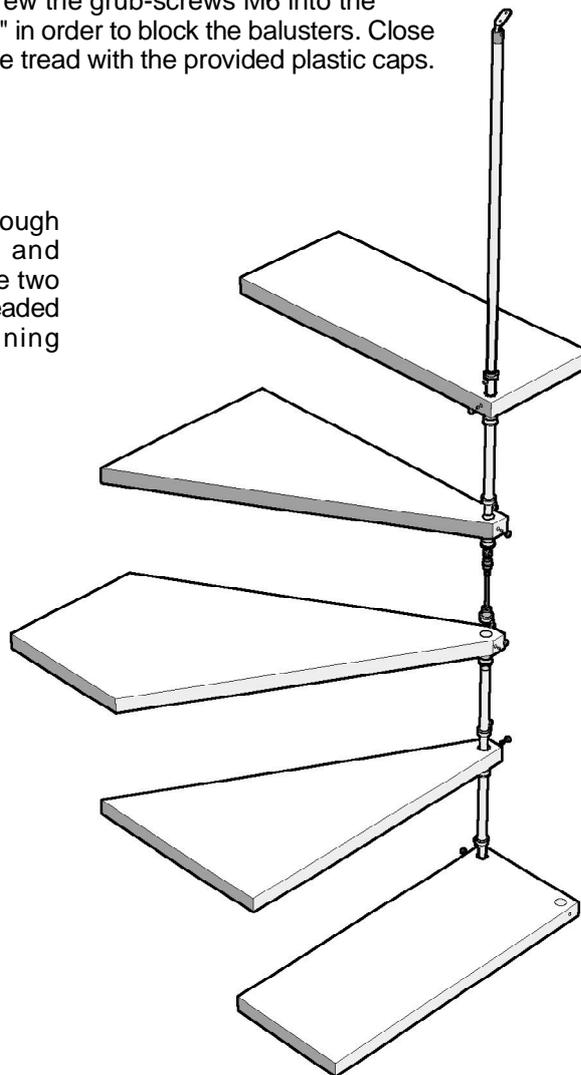
Passing through baluster "INTERNAL WINDER"

Insert through the holes of the winding tread and its adjoining ones, before and after, the long passing elements and the tread inserts.

Insert the 1165 mm long passing baluster and join it with another piece of baluster which will have to be cut to size. Screw the grub-screws M6 into the "soldering nuts" in order to block the balusters. Close the holes on the tread with the provided plastic caps.



Insert into the passing through baluster, the "pressure and threaded element". Join the two balusters by means of a threaded bar a nut and the "joining element".



Balusters for the balustrade

Drill the holes into the floor. Insert the "passing rings" and the "balusters base" inside the balusters and the wall plugs into the floor holes.

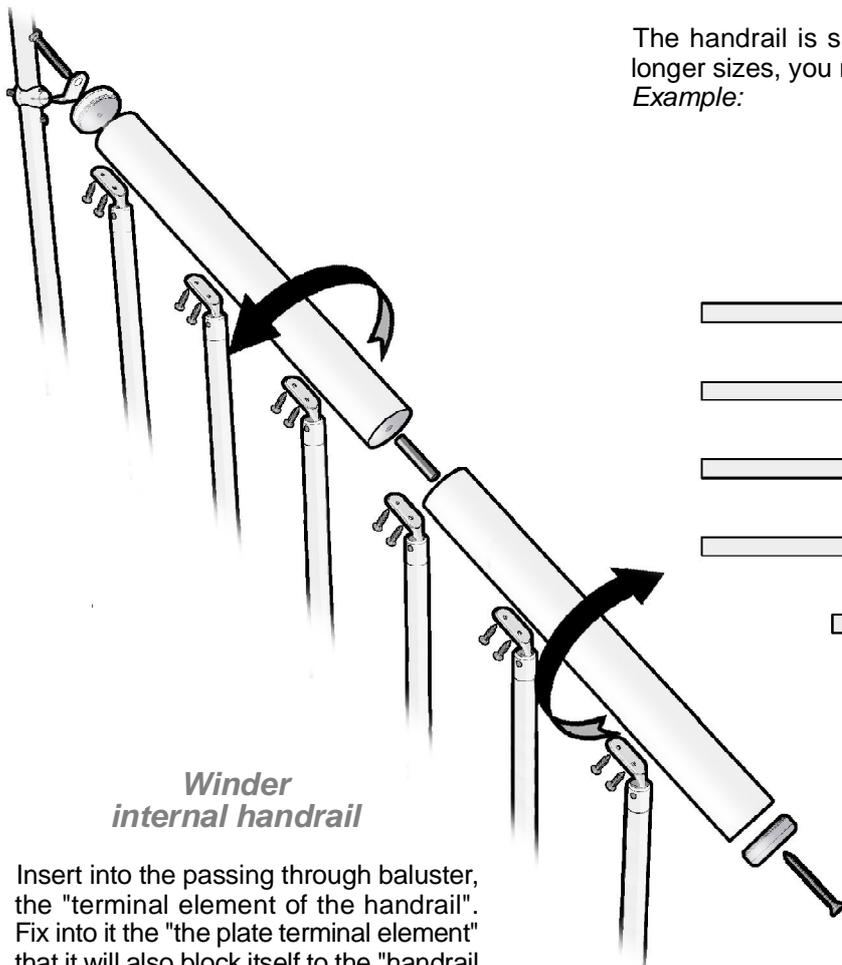
Screw the balusters to the wall plugs together with the M8x100 elements.

NB. The balustrade floor holes should be drilled sufficiently away from the well edge in order to avoid some floor breaks due to the expansion of the wall plugs.

Handrail length

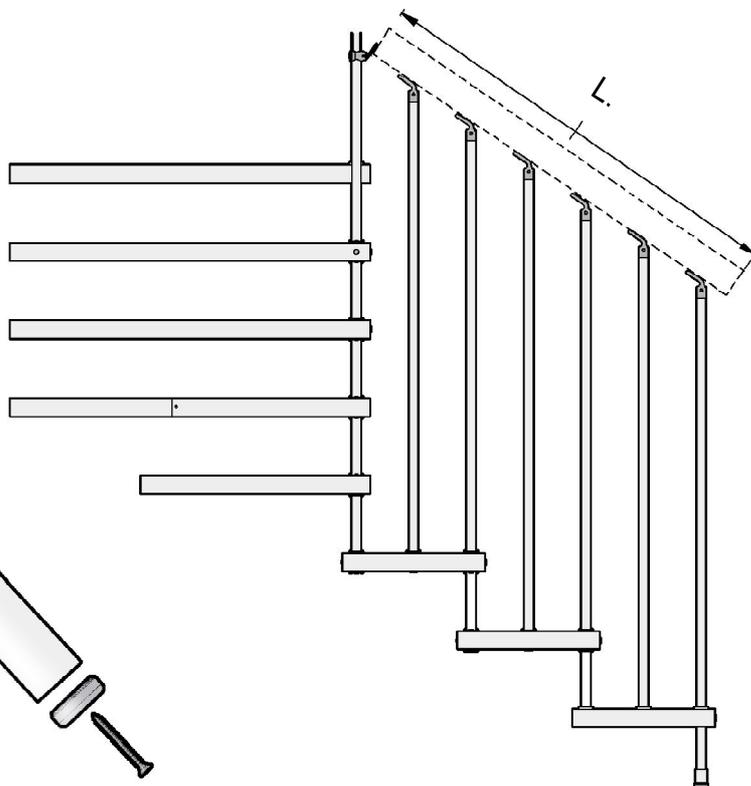
The handrail is supplied in sections of 1 mt. This means that for longer sizes, you need to cut them in halves:

Example: L. 140 cm = 2 hand rail sections of 70 cm



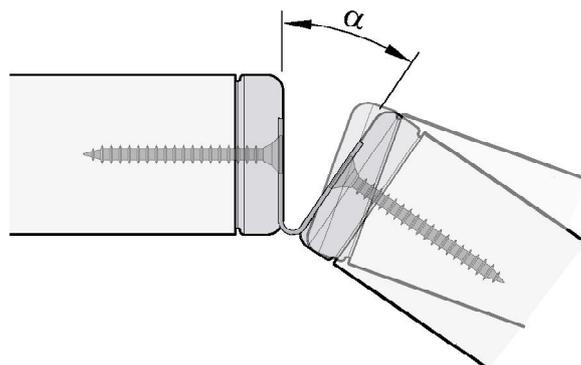
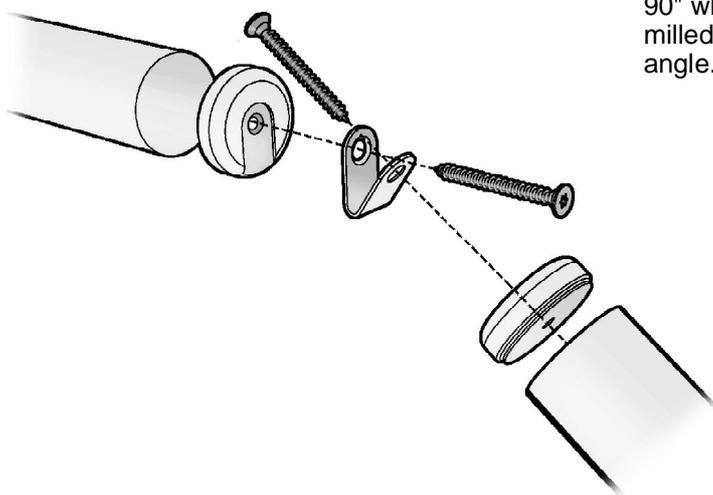
Winder internal handrail

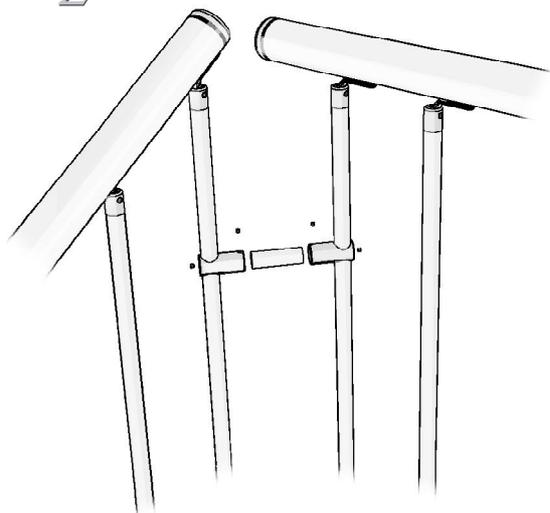
Insert into the passing through baluster, the "terminal element of the handrail". Fix into it the "the plate terminal element" that it will also block itself to the "handrail milled cap", by means of a threaded screw. Block the balusters top elements to the handrail by means of the wood screws. Fix to the other side of the handrail, the "handrail cap".



Winder external handrail

Fix the balusters to the handrail in the same way as for the internal one. In the slope change, in order to connect the handrails, please use the "handrail plate 90" which, once fixed to the "handrail milled caps", can be folded at the right angle.



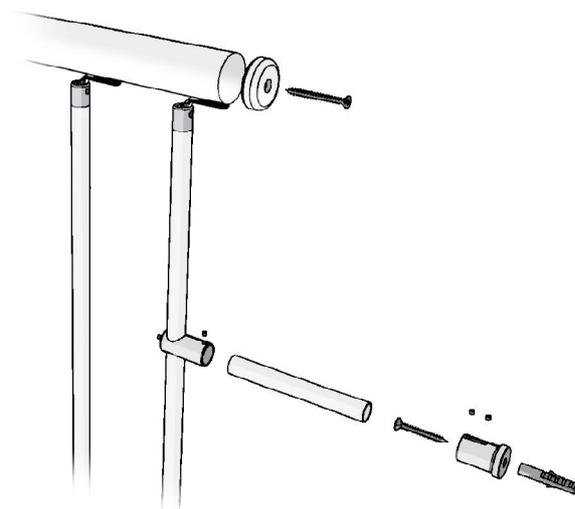


"Horizontal baluster joiner"

Join the last baluster of the stair handrail to the first one of the balustrade, by using the "horizontal baluster joiner". Insert the "T element" into the pertinent balusters by means of the 20 mm diameter pipe and block the whole lot with the M4 grub-nut M4.

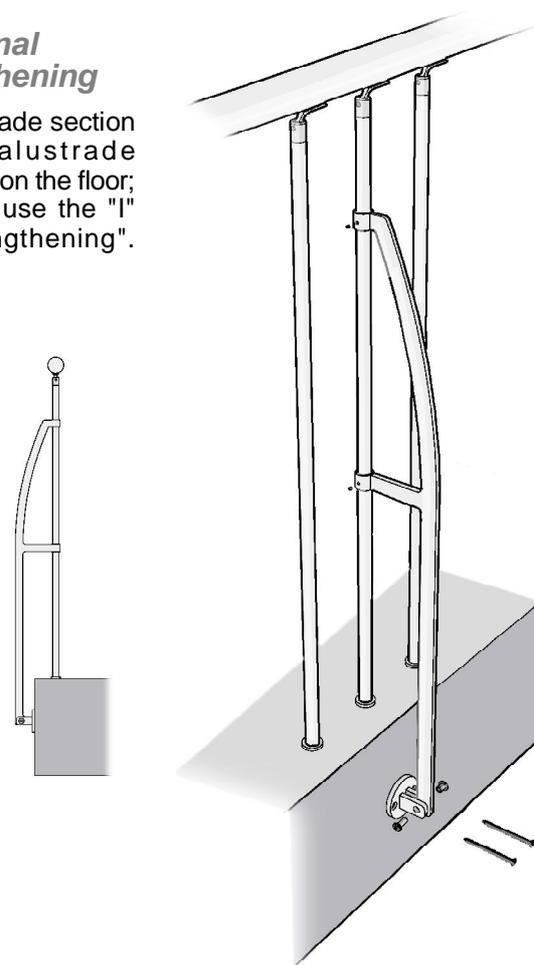
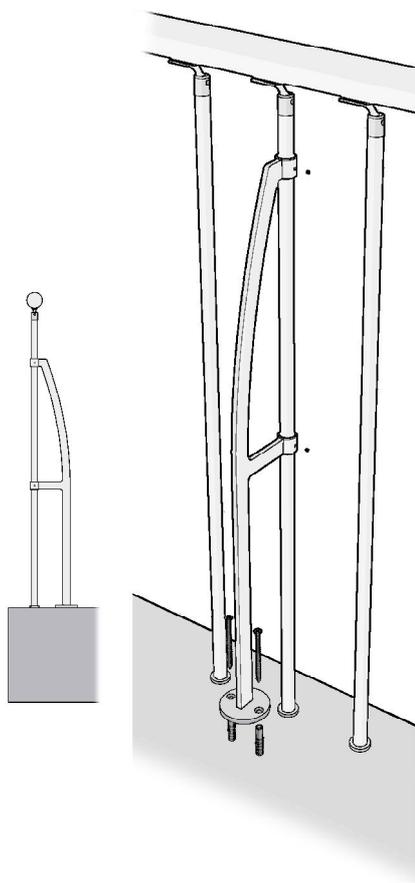
"Baluster wall connection"

When the balustrade ends up near to a wall, strengthen the balustrade by means of a "Baluster to wall connection"; then insert into the last baluster of the balustrade the "T element". Join the "T element" to the other "thimble element", previously inserted into the wall, by means of a 20 mm diameter pipe, cut to size.



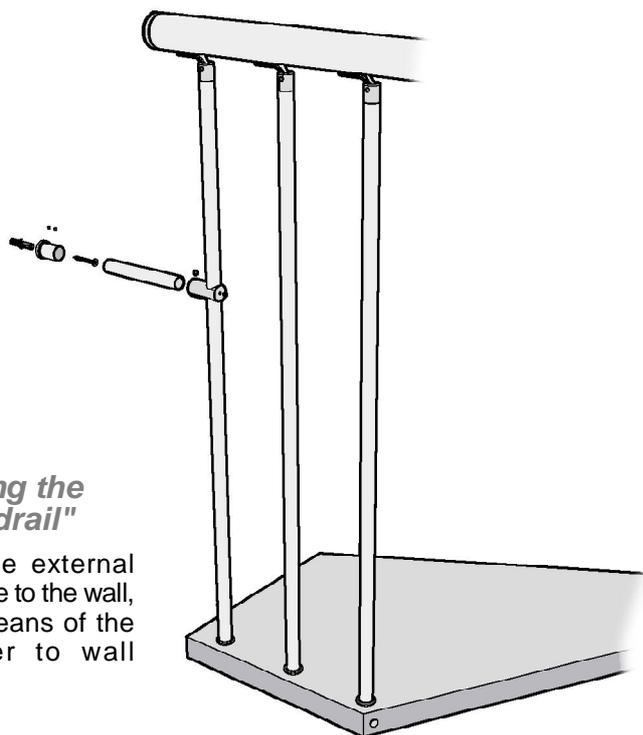
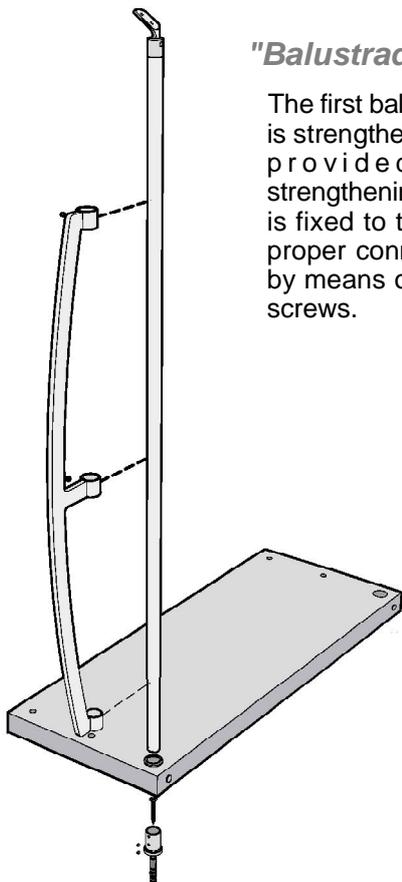
Internal - external balustrade strengthening

Strengthen the strait balustrade section with the "Internal balustrade strengthening", if the fixing is on the floor; if it is on the slab, please use the "I" external balustrade strengthening".



"Balustrade strengthening"

The first baluster of the staircase is strengthened by means of the provided "balustrade strengthening element"; this one is fixed to the baluster with the proper connection and blocked by means of the supplied grub-screws.



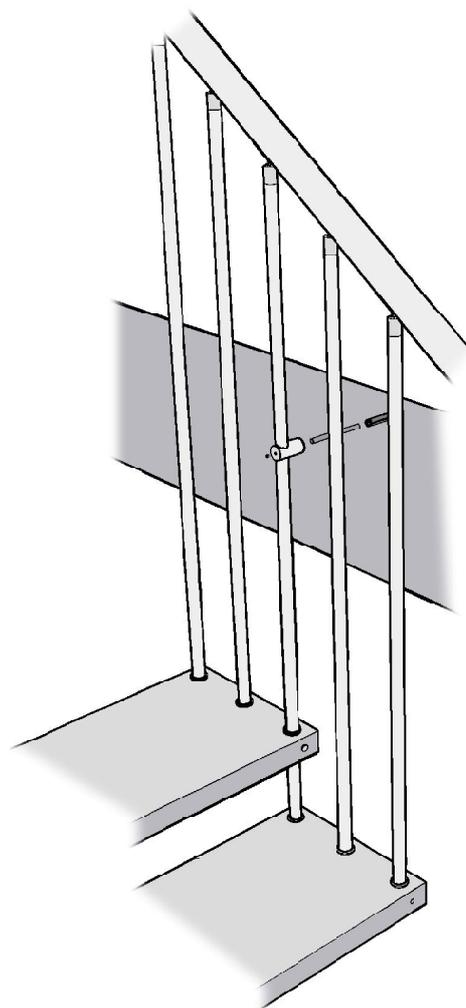
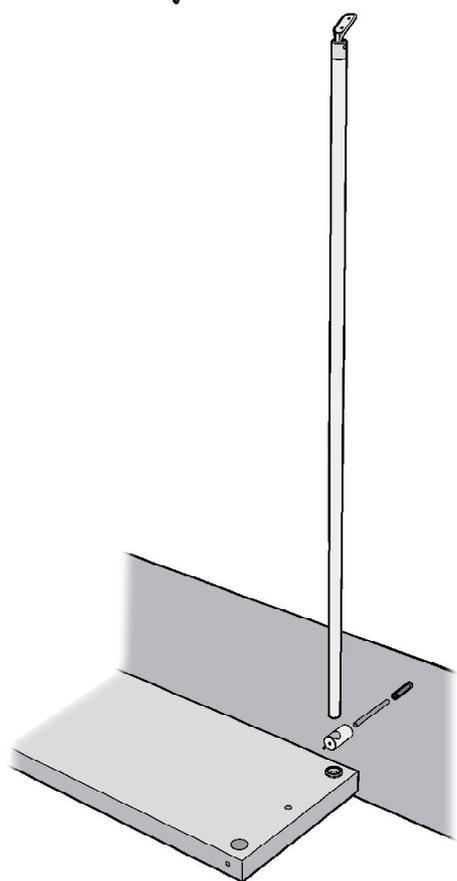
"Strengthening the external handrail"

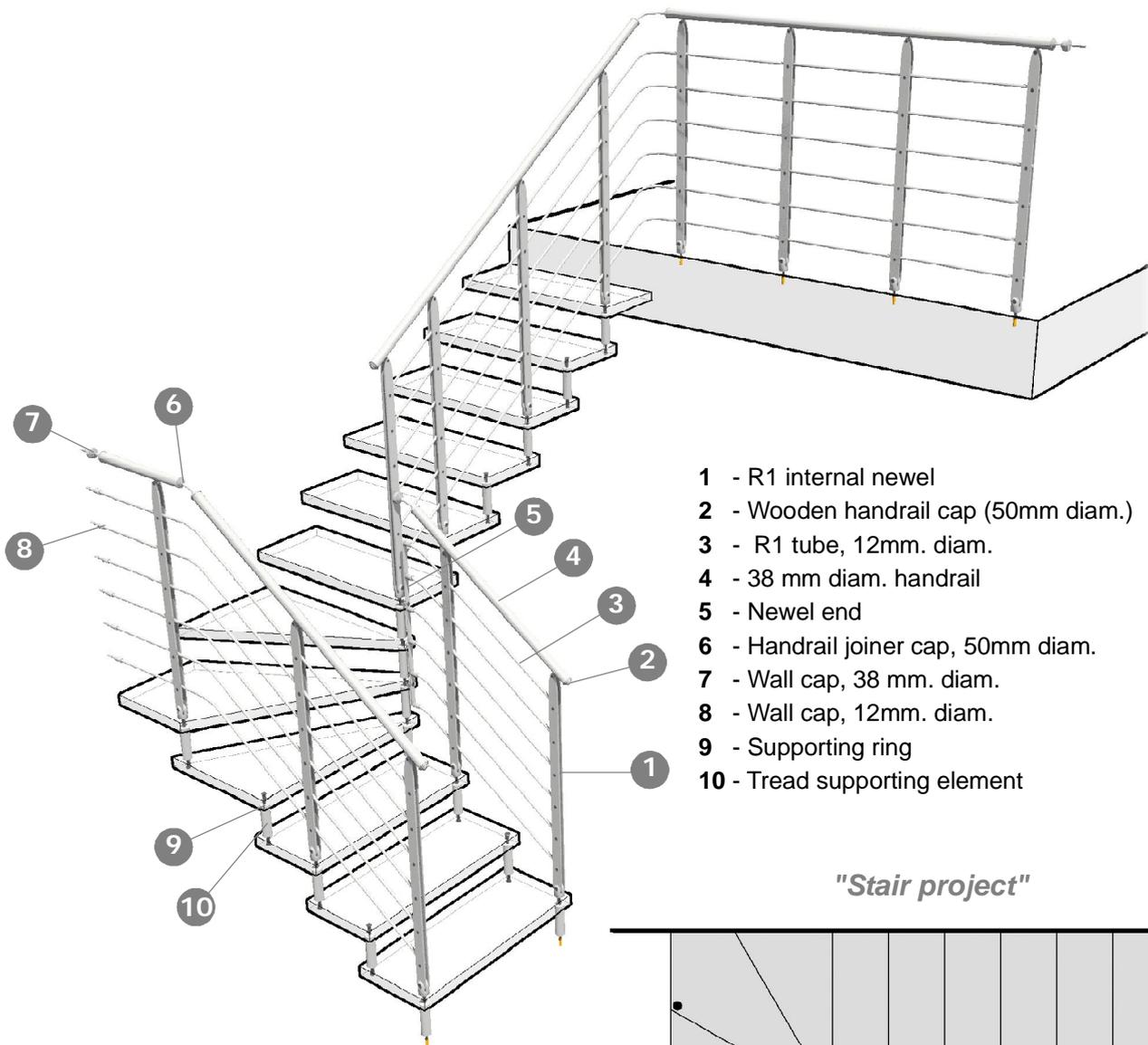
The baluster of the external handrail which is close to the wall, is fixed into it by means of the supplied "baluster to wall connection".

"Baluster to slab connection"

The last baluster of the stair handrail is fixed into the slab by means of a "T element"; this element is fixed into the slab with a chemical screw and to the baluster by means of a grub-screw.

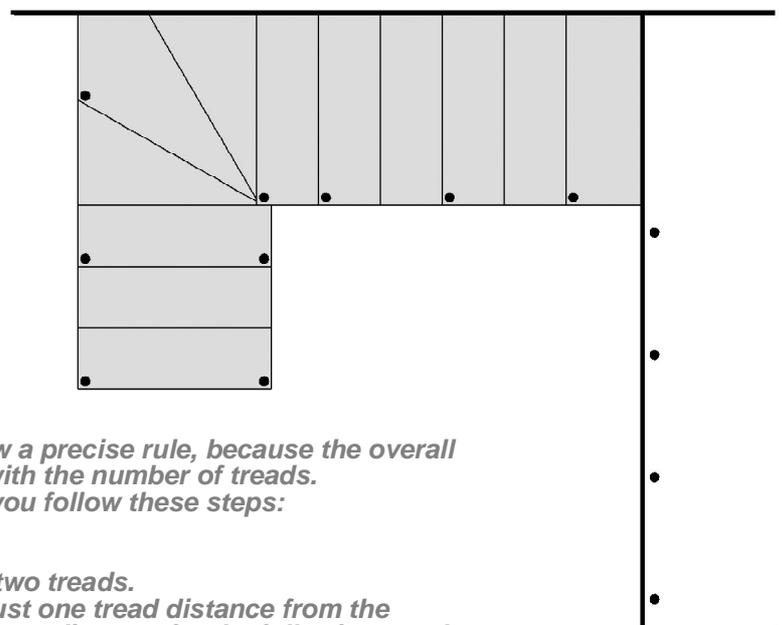
Proceed in the same way in case the slab is parallel with the stair.





- | | |
|--------------------------------------|--------------|
| 1 - R1 internal newel | Code R1-05A |
| 2 - Wooden handrail cap (50mm diam.) | Code R1-30A |
| 3 - R1 tube, 12mm. diam. | Code R1-25A |
| 4 - 38 mm diam. handrail | Code R1-20A |
| 5 - Newel end | Code R1-10 |
| 6 - Handrail joiner cap, 50mm diam. | Code R1-35A |
| 7 - Wall cap, 38 mm. diam. | Code R1-55A |
| 8 - Wall cap, 12mm. diam. | Code R1-65A |
| 9 - Supporting ring | Code R1-60A |
| 10 - Tread supporting element | Code R1-170A |

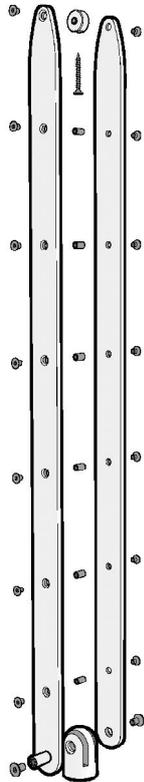
"Stair project"



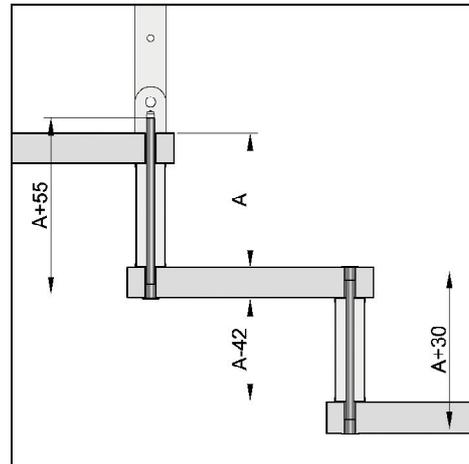
The layout of the stair newels does not follow a precise rule, because the overall number of the newels is not proportionate with the number of treads. For the correct layout, we recommend that you follow these steps:

- Place the newel on the tread overlap.
- Ideally, you should place the newels every two treads.
- When you are forced to place the newel at just one tread distance from the previous one, then you should keep the same distance for the following tread.
- Also on the winding treads you should place the newel on the tread overlap.
- On the ramp and crossings of railings, keep the symmetry, as much as possible, in the layout of the newels.
- The distance between the newels of the balustrade, has to be kept as close as possible to that of the stair.

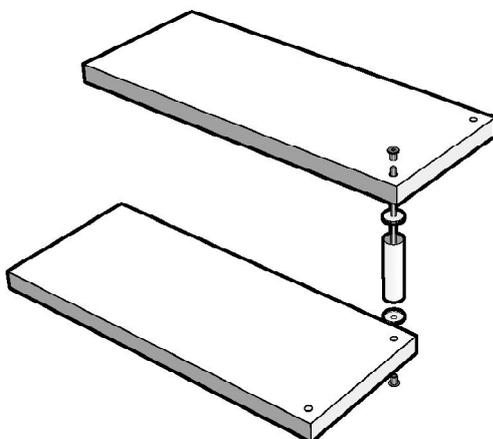
INTERNAL NEWEL "Mounting scheme"



Before proceeding with the railing installation, please regulate the components according to the rise size, by cutting to size the threaded rods and sub-balusters as shown in the diagram.

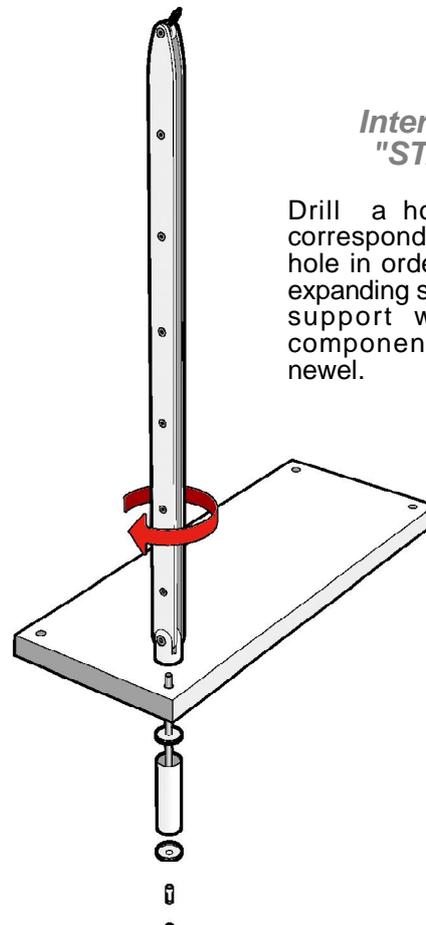


Fit the sub-baluster elements in the tread overlap where the newel is not applied.



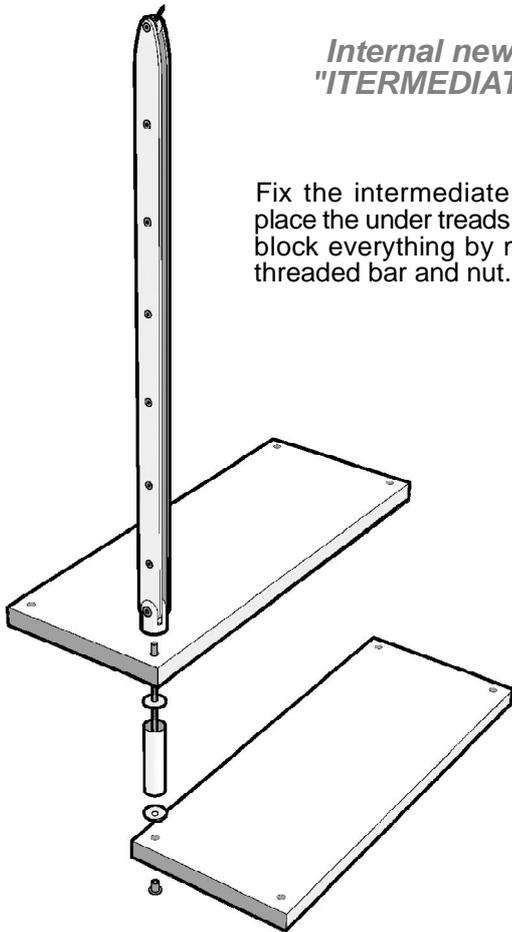
Internal newel "START UP"

Drill a hole in the floor in correspondence with the tread hole in order to insert the M10 expanding screw. Align the tread support with its pertinent components and screw the newel.



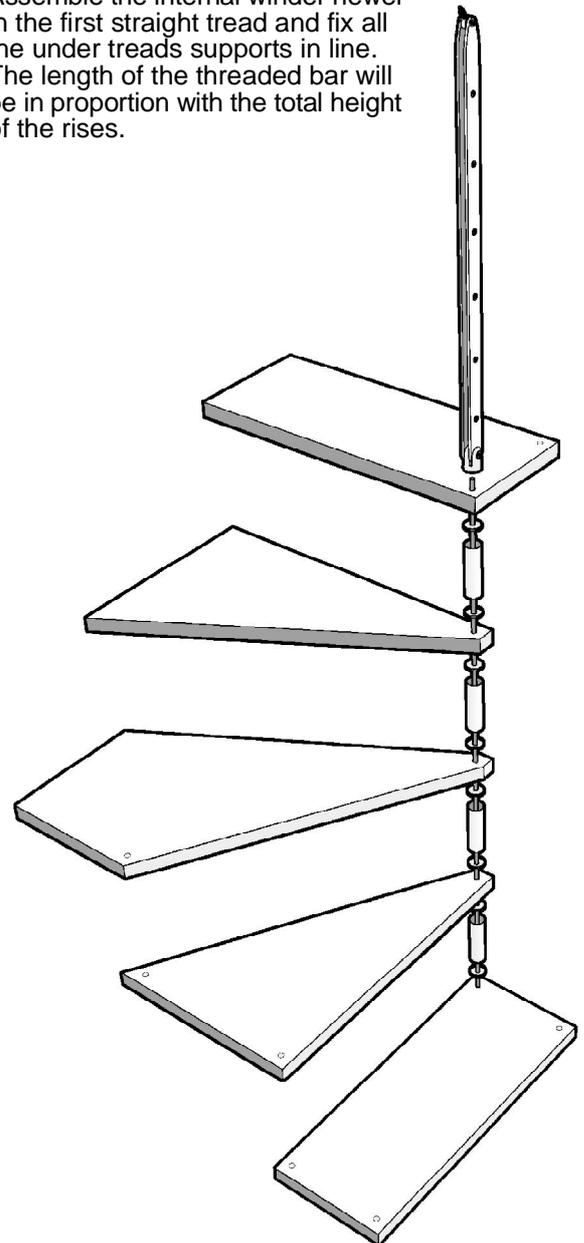
Internal newel *"ITERMEDIATE"*

Fix the intermediate newels and place the under treads supports and block everything by means of the threaded bar and nut.



Internal newel *"INTERNAL WINDER"*

Assemble the internal winder newel in the first straight tread and fix all the under treads supports in line. The length of the threaded bar will be in proportion with the total height of the rises.

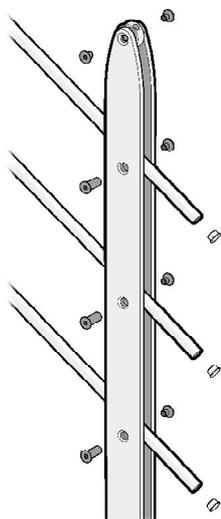


Internal newel *"BALUSTRADE"*

Drill the floor in correspondence with the newel position; then screw the newel with the pertinent threaded bar.



N.B. The holes in the balustrade floor should be far enough from its border to prevent some cracking in the floor itself due to the screws expanding action.



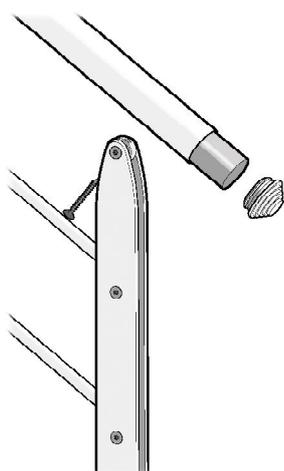
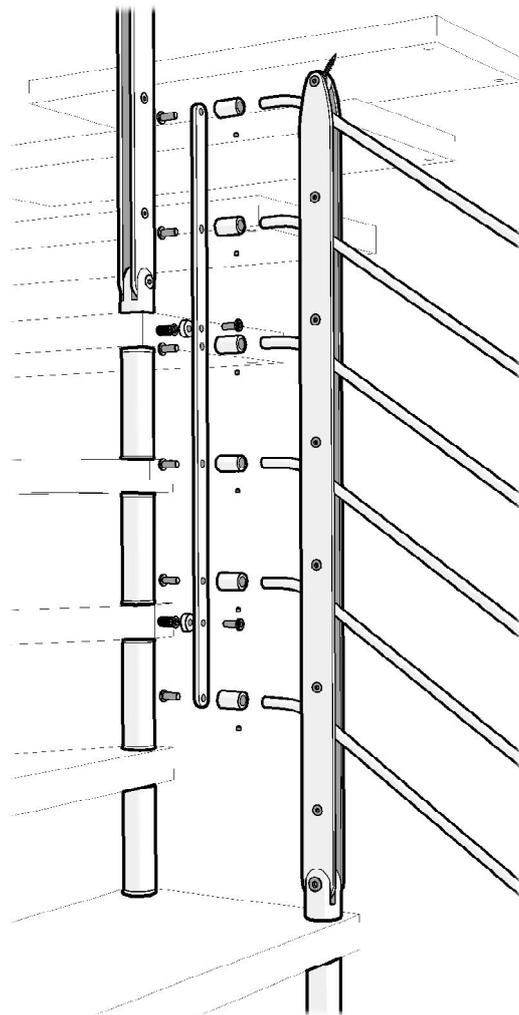
The terminal part of the cables will have to be bent so that to achieve an horizontal section; this will simplify its proper fixing.

You determine the cable length by considering that its initial section will have to be in line with the newel. The cable fixing will be achieved by tightening the newel screws; the chrome cap closes the cables head.

Please align the cables bar against the head of the winder tread and separate it with the proper washers. Then align the newel bar holes with the cables head.

Once it has been positioned, you mark in correspondence with the middle thickness of the two extreme treads. Drill the newel bar and the treads and fix the two of them with the given elements.

Finally, you insert the cables and block them with the pertinent screws.

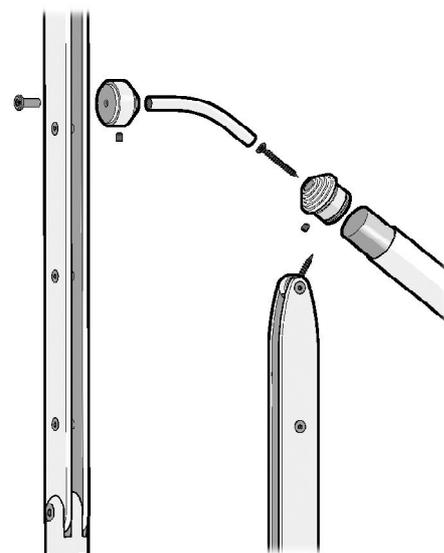


Prepare a bent cable with the same angle of the railing and with the terminal sides which are as long as the terminal caps holes.

You temporarily apply the terminal group to the head of the handrail in order to determine both the handrail length and the one of the wood internal core.

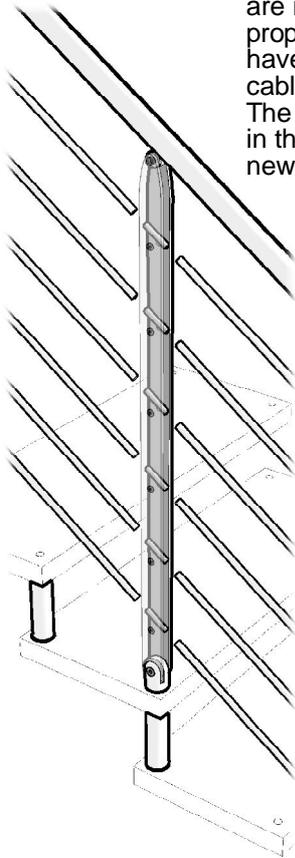
Drill the external winder newel blade in order to apply the wall terminal and the handrail to correspond with the round washer of the newels.

You fix the handrail to the newel by means of a screw that goes through the handrail thickness and screws itself in the internal wood core.

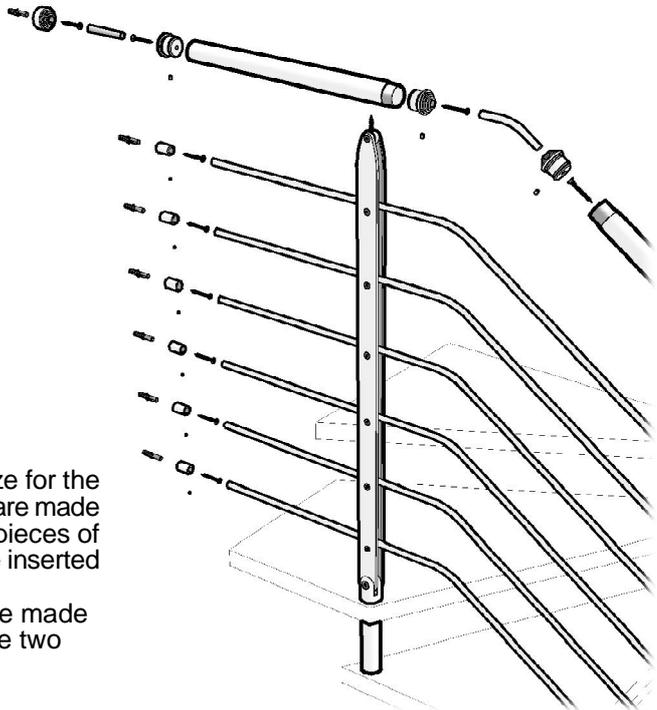


In order to achieve a regular cable bending spoking, we suggest to use a bending cables mechanical plier.

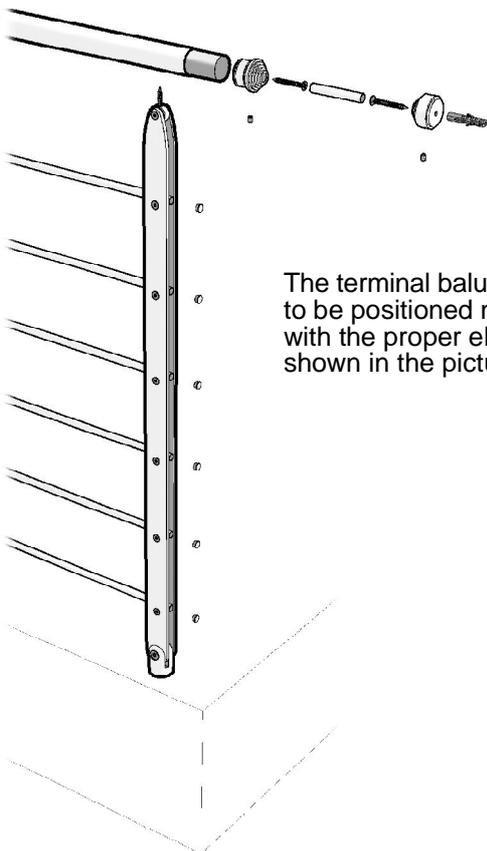
The cables are cut to size for the railing section; the joints are made up by using the proper pieces of wood that will have to be inserted inside the cables. The joints will have to be made in the internal side of the two newel blades.



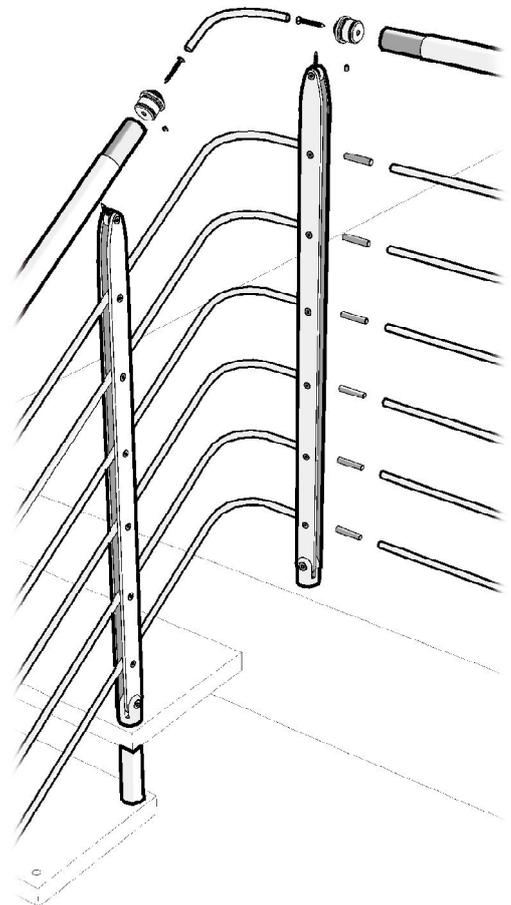
The cables are cut to size for the railing section; the joints are made up by using the proper pieces of wood that will have to be inserted inside the cables. The joints will have to be made in the internal side of the two newel blades.



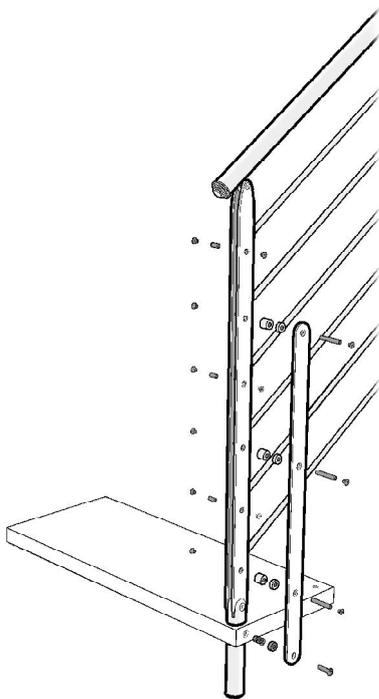
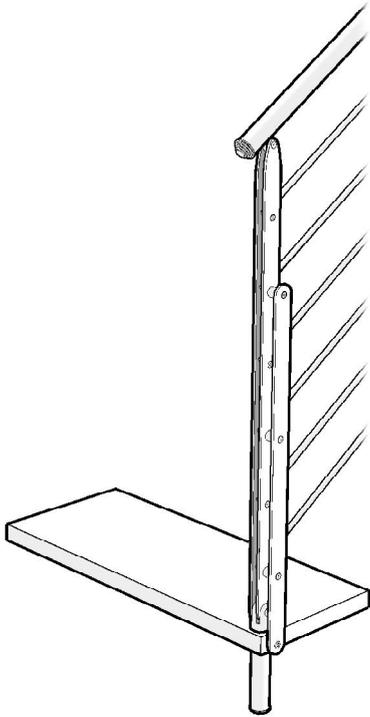
In order to achieve a good rigidity, it is necessary to connect the stair handrail with the balustrade one.



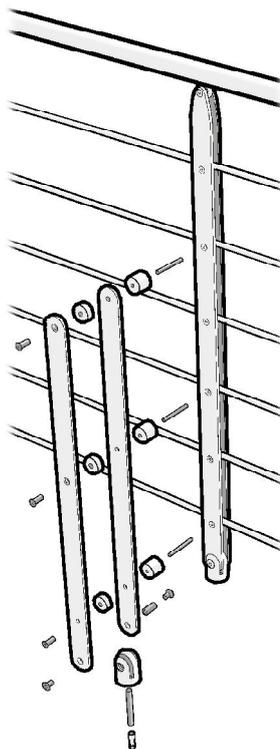
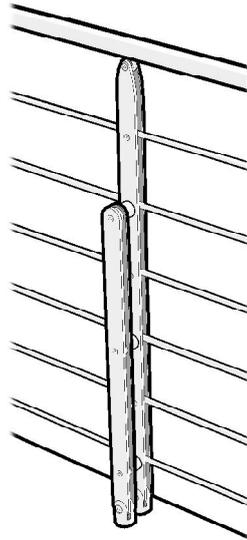
The terminal balustrade newel is to be positioned next to the wall with the proper elements, as shown in the picture.



*Stair internal newel
"STIFFENING"*



*Balustrade internal newel
"STIFFENING"*



*Internal newel
"CEILING"*

