



- **Installation above ground**

We have created several aids for your assembly of a Siegmund foundation rail-system with integrated round rail. The following assembly instruction is only a recommendation. You can also assemble and install the foundation rail as you wish. We point out that all foundation work (e.g. cutting out notches, casting of slits, etc.) is not included within Bernd Siegmund GmbH's scope of delivery. However, these works can be done by one of our subcontractors or by the end user. Additionally, Bernd Siegmund GmbH does not take liability for ground conditions.

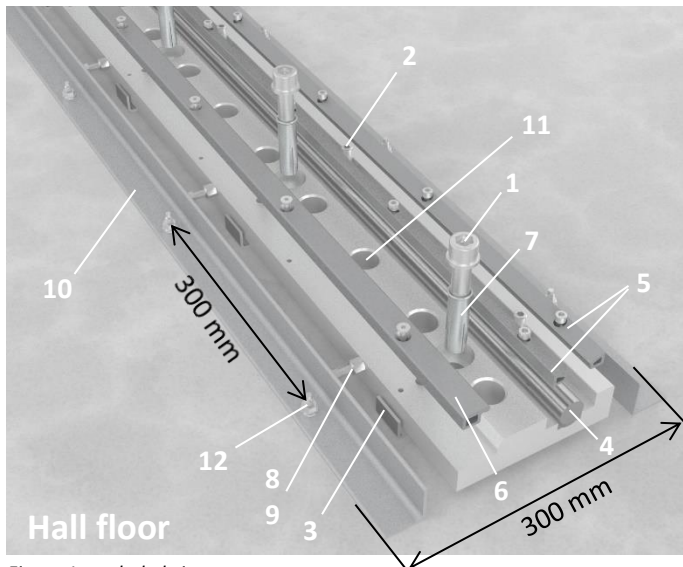


Figure 1: exploded view

- 1 Cylinder screw DIN 912 - M16 x 60 and spring washer DIN 127 B - 16
- 2 Grub screw DIN 915 – M12 x 25/30/35/40/45/50 (depending on customer's demands on site)
- 3 support
- 4 Round rail
- 5 Clamping profile with cylinder screw DIN 912 - M6 x 16
- 6 Tipping protection strip with hexagon screw ISO 10642 - M6 x 30
- 7 Anchor (drop in anchor) M16 x 65
Spreading tool* (not shown) for drop in anchor
- 8 Hexagon screw DIN 933 - M8 x 16/20/25/30/35* (depending on customer's demands on site), (see page 2)
- 9 Hexagon screw DIN 6330 – M8*, (see page 2)
- 10 L-profile 40x40x3*
- 11 Plastic cap* (concealed, see page 2)
- 12 Fixed anchors for cracked concrete M8x75*

To keep an accurate distance between the rails, it is strictly required to secure the rails from shifting. This can be achieved by adjusting two, on the floor mounted, angle steels (L-profiles). For the assembly we recommend fixed anchors for cracked concrete M8x75 with 300 mm to each other.

The flatness of the hall floor should be within +/-2 mm over the complete installation area.



Assembly instruction for support and foundation with integrated round rail

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Should there be some discrepancies in accuracy despite careful work, you can borrow a reamer from us. With this you can widen the holes on the bottom of the connecting frame.

Please note that this will lead to a corresponding loss regarding tolerance and accuracy in the overall rail system.

We recommend that you take enough time during assembly to perfect the position of the foundation rail. Thus, the connecting frame can be positioned without problems.

Furthermore, we recommend sealing the holes for the bolts from below with plastic caps.

Shims are necessary to prevent a penetration of the grub screws into the concrete floor. We point out, that the penetration from the cylinder screws M16 will lead to a change in the rail's level. The resulting pressure will change the rail's height.

Before installation of the anchors the holes are to be cleaned from dust by blowing and brushing them out. Afterwards the anchors are dropped in and with the help of the corresponding spreading tool spread until the spreading tool's stop touches down on the anchor's rim.

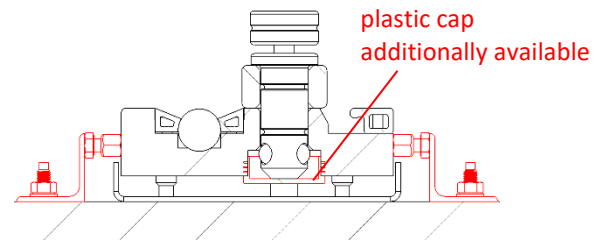
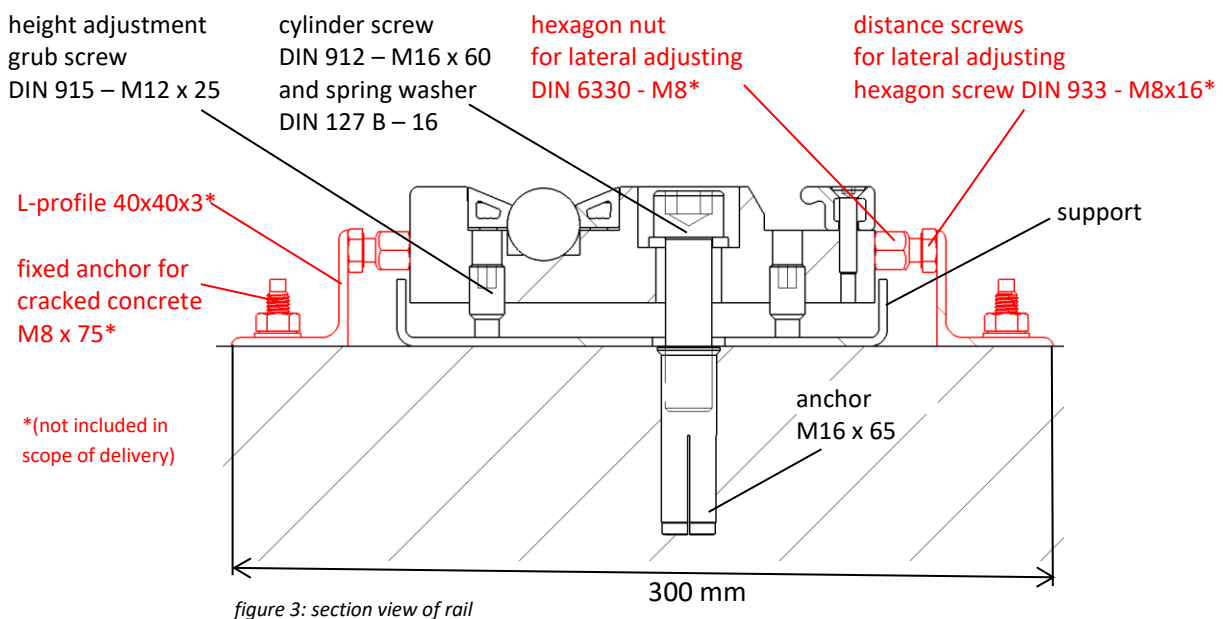


figure 2: plastic cap



The rails might have inaccuracies, which can be leveled out with the lateral adjusting screws during assembly. The adjusting of the rail in its horizontal position is done with an approximation method (1st step: rough adjusting and then in small steps fine adjusting).

The distance between the distance screws should not exceed 300 mm, recommended are 100 mm.

When assembling with appropriate measuring devices (e.g. laser trackers) positioning accuracies of +/-1-2mm over 20 meters can be achieved. These tolerances can be reduced even further with better suited measuring devices. The material temperature dependent variances (expansion coefficient) should also be regarded.

To prevent dirt from entering during usage, we recommend using cover caps out of metal that can easily be removed with magnetic bolts.

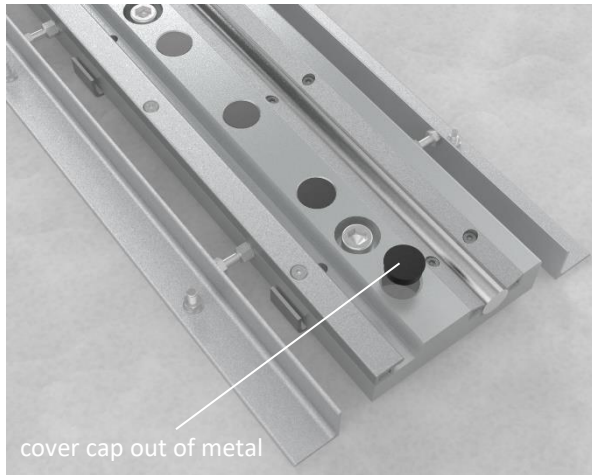


figure 4: cover cap

Per meter foundation rail one to two hours of worktime is required.

When lining up several rails within a rail system we recommend centering the round rail as shown in figure 6 between two rails. This reduces the “knocking” while sliding over rail joints. A difference in height between the rails produces this effect. On one rail side and on both ends only half of a round rail is built in. This way an overlapping of round rails over the rails edges is guaranteed. This is needed to ensure a smooth slide of the connecting frame.

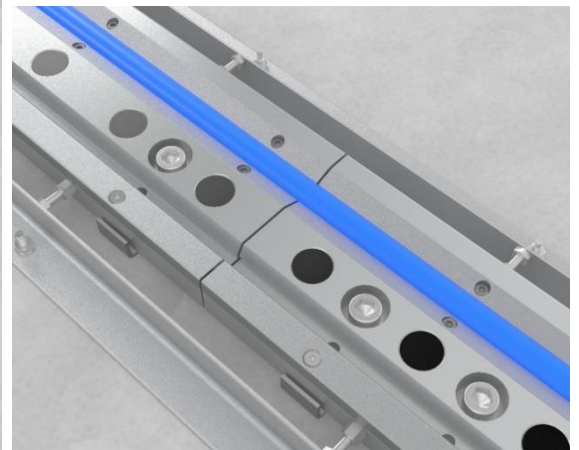
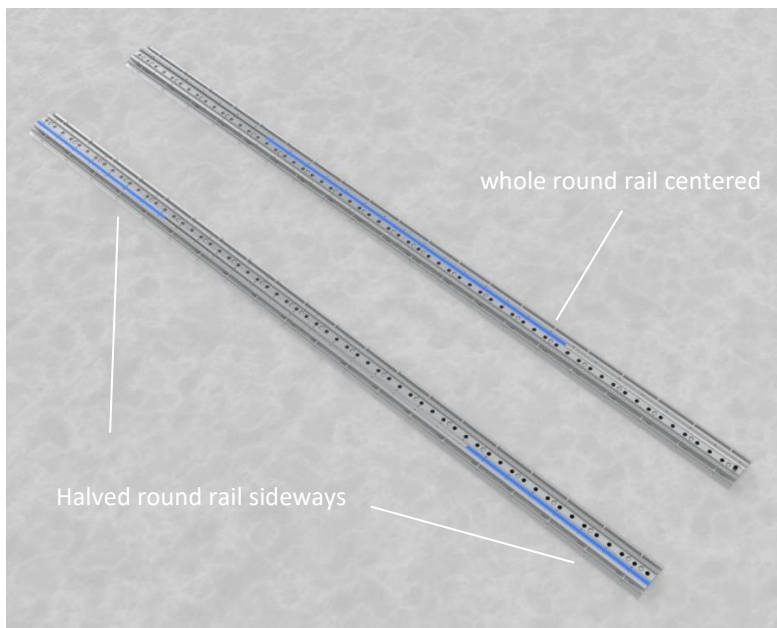
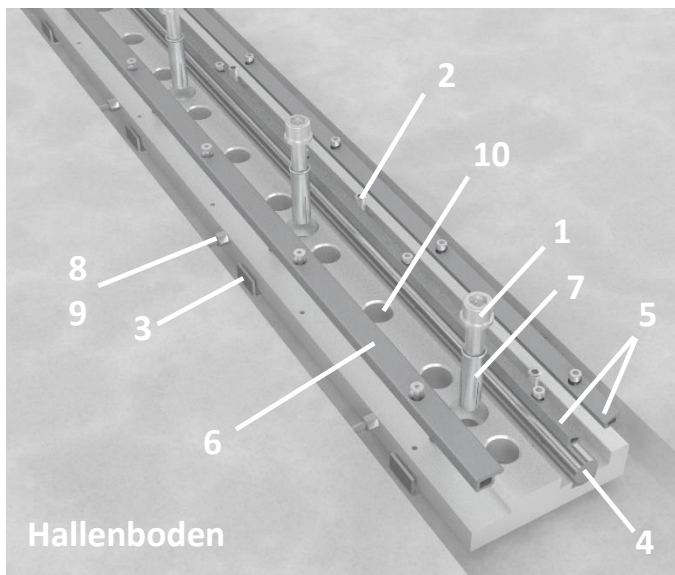


figure 5: expansion of the overall length



• Installation below ground

We have created several supports for your assembly of a Siegmund foundation rail-system with integrated round rail. The following assembly instruction is only a recommendation. You can also assemble and install the foundation rail according as you wish. We point out that all foundation work (e.g. cutting out notches, casting of slits, etc.) is not included within Bernd Siegmund GmbH's scope of delivery. However, these works can be done by one of our subcontractors or by the end user. Additionally, Bernd Siegmund GmbH does not take liability for ground conditions.



- 1 Cylinder screw DIN 912 - M16 x 60 and spring washer DIN 127 B - 16
- 2 Grub screw DIN 915 – M12 x 25/30/35/40/45/50 (depending on customer's demands on site)
- 3 Support
- 4 Round rail
- 5 Clamping profile with cylinder screw DIN 912 - M6 x 16
- 6 Tip protection strip with hexagon screw ISO 10642 - M6 x 30
- 7 Anchor (drop in anchor) M16 x 65
Spreading tool* (not shown) for drop in anchor
- 8 Hexagon screw DIN 933 - M8 x 16/20/25/30/35* (depending on customer's demands on site), (see page 2)
- 9 Hexagon screw DIN 6330 – M8*, (see page 2)
- 10 Plastic cap* (verdeckt, siehe Seite 2)

*(not included within scope of delivery)

Figure 1: exploded view

To keep an accurate distance between rails, it is necessarily required to secure the rails from shifting. This can be achieved by casting the rails into the ground.

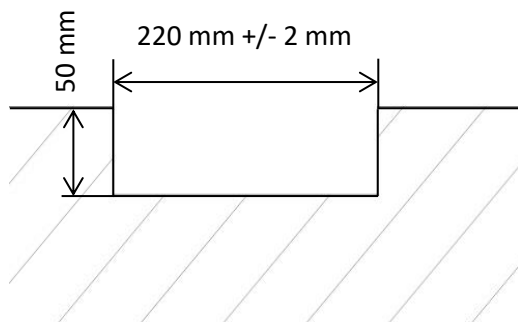


figure 2: required cut-out

An assembly of the foundation rails without problems is only possible, when the corresponding notches are cut in the floor. The flatness of the hall floor should be within +/-2 mm over the complete installation area.



Assembly instruction for support and foundation with integrated round rail

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Should there be some discrepancies in accuracy despite careful work, you can borrow a reamer from us. With this you can widen the holes on the bottom of the connecting frame.

Please note that this will lead to a corresponding loss regarding tolerance and accuracy in the overall rail system.

We recommend that you take enough time during assembly to perfect the position of the foundation rail. Thus, the connecting frame can be positioned without problems.

Furthermore, we recommend sealing the holes for the bolts from below with plastic caps.

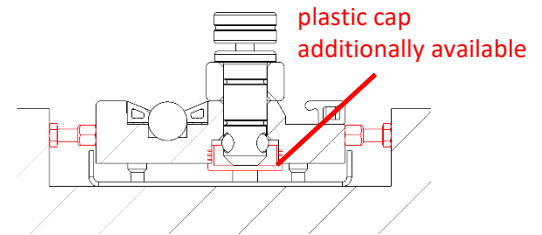


figure 3: plastic cap

Shims are necessary to prevent a penetration of the grub screws into the concrete floor. We point out, that the penetration from the cylinder screws M16 will lead to a change in the rails' level. The resulting pressure will change the rail's height.

Before installation of the anchors the holes are to be cleaned from dust by blowing and brushing them out. Afterwards the anchors are dropped in and with the help of the corresponding spreading tool spread until the spreading tool's stop touches down on the anchor's rim.

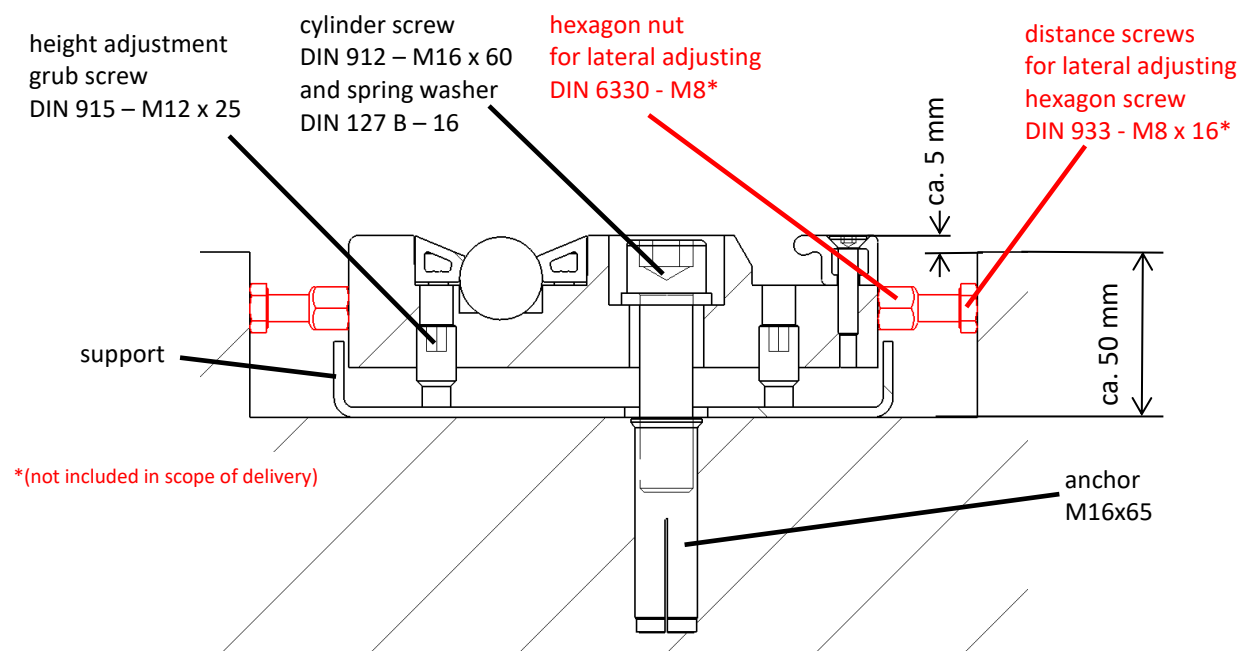


figure 4: section view of rail

The rails might have inaccuracies, which can be leveled out with the lateral adjusting screws during assembly. The adjusting of the rail in its horizontal position is done with an approximation method (1st step: rough adjusting and then in small steps fine adjusting). The final strength is realised by grouting with concrete.

The distance between the distance screws should not exceed 300 mm, recommended are 100 mm.

The distance screws on the right and left side of the foundation rail are also grouted.

When assembling with appropriate measuring devices (e.g. laser trackers) positioning accuracies of +/-1-2mm over 20 meters can be achieved. These tolerances can be reduced even further with better suited measuring devices. The material temperature dependent variances (expansion coefficient) should also be regarded.



To prevent dirt from entering during usage, we recommend using cover caps out of metal that can easily be removed with magnetic bolts.

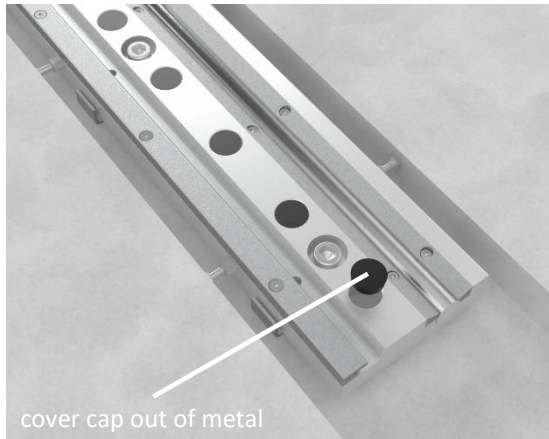


figure 5: cover cap

It is important for the assembly, that the foundation rail, over its complete length, sits higher as the cut out - ideally between 3 and 10 mm.

Per meter foundation rail one to two hours of worktime is required.

When lining up several rails within a rail system we recommend centering the round rail as shown in **Fehler! Verweisquelle konnte nicht gefunden werden.** between two rails. This reduces the “knocking” while sliding over rail joints. A difference in height between the rails produces this effect. On one rail side and on both ends only half of a round rail is built in. This way on the overlapping of rails will be a continuous round rail. This is needed to ensure a smooth slide of the connecting frame.

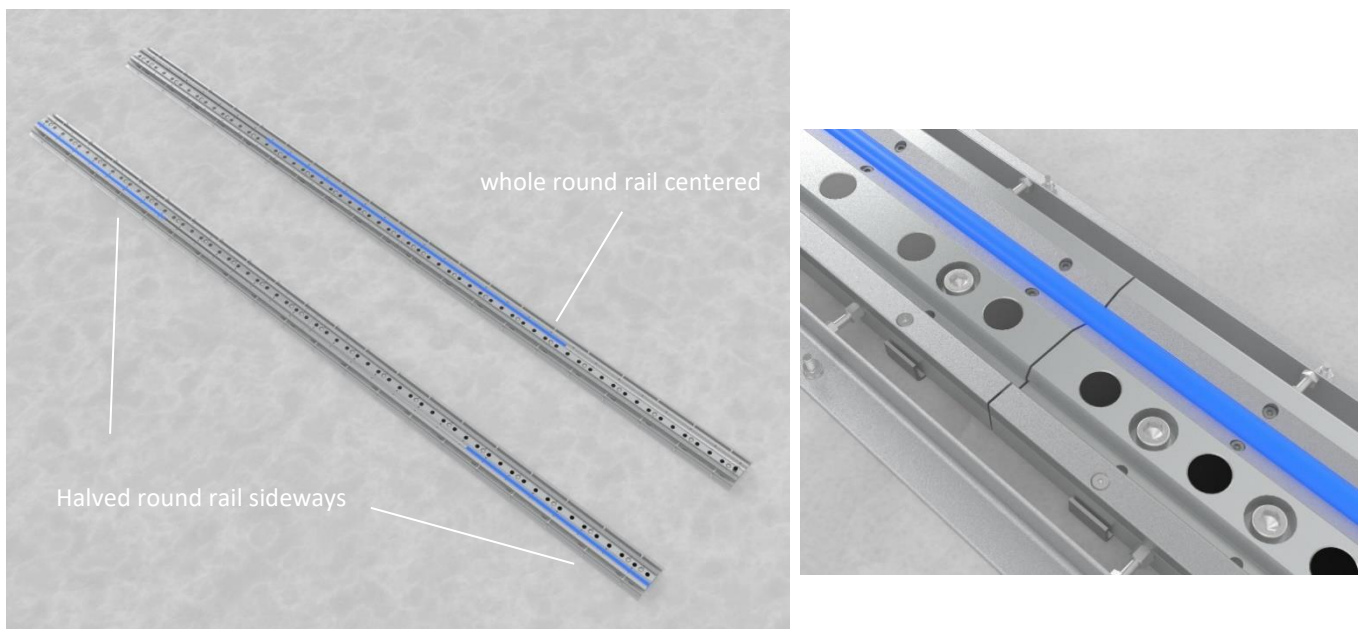


figure 6: expansion of the overall length