Portavant 150 multiline

Planning information for fixing to ceilings

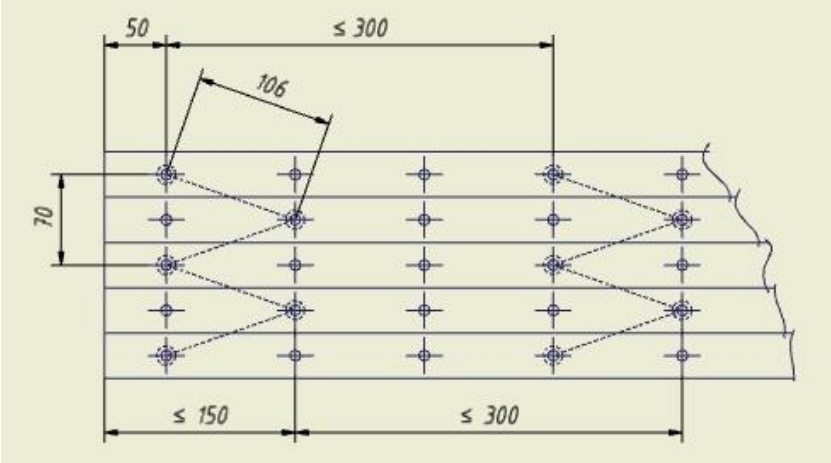
Structural requirements

Please note that the door sashes of the Portavant 150 multiline system can weigh up to 150 kg each and that the overall system comprises several door sashes. If a system has 5 door sashes, for example, a load of up to 750 kg could be suspended from a very small surface area of the ceiling when all of the door sashes are in the open (parked) position. In such cases, the surface load may exceed the ceiling's maximum load-bearing capacity, requiring specific measures to be implemented such as steel girders or floor pillars. ***We strongly recommend consulting an architect and structural engineer, and would also advise working with a steel construction company where necessary.*** Please be aware that our employees are not authorised to provide any advice relating to the building structure as this does not fall within our area of technical expertise.

Use of dowels

Drilling holes for dowels affects the ceiling's structural integrity. In addition, dowels only provide sufficient load-bearing capacity if the holes are drilled to a sufficient depth and with sufficient spacing. Otherwise sections of the ceiling may start to give way. The spacing required between the holes generally increases with hole depth and suspended load. The quality and composition of the concrete are further key factors when calculating the minimum spacing between the holes to be drilled. Please consult a structural engineer or the dowel manufacturer.

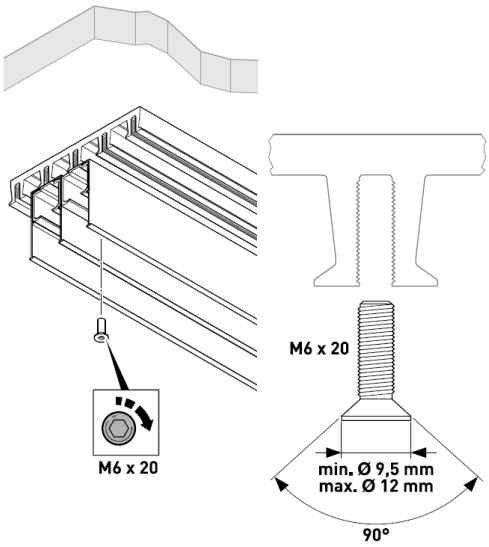
The track profiles and sidelight support profiles are perforated every 100 mm, and each profile has its own hole line. Please refer to the installation instructions for the Portavant 150 multiline system for information on mounting the profiles to the ceiling. To avoid excessive force acting on an unsupported track profile end when the door sashes are in the parked position, the first mounting point must be set no further than 150 mm away from the end of the track profile. To ensure maximum spacing between dowel holes, the profile ends should be secured alternately with a spacing of e.g. 50 and 150 mm. Starting from these positions, additional mounting points must be placed alternately every 300 mm along the profile. This results in a mounting pattern as shown here, for example, with a minimal bore spacing of 70 mm:



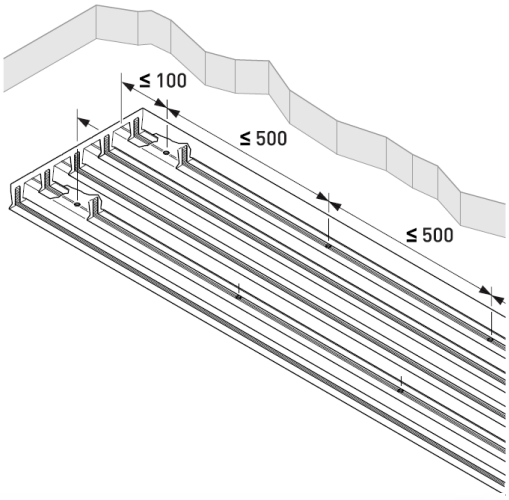
Ceiling joining profile

The track profiles and sidelight support profiles are produced as individual units. This offers greater flexibility in terms of the layout of all-glass sliding door systems. Slim intermediate cover profiles can be used to reduce the visibility of the hardware when door sashes are tightly spaced. This feature is not possible with extruded multiple-track profiles. Our Portavant 150 multiline ceiling joining profile eliminates the drawbacks associated with a high number of mounting points and the corresponding effort required to drill holes.

The ceiling joining profile saves a lot of time during the process of mounting the track profiles and sidelight support profiles using commercially available M6 x 20 mm tapered-seat Allen bolts (see image on right) as described in the Portavant 150 multiline system's installation instructions. The ceiling joining profile also ensures a perfectly parallel arrangement and perfect height adjustment of the track and support profiles. It comes with longitudinal grooves into which the countersunk bolts can be directly screwed.

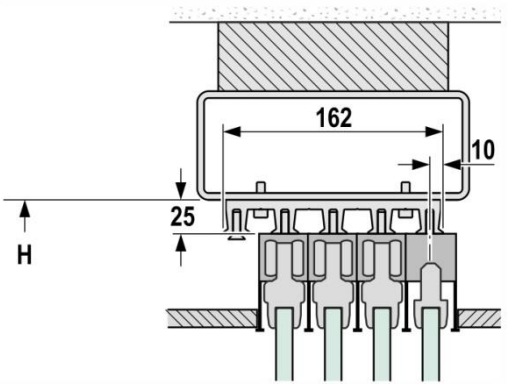


The actual ceiling joining profile must be secured to the ceiling or ceiling structure using two screws for each mounting point spaced at 500 mm in accordance with the installation instructions for the Portavant 150 multiline system. Spacers can be used for horizontal alignment.



In the case of suspended ceilings, suspending an additional, horizontally aligned rectangular steel girder from the ceiling structure is recommended. This serves as a mounting base for the ceiling joining profile. To speed up installation, self-tapping screws may be used to secure the ceiling joining profile to the rectangular steel tube. This requires holes to be drilled into the ceiling joining profile along the drilling grooves provided.

Please note that the all-glass sliding door system may transmit forces into the ceiling joining profile in both a longitudinal and a transverse direction. This means that the ceiling joining profile or additional tubular girder must be secured against any motion in any direction. The entire load-bearing structure must be checked and approved by a structural engineer prior to installation.



HF = H – 86
HS = H – 94

If using the ceiling joining profile, the sash height reduction dimensions HF (height of sidelight) and HS (height of sliding sash) must be adjusted to determine the correct sash heights as shown for our system (system height H). If additional spacers such as rectangular steel girders, shims, etc. are used, the building's ceiling height (structural ceiling above suspended ceiling) and the height of these spacers must be observed when determining dimension H.

Intermediate cover profiles

To ensure structural integrity, each track profile and sidelight support profile must be fitted with a clip-mounted cover profile on at least one side in accordance with the installation instructions for the Portavant 150 multiline system.

This information is available from our website www.willach.com.

Ruppichteroth, 17 February 2017