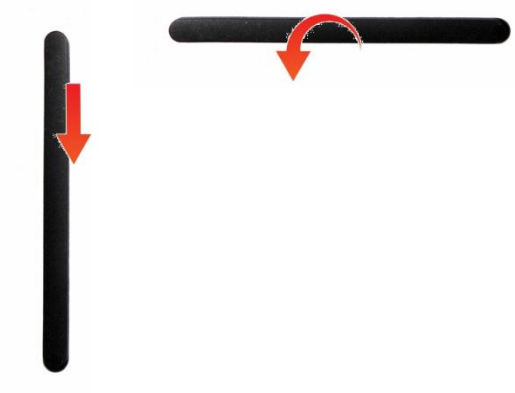
BONDING PANELS ON A HORIZONTAL PROFILE?

We always bond to a vertical profile but we sometimes get the question whether pannels can also be bonded to a horizontal profile of the support structure.

With regard to the tensile strength on the adhesive connection there is no objection bonding façade panels with a horizontal adhesive bead on a horizontal subframe.



However, in the traditional mounting of cladding slabs with a vertical subframe the shear force runs parallel with the vertical adhesive bead, as we say along the strongest axe of the material (whole length of the adhesive bead). But in case of a horizontal adhesive bead shear forces will also occur perpendicular on the created adhesive bead, as we say along the weakest axe of the material (only the width of the glue bed).
So, in our opinion, peeling forces on the adhesive bead, with a width of 12 mm only, cannot be excluded. So you have to be sure that the adhesive bead is properly applied.

Another dilemma is that when applying (mechanical or bonded) attachment to a horizontally placed profile, accumulation of moisture and dirt at the site of the connection has free rein (capillary action between the rear façade plate and horizontal profile) which, in the case of a more or less porous façade plate (such as fiber cement panel), will cause annoying contamination at the front of the façade plate (see photo).
When using a vertical adhesive bead on vertical profiles, this is avoided.

So, unless there is really no other way, we recommend using a vertical control work.

TWEHA, 2022