

Bi-Wall

Wall system in shell construction



Cleanroom wall systems



As a system supplier, clean-tek has various cleanroom wall systems developed in-house, all of which are characterised by their compatibility with each other and maximum flexibility.

We do not simply produce wall panels, but as a system supplier we offer you a modular system with which we develop optimal cleanroom solutions. Individual special solutions are part of our standard.

Thanks to our own production and the flexibility of our system components, we can guarantee almost unlimited variability.

The Bi-Wall wall system is manufactured in shell construction and meets the high requirements of the EC GMP guidelines as well as DIN EN ISO 14644.

The Bi-Wall is preferably used as a partition wall with a high flush-mounted installation density.

Instead of a wall infill, there is a cavity between the two wall shells which allows the concealed installation of cable and media lines.

Features and benefits:

- Concealed installation of media and supply connections
- Cables and lines can be routed into adjacent wall elements
- Can be combined with all clean-tek systems with all glass walls, spandrel glazing elements as well as with all doors, gates and airlocks
- Perfectly coordinated system combination
- Wall cut-outs are possible
- Individual wall elements can be converted and removed without dismantling neighbouring elements
- Compensation for uneven floors possible
- High degree of prefabrication ensures rapid implementation, even for extensive building projects
- The Bi-Wall is completely recyclable
- No carrier material for microbiological growth

! The cavity between the two wall elements can be optimally used as a cable and media duct.



Material information:

The choice of material depends decisively on your production. We will be happy to advise you personally.

Wall panel	Sheet steel, galvanised, 0.80 mm Stainless steel 1.4301 (V2A), 1.00 mm Aluminium, 1.50 mm
Colour	Standard RAL 9010 Other colours on request
Coating	Coil coating (sheet steel) Powder coating (sheet steel) Brushed (stainless steel) Anodised (aluminium)

Construction:

The Bi-Wall is a shell construction consisting of two sheet metal shells that are braced on the back with sheet metal profiles. Between the two wall shells, stud profiles are installed, which are set up between the floor and ceiling connection.

Instead of a wall infill, there is a hollow space between the two wall elements, which can be optimally used for cable and media connections. Cables and lines can be transferred to adjacent wall elements through recesses in the upright profiles.

The individual wall panels can always be manufactured to fit each application exactly and can also be replaced individually at any time later.



Design:

Axial grid solid wall

In the axis grid wall system, the wall elements are placed directly next to each other. There are stud end profiles in between for static support.

The **Bi-Wall** is mainly used as an axial grid wall, as this ensures maximum flexibility in the installation of media connections.

In addition, fewer silicone joints are required than with the band grid.



Band grid elements are only used if doors or parapet glazing elements are to be integrated.

This enables the maintenance or replacement of all installations and functional elements without having to dismantle adjacent wall elements.



Technical data:

Width (axle dimension) standard	240 - 1.350 mm 1.200 mm
Wall thickness	100 mm
Wall height	4.000 mm (standard) bis 6.000 mm (optional)
Installation depth	Full-surface flush-mounted installation up to 98 mm
Floor connection	Freely selectable and combinable: <ul style="list-style-type: none"> ■ GMP standard ■ Hollow PVC fillet ■ Epoxy fillet Compensation of unevenness ± 20 mm
Building material class	A2 (DIN EN 13501) no combustible materials
Sealing	Cleanroom silicone Alternative: Hybrid sealant



Bi-Wall Shell construction

Floor and ceiling connection options

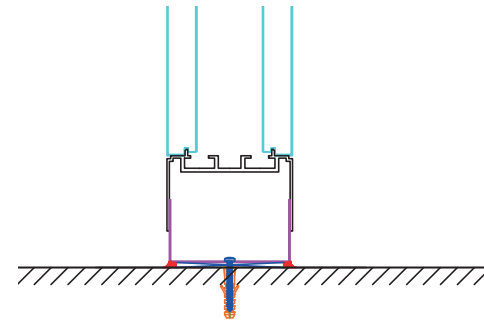
With the special clean-tek connecting profiles floor unevenness of +/-20 mm can be compensated.

The ceiling connection is also visually identical to all wall systems, allowing maximum compatibility of all clean-tek wall systems with each other.

There are basically four different floor connection profiles

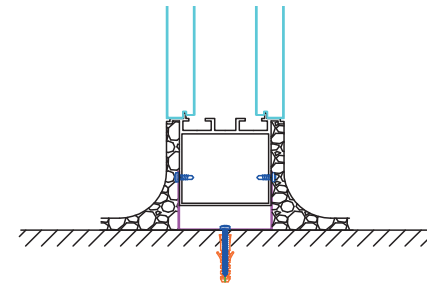
GMP-standard

- The cleanroom floor can be installed over the entire surface.
- The connection profile is installed on the finished floor.
- Suitable for all cleanliness classes according to EC GMP guidelines, DIN EN ISO 14644-1, FDA and VDI 2083.
- The thumb cavity is provided by means of a silicone joint.



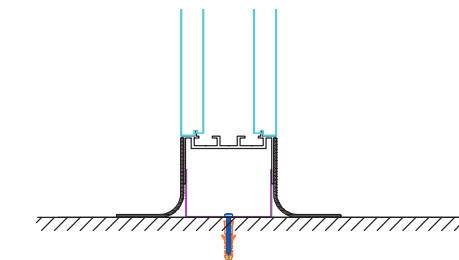
Epoxy cove

- Suitable for epoxy or pharmaceutical terrazzo Fillets
- One-sided or double-sided coving can be realised



PVC coving

- Suitable for PVC floors
- Fillet radius is defined by floor layer

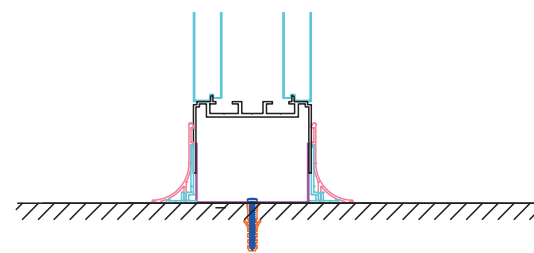


Hollow aluminium profiles

If the GMP standard is not sufficient, aluminium profiles can be retrofitted for coving with a larger radius.

Cove profiles are available for:

- Wall-floor
- Wall-wall
- Ceiling-wall



Wall installations

Parapet glazing

The spandrel glazing is a flush integration of a glazing into the bandraster wall system. It consists of two laminated safety glass panes with 6 mm glass thickness. The width is coupled to the maximum axis dimension of the bandraster wall, which is usually 1.200 mm wide.

Glass type	VSG
Glass thickness	6 mm per pane
Number of panes	2 pieces
Width of glazing	Freely selectable up to max. 1.250 mm
Height of glazing	Freely selectable
Parapet height (lower edge of glazing)	Freely selectable



Upper door element

This is a wall element above a door. If there is sufficient space, a sill glazing can also be used as a skylight.



Cut-outs

Cut-outs are necessary if, for example, machines, conveyor belts or material hatches have to be integrated into the wall system. Rectangular cut-outs can be made in each functional element ex works. An aluminium reveal is used so that the wall filling does not separate any particles at the cut-out. The exact position and size of the cut-out is defined during planning. For cut-outs in element width, an upper and a lower wall element are connected with a profile system. Due to the flexible width, fixtures can be integrated directly flush into the wall system.



Wall protection systems



clean-tek offers scratch protection for entire walls as well as impact protection systems on the floor. This effectively protects the walls from scratches and other damage.

Optimum protection is provided by the combination of two parts each with a substructure, which is attached to the wall or floor, and a 2 mm thick, GMP-compliant stainless steel cover. This absorbs impact loads in the stainless steel cover and, if necessary, converts them into deformation energy in the substructure.

The wall protection can be attached to any wall system (metal, drywall or solid wall).

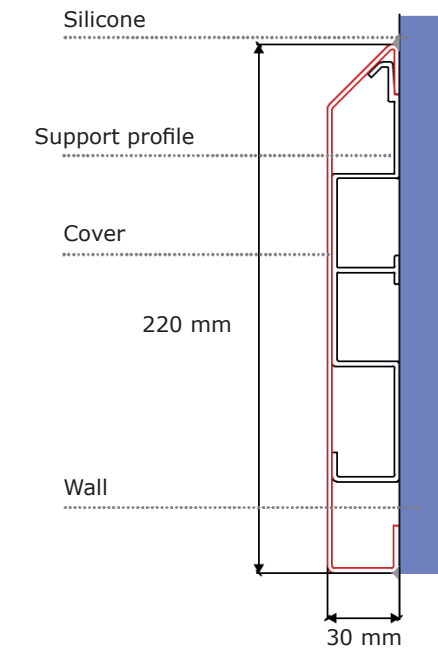
The modular design allows the elements to be replaced quickly and easily, for example in the case of conversions.

Due to the arrangement of the impact protection on the floor, mechanical cleaning of the floors is also possible without any problems.



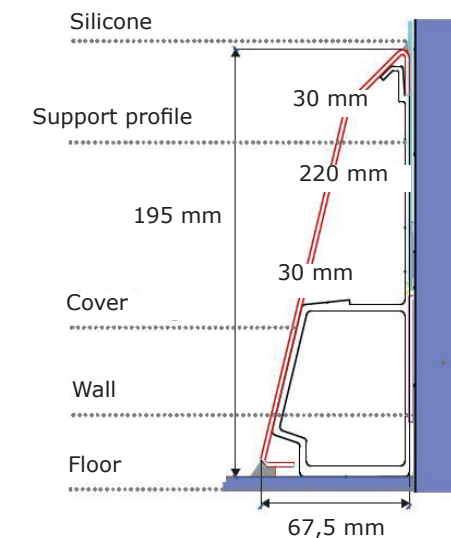
Technical data:
for wall protection

Material	Stainless steel 1.4301 (V2A)
Height	220 mm
Structure	30 mm
Length	up to 2.500 mm
Options	Inside corner 90° Outside corner 90° End pieces



Technical data:
for the ram protection

Material	Stainless steel 1.4301 (V2A)
Height	195 mm
Structure	67,5 mm
Length	up to 2.500 mm
Options	Inside corner 90° Outside corner 90° End pieces



Clean-tek stands for first-class cleanroom technology
from our own production.

As a pioneer in cleanroom technology, **clean-tek** has played a key role in shaping the development of modern cleanroom technology since 1986.

Tradition, innovation and experience are the values that still characterise **clean-tek** today and at the same time the key to constant growth and success.

Services

- Engineering, implementation and service of cleanroom systems
- Development of customised special solutions
- In-house production of all essential cleanroom components
- Interface management during the entire project
- Consulting and training
- On request, delivery of turnkey cleanroom systems as a general contractor
- Consultation and training

Products

- Cleanroom ceiling systems
- Cleanroom wall systems
- Cleanroom door systems
- Laminar flow modules
- Weighing units and sampling cabins
- Decontamination showers
- Accessories and components among others:
 - Material pass-throughs
 - Lights
 - Filter fan unit

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