VARIO SHIELD
SMART SOLUTIONS IN RADIATION SHIELDING

VarioShield^{XL}

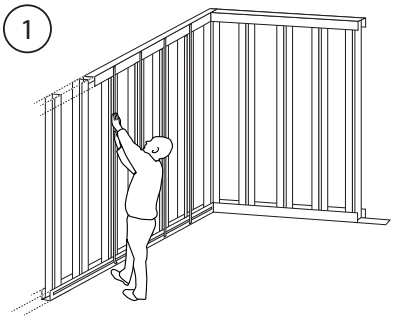
VarioShield^{XL} Assembly Manual

This manual describes in a number of clear steps how to build a radiation-proof room using the VarioShield^{XL} lead bricks of VarioShield. VarioShield^{XL} is a handy lead brick with an interlocking V-shaped groove, which provides a radiation-proof end result without the need of an extra lead strip between the bricks. The bricks are mounted between an inner and outer construction of reinforced metal stud profiles.

General guidelines

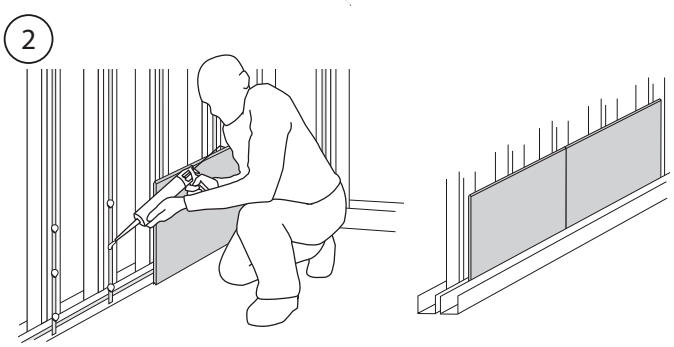
- The thickness of the lead bricks that are used depends on the source of radiation that would eventually be used in the space, and is determined in consultation with a radiation expert.
- The edges of the grooves are vulnerable. Therefore avoid at all times any deformation when transporting and assembling this product.
- In order to ensure effective protection against (strong) sources of radiation, the bricks have to be mounted as carefully as possible.
- Ensure you are working on a flat surface without any irregularities.
- VarioShieldXL can be cut precisely to size using a circular track saw.
- Use reinforced metal stud profiles (C75 and U75) with a 2 mm steel thickness.
- Use acid-free sealant to mount the lead bricks on metal stud profiles.

1



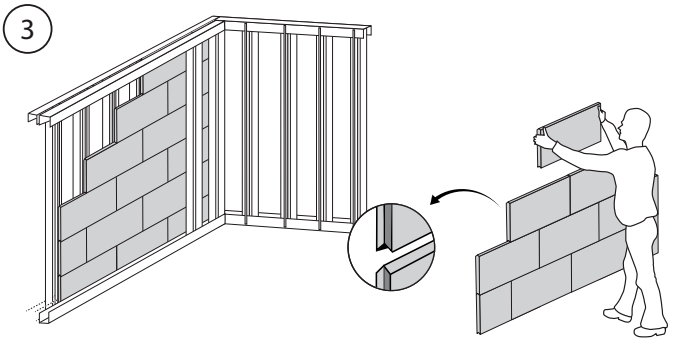
Put together the outer metal stud construction, with a support at every 300 mm (c.t.c.).

2



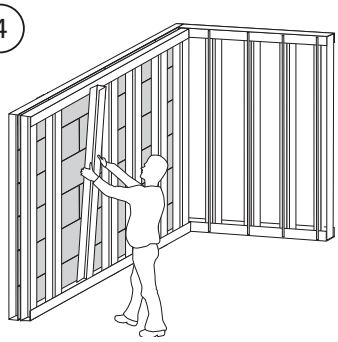
Place as of the first wall a lower row of lead bricks (bottom brick, with smooth underside) and mount this with sealant. Anchor the lowermost row with the bottom beam of the inner construction. Saw off the end bricks as flat as possible, both on the left and on the right side.

3



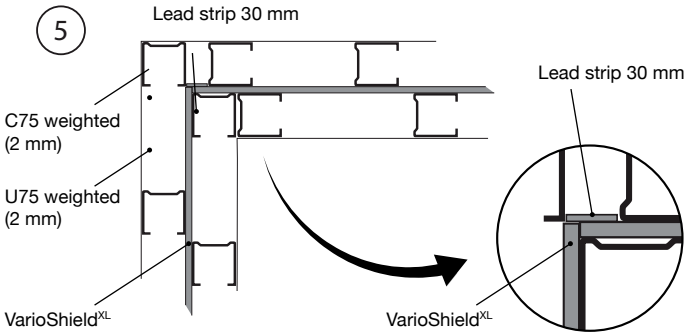
Build up the second row in half-brick sections. Mount using sealant. Place the next rows until the desired height is reached. Place the supports where full height has been reached.

4



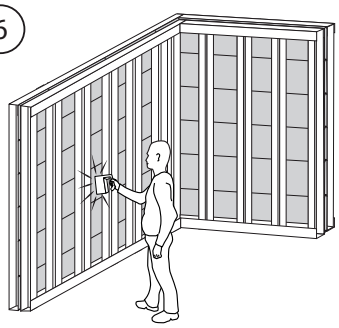
Build the VarioShield[XL] wall step-by-step and constantly check to see that the lead elements connect well. Finish off the construction of the inner structure.

5



For the construction of the second wall, place the end bricks of the second wall butt against the end bricks of the first wall. Finish off the construction of the second wall following steps 2, 3 and 4. For a radiation-proof corner connection, cover the vertical butt seams of the walls with a lead strip at least 30 mm in width. Mount the strip using sealant.

6



Finish off building all other walls in the same way. The room is now radiation proof

The advantages of VarioShield[XL]:

- VarioShield[XL] lead bricks weigh around 25 kg and can be handled within the norms of health and safety.
- System can be installed quickly and simply, also by a single person.
- The bricks can be easily mounted using sealant.
- Wiring can be concealed using the double metal stud system.
- Speedy installation, thereby saving time and money.
- VarioShieldXL has been tested and approved by Applus RTD.

Product description

VarioShield[XL] is delivered in two standard dimensions: lead thickness 8 mm, 10 mm: length 600 x width 400 mm; lead thickness 12 mm, 15 mm and 20 mm: length 600 x width 250 mm. Other thicknesses avaiblable upon request. Application: as a radiation-proof wall for protecting against harmful radiation (x-rays, PET, CT etc.) in hospitals, clinics, laboratories, industry and nuclear installations.

Transport and storage

VarioShield[XL] is delivered on reusable pallets. Individual elements can be transported by hand. Store and use on a dry and even surface. Please be careful when handling the bricks: the edges of the grooves are vulnerable to knocks and can deform as a result. This would have an adverse effect on the radiation-proof properties.

Processing and assembly

Use gloves when handling the VarioShield[XL]. Wear a dust mask when working with the tiles and ensure there is an extraction system in use when cutting tiles by machine. Mount using acid-free sealant. Do not use screws.

VARIO SHIELD

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