

**Product Description**

LUX ELEMENTS®-ELEMENT-EL is a support element made of polystyrene hard-foam with a mortar coating reinforced on both sides with glass-fibre. From this basic material is produced the ELEMENT, a construction panel for universal use, and a wide range of pre-produced system construction kits.

**Physical characteristics**

Characteristics	Tested in accordance with	Unit	Result
Bending behaviour	DIN EN 12089 (08.97)	kPa	2422 (mean value)
Dimension stability under normal climatic conditions	DIN EN 1603 (01.97)	%	0,1
Dimension stability under specified temperature and humidity conditions	DIN EN 1604 (01.97)	%	-0,2 to 0,1
Tensile strength perpendicular to faces	DIN EN 1607 (01.97.)	kPa	310 to 420 360 (mean value)
Long term water absorption by immersion	DIN EN 12087 (08.97)	area-related mass kg/m <sup>2</sup>	0,76 (mean value)
Long term water absorption by immersion	DIN EN 12087 (08.97)	volume-related mass %	7,3 (mean value)
Freeze-thaw resistance	DIN EN 12091 (08.97)	Pressure strength in %	Mean values: $\sigma_{10} = 204,7$ $\sigma_{10,f} = 201,7$ $\sigma_{10,fr} = 199,5$
Water vapour transmission properties	DIN EN 12086 (08.97)	Diffusion resistance rate $\mu$ <sup>2)</sup>	44
Flammability	DIN 4102 (05.98)		B 1, hardly inflammable
Fire rating	DIN EN 13501-1		B-s3, d0 (EL4 – EL100) B-s2, d0 (EL4 – EL100) E (only EL12)
Thermal conductivity	DIN EN 12667	(W/(m * K))	0,036
Determination of compression behaviour	DIN EN 826	kPa	180 to 210 197 (mean value)
Temperature resistance	–	°C	-50 / +75
Dimensional tolerances for standard boards <sup>1)</sup> (thickness range 4 - 100 mm)	DIN EN 13 163 (based on)	mm	· thickness +/- 2 · width +/- 2 · length +/- 2 · squareness +/- 2 per 1000 mm

<sup>1)</sup> The thickness value covers the hard foam core including the laminated glass-fibre fabric and the coating mortar layer.

<sup>2)</sup>  $s_d = \mu * s$  (  $s_d$  → water vapour diffusion-equivalent air layer density in m;  $\mu$  → Coefficient of water vapour diffusion resistance;  $s$  → Thickness of fabric layer in m)

**Applications**

LUX ELEMENTS®-ELEMENT-EL is suitable for use in moist areas as a carrier element for tiles, mosaics and plaster, both on walls and floors.

LUX ELEMENTS®-ELEMENT-EL is used on solid walls, as a wall leveller over old tiles, for cladding stud frames and installation walls, and as a free-standing partitioning wall. On floors it serves to even out the floor and to compensate for loads as well as to protect against moisture, whilst at the same time having a low weight, a low structural height and virtually dry installation.

**Substrate**

- firm, even, dry and clean
- free of vibrations
- good load bearing capacity

**Recommended use**

It is the duty of the installer to check the properties of the substrate. If necessary, additional measures must be taken before the attachment of LUX ELEMENTS®-ELEMENT-EL. Please refer to our topical brochure 'The base'.

**Wall applications**

- Mounting on a stud frame/installation wall: Fasten with LUX ELEMENTS®-FIX fixing kits; minimum thickness 10 mm
- Mounting on a solid wall: Spot fix with mortar lumps (8–10 pcs/m<sup>2</sup>) made of LUX ELEMENTS®-COL-AK fixing adhesive and LUX ELEMENTS®-FIX hammer fix plugs; minimum thickness 6 mm
- Mounting on a solid wall: Apply adhesive adequately over the whole surface on even substrates with sufficient load-bearing capacity with LUX ELEMENTS®-COL-AK
- Free-standing partitioning wall: minimum thickness 50 mm

**In general:**

- Joint adhesion to one another with LUX ELEMENTS®-COL-MK mounting adhesive.
- Adhere joints with LUX ELEMENTS®-ARM-100 SK and level out with LUX ELEMENTS®-COL-AK.
- In less or normally frequented damp or wet areas (e.g. in the private shower area), we recommend that you seal the floor/wall transition and the corners with LUX ELEMENTS®-DRY-DB sealing tapes and LUX ELEMENTS®-DRY-ASK tape sealer as crack bridging.
- Seal pipe penetrations with LUX ELEMENTS®-DRY-DBDZM and LUX ELEMENTS®-DRY-ASK.
- When applying in highly frequented damp or wet rooms it is necessary to use an additional LUX ELEMENTS®-DRY-ASK or LUX ELEMENTS®-DRY-DF sealing in conjunction with ceramic coverings (see ZDB information sheet "Notes for the production of seals in conjunction with tile or panel claddings and coverings for indoor and outdoor use" Status January 2005).
- Lay ceramic coverings cavity-free with LUX ELEMENTS®-COL-FLEX flexible adhesive, maximum load 50 kg/m<sup>2</sup>.

**Floor applications**

- Mounting on timber flooring: Fasten with LUX ELEMENTS®-FIX fixing kits.
- Mounting on timber flooring: Prime with LUX ELEMENTS®-COL-HSV. Apply adhesive adequately over the whole surface on even substrates with sufficient load-bearing capacity with LUX ELEMENTS®-COL-AK.
- Mounting on mineral floor: Prime strongly absorbent substrates with LUX ELEMENTS®-COL-HSV. Spot fix with mortar lumps (maximum spacing 200 mm; 25–36 pcs/m<sup>2</sup>) made of LUX ELEMENTS®-COL-AK fixing adhesive; minimum thickness 30 mm.
- Mounting on mineral floor: Prime strongly absorbent substrates with LUX ELEMENTS®-COL-HSV. Apply adhesive adequately over the whole surface on even substrates with sufficient load-bearing capacity with LUX ELEMENTS®-COL-AK.

**In general:**

- Adhere joints with LUX ELEMENTS®-ARM-100 SK and level out with LUX ELEMENTS®-COL-AK.
- When applying in damp or wet rooms it is necessary to use an additional LUX ELEMENTS®-DRY-ASK or LUX ELEMENTS®-DRY-DF sealing in conjunction with ceramic coverings (see ZDB information sheet "Notes for the production of seals in conjunction with tile or panel claddings and coverings for indoor and outdoor use" Status January 2005).
- In the case of low to moderate loads (normal household barefoot use), a ceramic covering (10 x 10 cm ≤ covering ≤ 33 x 33 cm) can be laid cavity-free using LUX ELEMENTS®-COL-FBK fluidised thin bed adhesive or LUX ELEMENTS®-COL-FLEX flexible adhesive. Ensure that tiles have a sufficient breaking strength. Maximum pressure load 0.1 N/mm<sup>2</sup>. In the case of higher loads (e.g. wheelchair use) please consult the LUX ELEMENTS technical department.

**Storage**

Panel goods are to be stored evenly in a cool, dry place and protected against direct sunlight. Slight curvature of panels caused by incorrect storage or transport, for example, does not represent a technical defect. Curving can be rectified through slight bending and counter-traction. Hard foam support elements must not come into contact with solvent-containing substances.

The relevant recommendations and guidelines, as well as DIN regulations, European standards and safety datasheets are to be observed. The recognised architectural and technical rules apply. We accept liability for the perfect quality of our products. Our processing recommendations are based upon trials and practical experience; they can, however, be no more than general instructions without assurance as to their quality, since we have no influence on the site conditions, on the execution of the work and the processing. With the issuing of this product datasheet previous versions cease to be valid.

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