

WATERPROOFING IN WETROOMS

Secure. Fast. Individual.





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Sealing – why?

Water is valuable and useful. Despite that, water can also cause damage. That's why buildings are protected from the rain by a roof, for example. But how do you protect a bathroom?

It "rains" there, too, when you take a shower! The amount of water that a shower area has to cope with is about 24 times higher than that of a roof. The value is calculated by taking the average rainfall in Germany of approx. 750 l/m² per year and comparing it to a water consumption of 40 l per person with a shower area of 90 x 90 cm for the daily shower. **The comparison shows that sealing in the interior wet area is indispensable.**

In this brochure you will find solutions for composite sealings from LUX ELEMENTS.

Sealing of interior rooms

In bathroom design, secure sealing is a must to prevent damage caused by moisture. But which substances seal reliably and on which surfaces are they used?


The sealing of floor and wall surfaces with a maximum water accumulation height of 10 cm has been regulated in Germany since 2017 by the 18534 standard. For example, bathrooms and shower units, both domestic and commercial, are affected.


Water exposure classes

The standard specifies four water exposure classes from low exposure (W0-I) to very high exposure (W3-I). The effect of the water can vary on different surfaces within a room. A bathroom can have different water exposure classes.

Important for the planner: from this point on, he must assess every single surface in the room and assign it to a water exposure class.


Water exposure classes

W0-I low 



Surfaces with infrequent exposure to splash water

Example:
Wall and floor surfaces in guest toilets

W1-I moderate 



Surfaces with infrequent exposure to tap water, without intensification due to accumulating water

Example:
Domestic bathroom with flush with the floor shower and effective splash protection

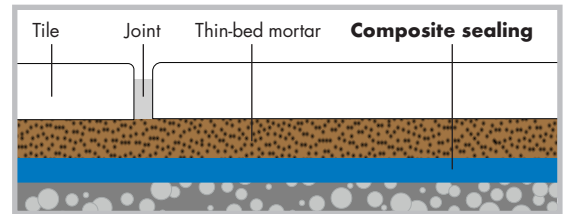
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AIV – Sealing in conjunction

Since coverings made of tiles, natural or concrete stone with cementitious joints are not waterproof, a sealing in conjunction is necessary in order to avoid damage to the building fabric

There are three kinds of composite waterproofing materials.



Schematic: composite sealing for tiles



Liquid-applied waterproofing materials in conjunction
AIV-F



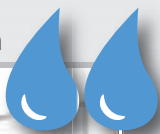
Waterproofing materials **in sheet form** in conjunction
AIV-B



Waterproofing materials **in panel-shaped form** in conjunction
AIV-P

W2-I

high



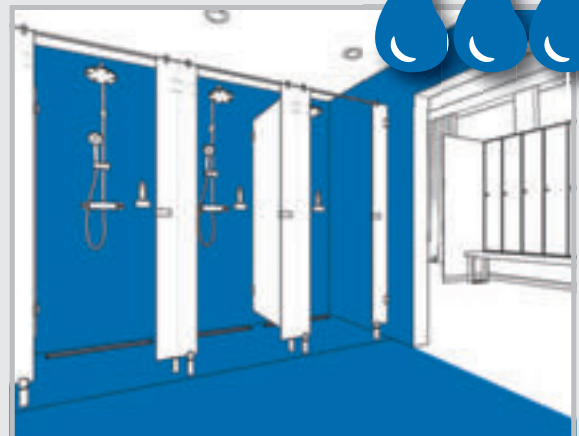
Surfaces with frequent exposure to tap water, intensified above all on the floor due to occasional accumulation of water

Example:

Domestic bathroom with flush with the floor shower without effective splash protection

W3-I

very high







Surfaces with very frequent or long-lasting exposure to splash and/or tap water and/or water from intensive cleaning processes, intensified by accumulating water

Example:


Shower units in sports facilities



Product overview

Water exposure class	Application surface	LUX ELEMENTS®-ELEMENT-EL Universal construction panel	LUX ELEMENTS®-ELEMENT-VK Multi-functional construction panel
W0-I low 	Wall Guest toilet or areas without shower area	✓ *	✓
	Floor Guest toilet	✓ *	✓
W1-I moderate 	Wall Domestic bathroom Shower or bath tub area	✓ *	✓
	Floor Domestic bathroom Shower with effective splash protection	✓ **	✓
W2-I high 	Wall Indirect area in public baths and sports facilities	✓ **	✓
	Floor Domestic bathroom Area without effective splash protection or shower	✓ **	✓
W3-I very high 	Wall Public baths and sports facilities, direct shower area	✓ **	✓
	Floor Public baths and sports facilities, direct shower area	✓ **	✓

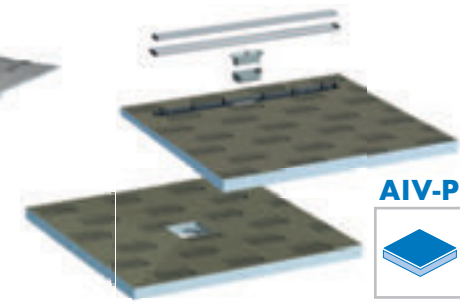
 recommended

 * recommended as a standard-compliant substrate without further sealing

 ** recommended as a standard-compliant substrate with sealing using **LUX ELEMENTS®-DRY-DF** or **LUX ELEMENTS®-DRY-ASK**

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LUX ELEMENTS®-TUB Shower bases	LUX ELEMENTS®-DRY-DF Sealing film	LUX ELEMENTS®-DRY-ASK Sealing filler
	✓	✓
	✓	✓
	✓	✓
	✓	✓
	✓	✓
✓	✓	✓
	✓	✓
✓	✓	✓

✓ suitable



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W0-I

W1-I



The universal construction panel

LUX ELEMENTS®-ELEMENT-EL

The moisture-insensitive ELEMENT-EL construction panel for wall and floor – consisting of polystyrene hard foam with double-sided glass fibre fabric reinforcement and mortar coating – serves as a composite sealing in panel-shaped form in ten thicknesses from 4 mm to 100 mm.

Frequent areas of application: on solid walls, as a wall leveller over old tile coverings, as panelling for stud frames or as a free-standing partition wall.

- **Moisture-insensitive substrate**
on wall and floor
- **Tested by watertightness test**
based on ETAG 022, Appendix F
- **Mould-resistant**
due to alkaline properties
- **Suitable substrate**
for composite sealings in liquid and sheet form

The universal construction panel



All components, including the accessories offered, are coordinated and checked in the system.

W0-I **W1-I**

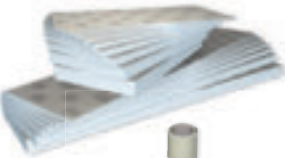


LUX ELEMENTS®-ELEMENT-EL

The products:











LUX ELEMENTS offers you a wide product range for the design of your wetroom.

Wall and floor planking:

- | | | |
|--|-------------------------------|------------------|
|  | 1 Construction panel | – ELEMENT-EL ... |
|  | 2 Reinforcement fabric | – ARM-... |
|  | 3 Fixing adhesive | – COL-AK |

Optional accessories:

(depending on the installation situation)

- | | | |
|--|----------------------------------|----------------|
|  | Sealing filler | – DRY-ASK |
|  | Sealing tape | – DRY-DB... |
|  | Cut protection tape | – DRY-SB |
|  | Tile adhesive (C2, DIN EN 12004) | |
|  | Mounting adhesive | – COL-MK |
|  | Hammer fix plug | – FIX-FID ... |
|  | Plastic hammer fix plug | – FIX-KSD ... |
|  | Fastening set, screw/washer | – FIX-SB ... |
|  | Niche | – RELAX-NI ... |
|  | Mounting aid | – MONT- ... |



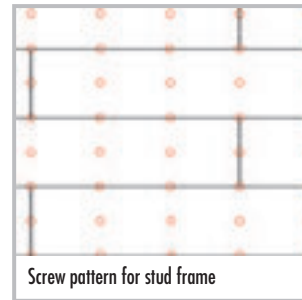
NOTE:

This brochure only contains extracts from the extensive product portfolio of LUX ELEMENTS.

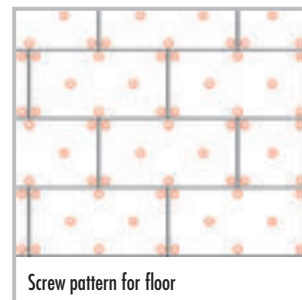
More information on this on our homepage www.luxelements.com

Did you know...?

The ELEMENT construction panels are laid in groups; diagonal joints are not allowed.



Screw pattern for stud frame



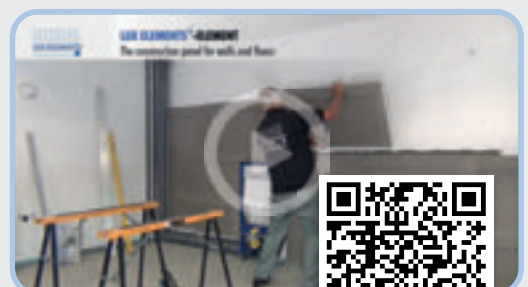
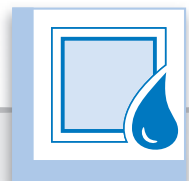
Screw pattern for floor



If moisture-insensitive substrates with sufficient moisture protection are present, an additional sealing can be dispensed with, in the case of W1-I wall surfaces. However, it is vital that no water can get into moisture-sensitive component layers (e.g. insulating layers).

ELEMENT-EL has undergone an external watertightness test in the installed condition with exposure to hot and cold water. The test was carried out on the basis of ETAG 022, Annex F. The test procedure is used to simulate the long-term behaviour.

The construction panel passed the test and is waterproof.



... this is how it's done:



Assembly video on www.youtube.com/user/luxelementscom



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AIV-P



The multi-functional construction panel

LUX ELEMENTS®-ELEMENT-VK

The factory-sealed ELEMENT-VK construction panel with vapour-barrier property for wall and floor is a composite sealing in panel-shaped form in five thicknesses from 6 to 50 mm.

Frequent areas of application: on solid walls, as panelling for stud frames or as a free-standing partition wall.

- **General Building Authority Approved Test Certificate (abP)**
- **Waterproof/ acts as vapour barrier**
- **Tested building kit**
LUX ELEMENTS fleece backed construction panels are part of a building kit for wetroom sealing tested according to European guidelines (ETAG).



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The multi-functional construction panel



All components, including the accessories offered, are coordinated and checked in the system.

AIV-P



W1-I



W2-I



LUX ELEMENTS®-ELEMENT-VK

The products:





LUX ELEMENTS offers you a wide product range for the design and the sealing of your wetroom.

Wall and floor sealing in the shower area:

- 1** Construction panel, fleece backed — ELEMENT-VK ...
- 2** Sealing filler — DRY-ASK
- 3** Sealing tape — DRY-DBV...
- 4** Tile adhesive (C2, DIN EN 12004)

Optional accessories:

(depending on the installation situation)

- | | | |
|---|-----------------------------|---------------|
|  | Fixing adhesive | — COL-AK |
|  | Mounting adhesive | — COL-MK |
|  | Hammer fix plug | — FIX-FID ... |
|  | Plastic hammer fix plug | — FIX-KSD ... |
|  | Fastening set, screw/washer | — FIX-SB ... |
|  | Cut protection tape | — DRY-SB |



NOTE:

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Did you know...?

Substructures in the shower area

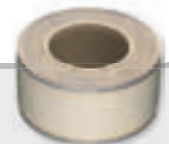
In the case of drywall substructures, the metal stud frame must also be protected against corrosion; in the case of timber stud frames, for example, chemical wood protection and/or resistant timbers must be considered. Other substructures must be permanently insensitive to moisture.



Maintenance of joint sealants

Joint sealants must be cared for, maintained and, if necessary, renewed. In case of renewal, care must be taken to ensure that the sealing is not damaged.

This is prevented by applying cut protection tape like LUX ELEMENTS®-DRY-SB.



Effective splash protection

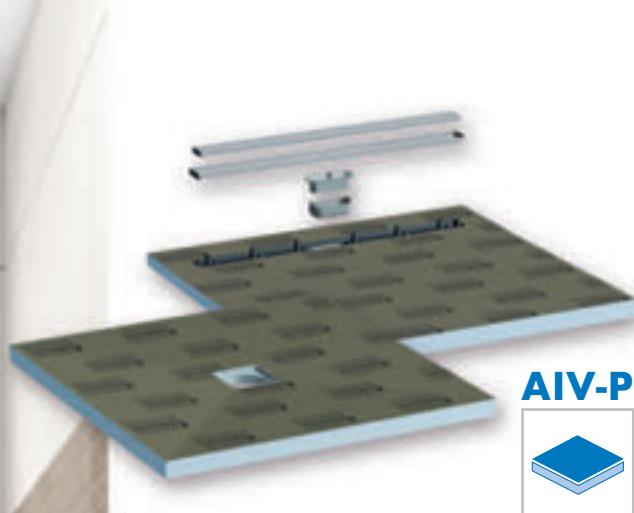
If there is no effective splash protection in the shower area (e.g. only one glass pane), the entire bathroom floor becomes a high-stress surface (W2-I).





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Tileable shower bases for every bathroom

LUX ELEMENTS®-TUB

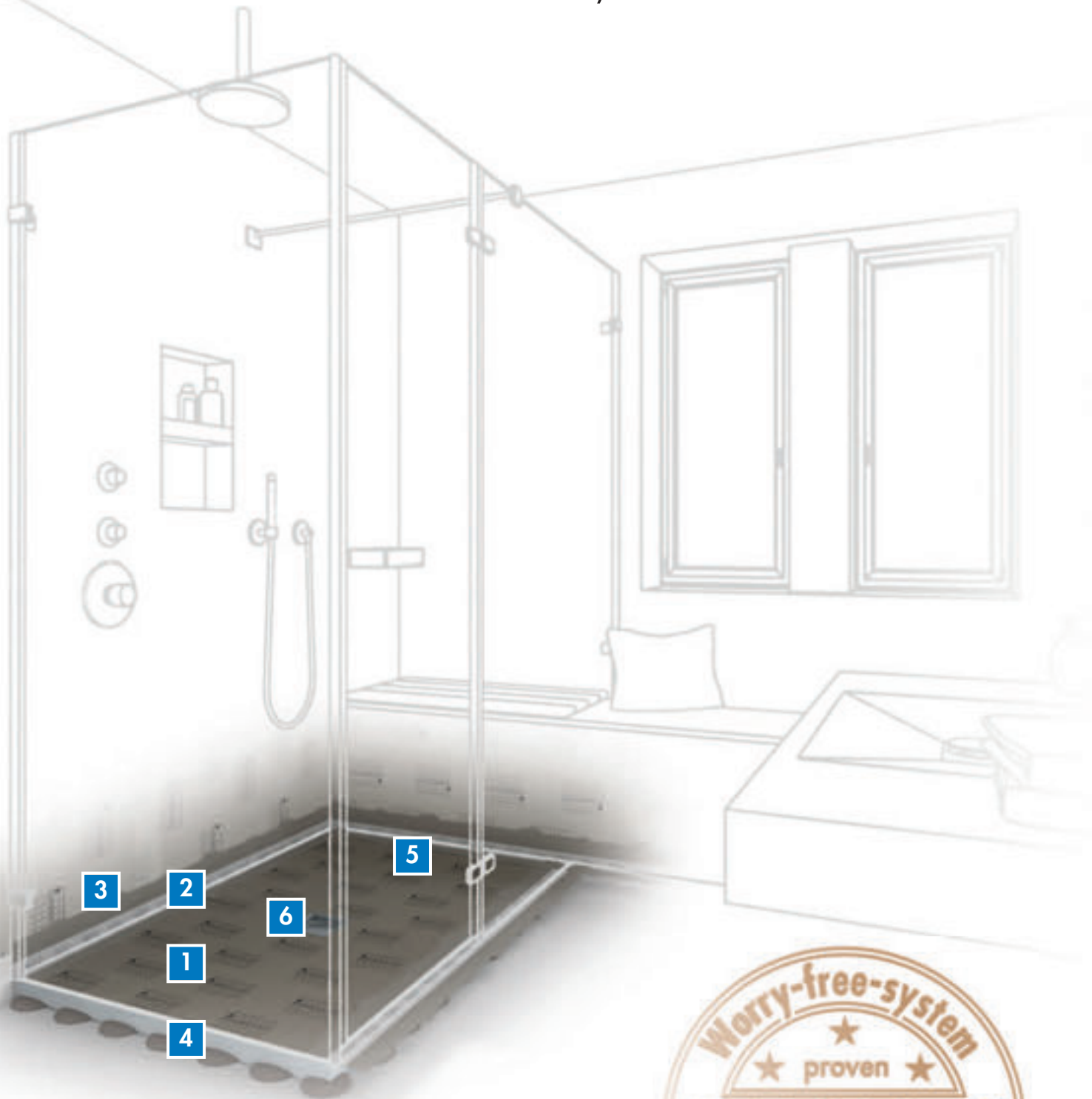
The TUB flush with the floor shower bases with point drainage or channel drain – equipped with top-sided sealing and prefabricated slope – are composite sealings in panel-shaped form. The floor drain fitting frame for point drainage as well as the channel drain for linear drainage are pre-installed and sealed. A secure clip system ensures a firm connection to the drain support.

- **Second drainage level**
for the drainage of water accumulations
- **Factory-sealed shower base element**
with integrated gradient
- **Suitable for wheelchairs**
from $\geq 20 \times 20$ mm mosaic
- **General Building Authority Approved**
Test Certificate
- **Tested building kit**
LUX ELEMENTS shower bases are part
of a building kit for wetroom sealing
tested according to
European guidelines (ETAG).



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Tileable shower bases for every bathroom



All components, including the accessories offered, are coordinated and checked in the system.

AIV-P



W2-I



LUX ELEMENTS®-TUB

The products:

LUX ELEMENTS offers you a wide product range for the design and the sealing of your shower area.

Shower bases for point and linear drainage:

- 1** Shower base element – TUB-.../TUB-LINE ...
available in many design variants and sizes
- 2** Sealing filler – DRY-ASK
- 3** Sealing tape – DRY-DB...
- 4** Fixing adhesive – COL-AK
- 5** Tile adhesive (C2, DIN EN 12004)

Required accessories:

- 6** Floor drain system – point drainage
Floor drain support [DN 50] –
TUB-BA-W [horizontal]* or TUB-BA-S [vertical]
Grate + grate fitting frame – TUB-RA ...
- 6** Floor drain system – linear drainage
Floor drain support [DN 50] –
TUB-LINE BA-W [horizontal]* or TUB-LINE BA-S [vertical]

Optional accessories:

(depending on the installation situation)

- *Substrate element – TUB-U...
- Cut protection tape – DRY-SB



NOTE:

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Did you know...?

Tile coverings with cementitious joints are not waterproof!

A second drainage level prevents the permanent penetration of the top covering by moisture and significantly reduces the risk of efflorescence or possible discoloration.

All LUX ELEMENTS® shower base elements are equipped with a second drainage level.

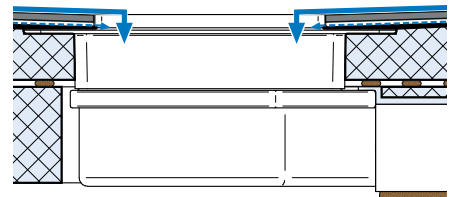


Fig 1 – LUX ELEMENTS®-TUB, point drainage

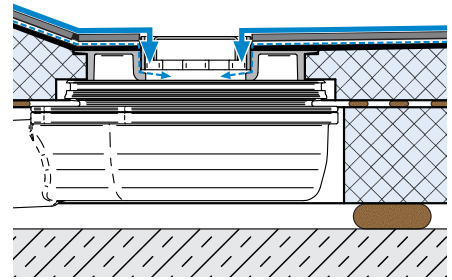


Fig 2 – LUX ELEMENTS®-TUB-LINE, linear drainage

Our mounting accessories are also available as a kit! Complete set mounting accessories on offer for all sizes of flush with the floor shower bases:

TUB-KIT UNI ... consisting of:
DRY ASK sealing filler, DRY-DB sealing tape,
DRY-DBIE sealing tape (inner corners)
and COL-AK Fixing adhesive



... this is how it's done:



Assembly video on www.youtube.com/user/luxelementscom



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AIV-B



Sealing film

LUX ELEMENTS®-DRY-DF

The DRY-DF tear-resistant sealing film is a composite sealing in sheet form in a width of 1000 mm and a thickness of 0.6 mm with a film thickness of 0.2 mm. It is applied using COL-FLEX tile adhesive.

Frequent areas of application: large, straight walls and components, where a constant thickness of the sealing layer of 0.2 mm is required.

- **Guaranteed minimum layer thickness in just one work step**
- **General Building Authority Approved Test Certificate**
- **Fast further processing due to short drying time**

Sealing film



All components, including the accessories offered, are coordinated and checked in the system.

AIV-B



W1-I



W2-I



LUX ELEMENTS®-DRY-DF

The products:

LUX ELEMENTS offers you a wide product range for the design and the sealing of your wetroom.



Wall and floor sealing in the shower area:

- 1** Sealing film 1000 mm wide – DRY-DF
- 2** Sealing filler – DRY-ASK
- 3** Sealing tape – DRY-DB...
- 4** Tile adhesive (C2, DIN EN 12004)

Optional accessories:

(depending on the installation situation)



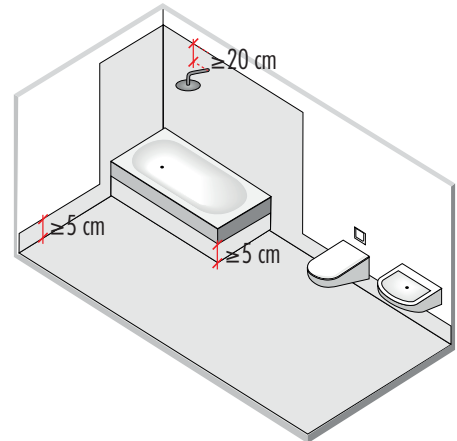
- Construction panel – ELEMENT-EL ...
- Cut protection tape – DRY-SB

Did you know...?

Detail formations

If only floor surfaces are to be sealed, the sealing layer must reach to at least 5 cm above the top edge of the finished floor.

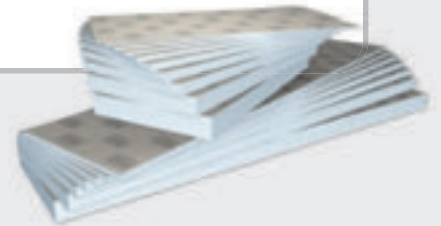
On wall surfaces of the water exposure classes W1-I, W2-I and W3-I, the sealing layer must reach to at least 20 cm above the top or above the height of the expected splash water area.



Substrate for DRY-DF

The moisture-insensitive ELEMENT-EL construction panel (pages 8-11) is recommended for the construction and design of the substrate.

If a different, moisture-sensitive substrate is present, a sealing in sheet form such as DRY-DF will be absolutely necessary from W1-I.



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... this is how it's done:



Assembly video on www.youtube.com/user/luxelementscom



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Mineral sealing slurry (CM)

LUX ELEMENTS®-DRY-ASK

The single-component, crack-bridging and flexible DRY-ASK sealing slurry for wall and floor surfaces is a liquid composite sealing.

Frequent areas of application: large walls and components, especially with rounded shapes.

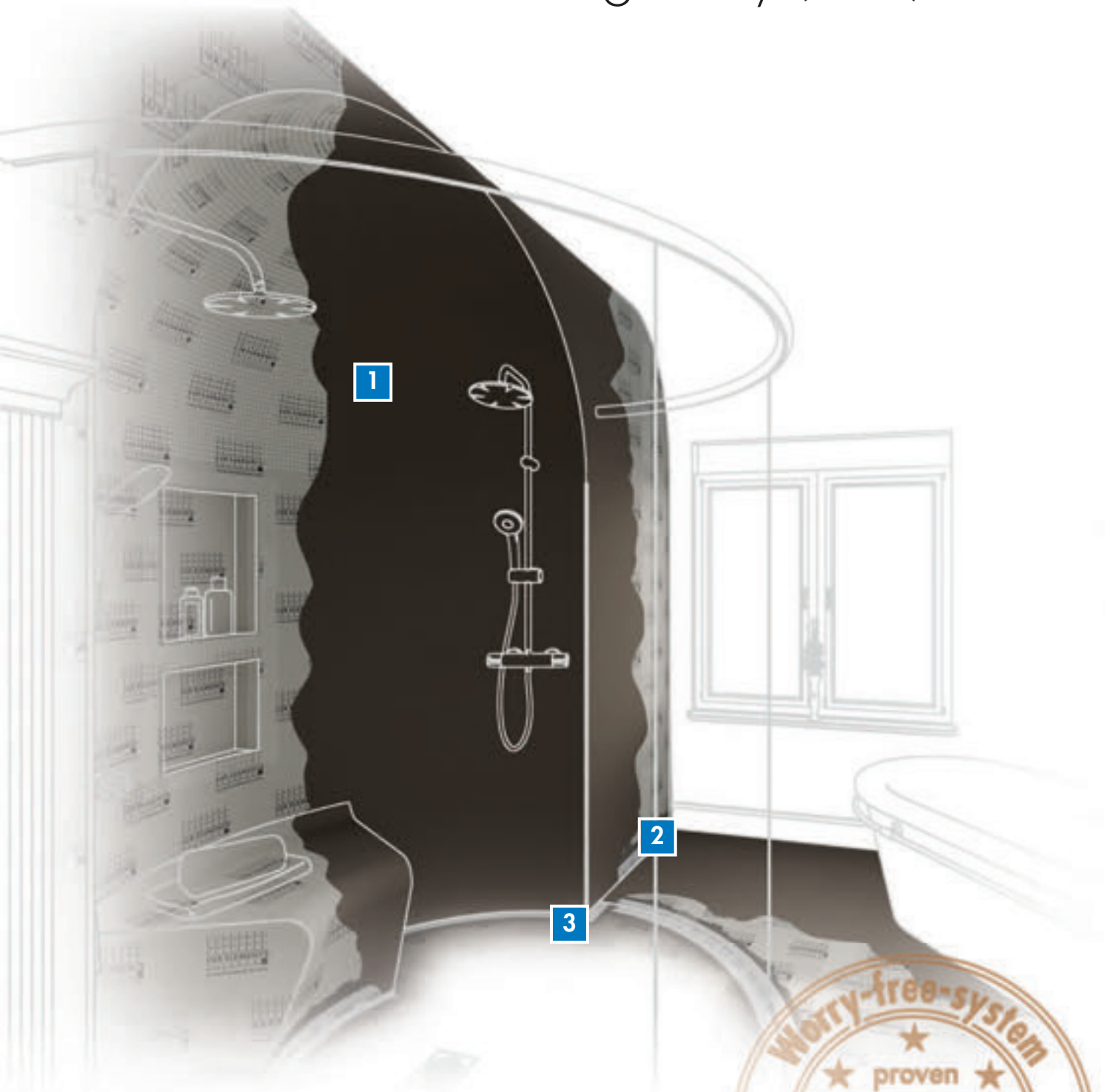
- **Suitable for underfloor heating**
- **Permeable for water vapour**
- **General Building Authority Approved Test Certificate**
- **Tested building kit**

LUX ELEMENTS cementitious sealing is part of a building kit for wetroom sealing tested according to European guidelines (ETAG).



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Mineral sealing slurry (CM)



All components, including the accessories offered, are coordinated and checked in the system.

AIV-F



W1-I



W2-I



W3-I



LUX ELEMENTS®-DRY-ASK

The products:

LUX ELEMENTS offers you a wide product range for the design and the sealing of your wetroom.

Wall and floor sealing in the shower area:



- 1** Sealing filler – DRY-ASK
mineral sealing slurry (CM)



- 2** Sealing tape – DRY-DB...



- 3** Tile adhesive (C2, DIN EN 12004)

Optional accessories:

(depending on the installation situation)



- Construction panel – ELEMENT-EL ...



- Cut protection tape – DRY-SB



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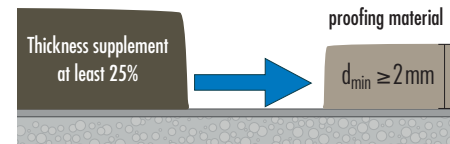
More information on this on our homepage www.luxelements.com

Did you know...?

Standard-compliant sealing with waterproofing materials processed in liquid form AIV-F may only be applied on site in two layers.

The minimum dry layer thickness (t_{min}) for crack-bridging mineral sealing slurries (CM) on walls and floors with water exposure class W0-I to W3-I, is 2,0 mm (crack class R1-I).

wet, fresh waterproofing material



Planning and calculation of the minimum dry layer thickness

The information for material consumption for minimum dry layer thickness can be found on the back of the LUX ELEMENTS packaging!

EN Sealing filler

Applications: DRY-ASK is a single component, water impermeable, fissure bridging and flexible sealing compound for interior and exterior use. DRY-ASK corresponds to the requirements of the Minimum Load Groups 0, A01, A02 and B0 resp. the class A1 and A2 according to the Building Rules List. • **Substrate:** sufficiently dry, strong, load-bearing and form-stable, free from dust, dirt, oil, grease and loose particles and scratch and dispersion layers. Parting and cleaving layers must be removed by suitable means. • **Recommended use:** Use 20 kg DRY-ASK into 5.2 l water. The minimum thickness of the dry layer of the overall-coat is 2 mm. If applying in two steps the first layer can be applied with a trowel, roller or smoothing trowel; the second application should always be with a smoothing trowel. To achieve a consistent consistency, you can add approx. 0.5 l water for the first layer. The substrate should be protected from sunlight and draught during and after application. • **Working life:** approx. 60 minutes at +18 °C. • **Skid formation:** after approx. 20 minutes • **Passable:** drying time between 1st and 2nd application: after approx. 5 hours • **Ready to receive:** after approx. 24 hours • **Material consumption (approx.):** approx. 2.8 kg/m² of 2 mm thickness of the dry layer • **Storage:** Store cool, dry and away from heat • **Shelf life:** 1 year, seal opened since immediately • **Batch size:** 1 x 20 kg • **Batch code (13-digit):** 2nd line = production date • **GS:** CE • **Low chlorine:** in accordance with regulation (EU) No 1907/2006

Health and safety: Contains Portland cement: H315 - Causes skin irritation, H317 - Causes allergic skin reactions, P302 + P352 - Wash thoroughly after contact with skin, P303 + P361 + P353 - If contact with eyes, rinse immediately with plenty of water and seek medical advice, P305 + P351 + P338 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice, P501 - Dispose of contents and container in accordance with local regulations

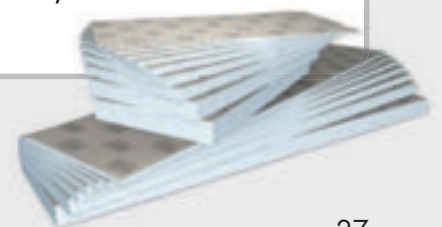
Environmental: H410 - Very toxic to aquatic life with long lasting effects, P011 - Very toxic to aquatic life, P201 + P202 - Attention, P273 - Avoid release to the environment, P501 - Dispose of contents and container in accordance with local regulations



Substrate for DRY-ASK

The moisture-insensitive ELEMENT-EL construction panel (pages 8-11) is recommended for the construction and design of the substrate.

If a different, moisture-sensitive substrate is present, a sealing in liquid form such as DRY-ASK will be absolutely necessary from W1-I.





Sealing in the public sector

The demands placed on a composite sealing can be particularly high in the public sector. Here, the stress due to long-lasting exposure to splash or tap water, accumulating water or intensive cleaning is much higher than in the domestic bathroom.

Areas that are subject to high stress include, for example, shower areas in sports facilities and commercial premises, swimming pool surrounds and areas in commercial kitchens, laundries or breweries.

In adjoining rooms, too, such as changing rooms or toilets, the water exposure classes are often higher than in rooms in the home with the same use.

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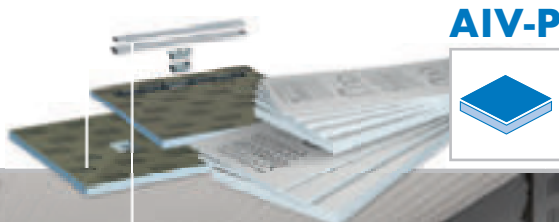


W2-I  W3-I 



Sealing in the public sector

Shower area with
sealing in a panel-shaped form



the following **LUX ELEMENTS**[®] products are used:

- **Construction panel**, fleece backed – ELEMENT-VK see also page 13
- **Shower base element** – TUB/TUB-LINE see also page 17
- **Sealing filler** – DRY-ASK
- **Sealing tape** – DRY-DBV...
- **Tile adhesive** (C2, DIN EN 12004)

Shower area with
sealing in a sheet form



the following **LUX ELEMENTS**[®] products are used:

- **Sealing film**– DRY-DF see also page 13
- **Shower base element**– TUB/TUB-LINE see also page 17
- **Construction panel** – ELEMENT-EL
- **Sealing filler** – DRY-ASK
- **Sealing tape** – DRY-DB...
- **Tile adhesive** (C2, DIN EN 12004)



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More information on this on our homepage www.luxelements.com

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For design and sealing in the public sector, LUX ELEMENTS offers composite sealings in panel-shaped, sheet and liquid forms that have proven themselves in practice for decades.

AIV-B



Shower area with a liquid sealing

AIV-F



..... see also page 21

..... see also page 17

the following LUX ELEMENTS® products are used:

- Sealing filler – DRY-ASK see also page 25
- Shower base element – TUB/TUB-LINE see also page 17
- Construction panel – ELEMENT-EL
- Sealing tape – DRY-DB...
- Reinforcement fabric – ARM-100 SK
- Tile adhesive (C2, DIN EN 12004)

System sealing

Composite sealings in wetrooms must meet high demands. If moisture penetrates into the substrate, this can result in damage to the covering or the growth of mould. When planning the sealing, the planner must ensure that its function is **permanently** ensured for the exposure class concerned. All waterproofing materials used, must be matched to one another and to the materials adjacent to them.

At LUX ELEMENTS you will find all the necessary components for a standard-compliant substrate from a single source.

- **External system tests**

General Building Authority Approved Test Certificate, European Technical Approval Guidelines (ETAG) etc.

- **Regular factory quality controls**

- **Patented products**



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Practical tips

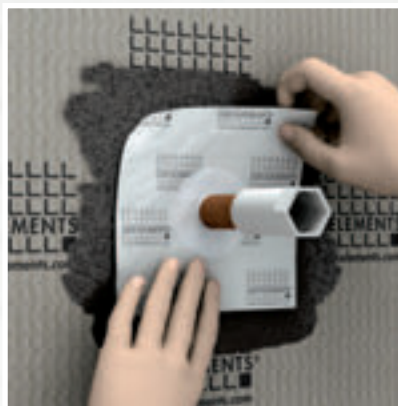
Penetrations

Heating, plumbing and electrical installations should only be planned below or behind the sealing and must be planned in such a way that the functionality of the sealing is guaranteed.

For pipe openings it is necessary to use sealing sleeves with flexible sealing lips according to ETA or abP and to integrate them waterproof into the sealing layer. If the pipe does not extend beyond the sealing plane, the pipe must first be extended beyond the sealing plane by attaching an extension piece.



LUX ELEMENTS®-DRY-DBWM
Sealing sleeve with prefabricated hole for the sealing of pipe openings



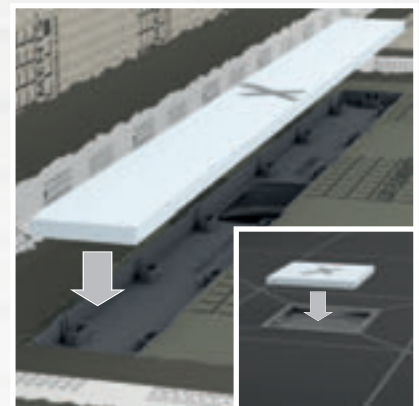
LUX ELEMENTS®-DRY-DBDZM
Expansion zone sleeve for sealing in case of permanently installed construction stoppers

Subsequently installed installations such as shower rods are permitted in the case of W1-I, provided they are protected against the direct penetration of water. In the case of W2-I and W3-I, subsequent installations must be planned and executed as penetrations.

Protection of the sealing

The sealing layer must be protected against mechanical, chemical and thermal influences in the as-built and used states.

Appropriate protective measures must be provided for this in the as-built state.



Protection of the drain

In the case of shower bases with a channel drain and the shower drain elements with a point drainage, the included **building protector** protects the drain area against damage and contamination.

Planning aids

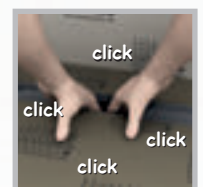
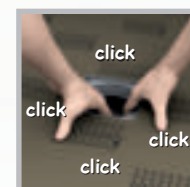
In the following cases with flush with the floor shower bases

- a low slope
 - rough ceramics
 - the lack of a shower enclosure
 - unfavourable shower head placement
 - high water pressure or high quantity of water (e.g. in the case of flood showers)
- water can run out of the shower area or accumulate.



Please refer to our planning aids and FAQ's for the planning of shower bases on our website.

Clip technology



The drain system for point and linear drainage is equipped with a clip system. This ensures the secure and firm connection of the floor drain support to the grate fitting frame or channel drain. There is an audible click when the connection snaps into place.





WATERPROOFING IN WETROOMS

Secure. Fast. Individual.

LUX ELEMENTS as partner

Our competence for your project

- **Decades of experience**
in the manufacture and processing of hard foam support elements
- **Modern flexible production methods**
in our own production plants
- **Individual production**
of your components as individual or series products
- **High level of technical expertise**
owing to our own development department
- **International team**
with multilingual contacts
- **Professional advice**
by experienced employees
- **Quality control from the start**
through entirely in-house production
- **Certified quality management**





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