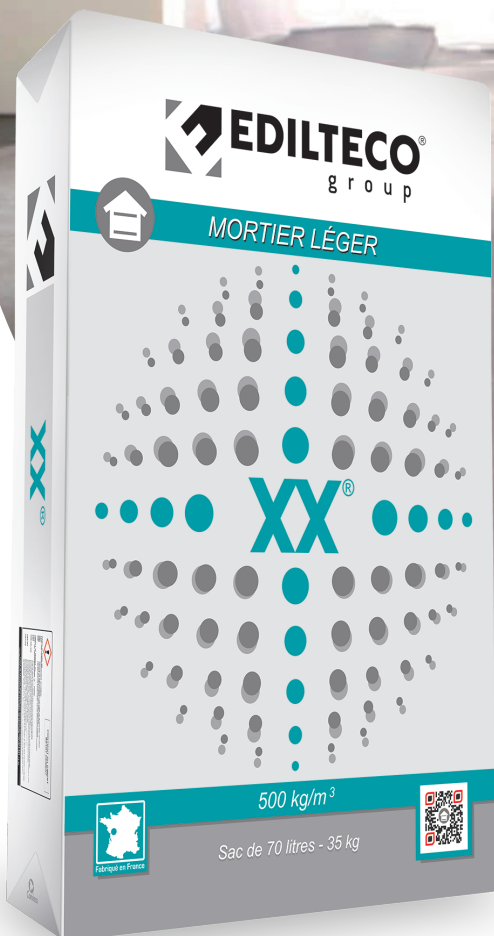


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**XX**<sup>®</sup>

**READY-TO-USE LIGHTWEIGHT CONCRETE  
INSULATING & FIBRE-REINFORCED 500 kg/m<sup>3</sup> (31.21 lb/ft<sup>3</sup>)**



# PRESENTATION

**XX®** is an easy-to-use bagged lightweight concrete, lightened by virgin, expanded polystyrene beads that are granulometrically controlled and coated with E.I.A. adjuvant (2-3 mm - 1/8 in diameter). XX® contains fibres and has good insulation properties.

## Application

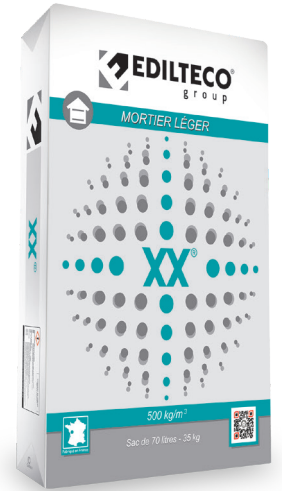
XX® lightweight concrete can reduce structure weight (approximately 78% weight saving in comparison to traditional concretes). It insulates, providing thermal and acoustic treatments for the various types of existing substrates in apartment buildings and single-family houses during new construction and renovation. It can be used for all floor surfacing substrates, insulating underfloor forms and under-screeds, feather levelling, slope structures, thermal insulation and soundproofing against impact sound.

## Advantages

- Direct bonding to tiles after 48 hours, no smoothing needed.
- Lightweight: 500 kg/m<sup>3</sup> (31.21 lb/ft<sup>3</sup>).
- Ready-to-use, 70-litre (15.39 gallons) bag.
- Fibrous = suppression of mesh splitting.
- Can be pumped long distances and from high heights.
- Good thermal insulation.
- Simple and easy application.
- Compatible with all flooring (see installation of flooring table).
- Stable over time.
- Mix quality remains constant throughout project.

## Technical details

- **Composition:** Lightweight aggregate of POLITERM® FEIN beads + hydraulic binder (cement), special inert, fibres and adjuvants.
- **Density:** 500 kg/m<sup>3</sup> (31.21 lb/ft<sup>3</sup>).
- **Thermal conductivity  $\lambda_{10, dry}$ :** 0.104 W/mK.
- **28-day compression resistance:** > 2.1 MPa.
- **Durability:** Rot-proof.
- **Fire reaction:** A2 - s1, d0.
- **Acoustic reduction for impact sound:**  
17 dB with 5 cm (2 in) thickness (estimate).  
19 dB with 5 cm (2 in) thickness + thin acoustic underlay in FCBA test n° 404/08/140.
- **Water vapour resistance  $\mu$ :** 12.1.
- **28-day residual moisture:** < 2 %.
- **Minimum thickness:** 5 cm (2 in).
- **Maximum thickness:** unlimited.
- **Application temperature:** + 5 °C and + 30 °C (+ 41 F and + 86 F).



## Preparation and storage

- **Ready-to-use bag:** 70-litre (15.39 gallons).
- **Weight:** 35 kg (77.16 lb).
- **Palletization:** 44 bags.
- **Preservation:** maximum 12 months on palette, in a cool and dry location, protected from freezing and water.

## Input / output

Input for 1 m<sup>3</sup> (35.31 ft<sup>3</sup>) : 13 bags

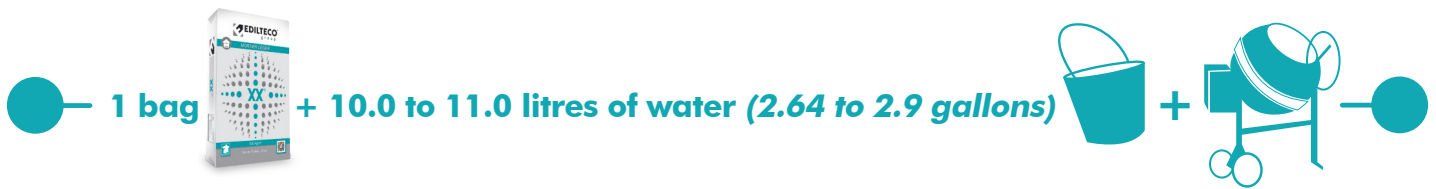
Thickness cm	Yield / bag m <sup>2</sup>	Weight * per m <sup>2</sup> (kg)
5	1.40	25
6	1.17	30
7	1.00	35
8	0.88	40
10	0.70	50
20	0.35	100

Thickness in.	Yield / bag ft <sup>2</sup>	Weight * per ft <sup>2</sup> (lb)
2	14.83	55.12
2 ½	11.86	68.34
3	9.89	83.77
3 ½	8.47	97
4	7.41	110.23
8	3.71	222.67

\* Tolerance: ± 15 %



# PREPARATION



## Cement mixer preparation

- Pour 6.0 litres of water (1.58 gallons) into a rotating cement mixer.
- Pour in the entire bag of XX®.
- Allow it to mix for 3 minutes.
- Mixture must be homogeneous, and grey-coloured.
- Pour in additional water, i.e. 4.0 to 5.0 litres (1.05 to 1.32 gallons).
- Allow it to mix for 2-3 minutes.
- To obtain a homogeneous mixture, do not fill more than 60% of the volume of cement mixer.
- On the first trowel, the cement mixer will be dry and the product will tend to stick to the walls. Allow mixing to continue for a bit, be careful to not add water needlessly.

## Pump preparation

- Prior to the first mix, feed a mixture of water + cement into the pipe.
- Pour 6.0 litres of water (1.58 gallons) into an operating mixer.
- Pour in the entire bag of XX® as permitted by pump capacity.
- Pour in additional water, i.e. 4.0 to 5.0 litres (1.05 to 1.32 gallons).

## Mixer preparation

Follow the same steps as for cement mixer preparation, but provide a large container (at least 90 litres - 23.77 gallons).

## Usage warning for preparation of XX® concrete

- Follow water quantities.
- Never rewet lightweight concrete after mixing.
- Mixture must be liquid but compact and frothy.
- Antifreeze can be added, but not other adjuvants.





# IMPLEMENTATION

XX® lightweight concrete is easy to use because it is perfectly pumpable over long distances and from high heights. Its frothy consistency means simple and efficient application for levelling and creation of cover substrate. Lightweight concrete is ready to directly receive glued tiles and other coverings.

## Preparation of substrate

XX® lightweight concrete can be used on all kinds of flooring and substrate if they can bear the necessary loads.

Flooring and substrate must be cleaned of any scrap, waste, plastering sheets and any other materials left from work by one of the construction trades. Minimum application thickness is 5 cm (2 in), also above components immersed in XX® lightweight concrete (ducting, pipes, etc.); no maximum thickness.

## Application

### 1/ Substrate separation

For separation, place a band of resilient material with minimum thickness of 3 mm (1/8 in), except 5 mm (1/4 in) for heating floors, around the room and or around any elements coming in contact with the lightweight concrete (walls, window or door frames, pipes, etc.).

This will prevent acoustic transmission and cracking.

Any construction joints in the substrate must be extended into the lightweight concrete. In addition to substrate construction joints, division joints are placed every 25 m<sup>2</sup> (270 ft<sup>2</sup>), at least every 8 linear metres (26.24 ft), and at each corner angle and staircase. Provide door thresholds between each room and the next. Guide-rails (Piano Zero type) can be used to create division joints, dressing guides and thickness markers to ensure perfectly level installation.

### 2/ Non-attached installation (separated from substrate)

Place micro-perforated PE (polyethylene) film or a thin acoustic underlay to improve substrate acoustics by reducing impact sounds. No other interposition products, including plates, rolls or loose are acceptable (EPS, XEPS, fibreglass, etc.). The PE film or thin acoustic underlay must completely follow and cohere to the substrate as well as at corners so that there is no air (space) between the film/underlay and the substrate.

If a thin acoustic underlay is installed, mortar thickness must not be less than 5 cm (2 in) for a class SC1 thin acoustic underlay and 7 cm (2¾ in) pour a class SC2 underlay.

### 3/ Attached installation (concrete substrate only)

It is essential to apply a sufficient amount of suitable bonding primer (Edilstik type).

### 4/ Guide rail installation

Use dabs of concrete to install your guide rails. If necessary, use small dabs to prevent excessive reduction of the thickness of the lightweight concrete.

### 5/ Mesh positioning

For substrate flexing, lay a 50 x 50 mm (2 x 2 in) soldered mesh panel. Do not place upper dimensions on the surface to be worked, making sure that plates overlap by at least one square.

Place wedges or concrete dabs under the mesh so that it becomes well set in the middle of the lightweight concrete (poorly installed mesh can create problems).

### 6/ Floor heating

Do not cover underfloor heating with XX® lightweight concrete. Such application would prevent optimal heat distribution. When placed underneath, XX® lightweight concrete permits creation of a high-performing underfloor system by providing both the underfloor form and insulation in just one step (contact us).

*Any porous element (e.g. concrete dabs for guide rails) should be dampened again prior to pouring the lightweight concrete for perfect bonding.*

# IMPLEMENTATION

## Application of XX® lightweight concrete

As indicated in the "Preparation" paragraph, after mixing concrete must be homogeneous and grey in colour.

- Apply lightweight concrete using appropriate tools (rake, shovel, ruler, etc.).
- Check that the concrete is well spread on the PE film or acoustic underlay.
- Pull a ruler across the surface and check thickness of application.
- Use a cement finishing trowel for a flat, smooth surface.
- Do not use a float.

## Usage warning for application of XX® concrete

- Concrete must be used within 30 minutes of mixing.
- Spread the concrete only once, or end at a separation joint.
- To finish the lightweight concrete, use a plaster edger (with clipped-off corner) or a ruler at an angle so only the angle touches the concrete. This technique prevents the product from adhering to the ruler, allowing for a smooth finish without using a float.

## Installation of flooring

Surface finishing depends on the final covering used. Any kind of flooring is possible according to the best industry practices and the recommendations made in the following table. Tile bonding is to be done with C2, C2-S1 or C2-S2 adhesive concrete, with "CSTB certified - QB" certification, and joints must be flexible.

Flooring	Treatment
Glued tiles	Direct installation after 48 hours
Sealed tiles	Direct installation of concrete sealant after 48 hours
Floating parquet floors	Direct after 5 days
Laminate flooring	Direct after 5 days
Glued parquet	5 mm (1/4 in) smoothing
Wall-to-wall carpet	5 mm (1/4 in) smoothing
Elastic flooring	6 mm (1/4 in) smoothing

- Times and smoothing thickness stated above are valid only for applications with traditional dressing using a ruler.
- Drying times are for 5 cm (2 in) thickness, for greater thicknesses, add 24 hr/cm (3/8 in) of additional thickness over 5 cm (2 in).

## Instructions

- Allow to dry sheltered from drafts, if needed, protect temporarily with PE film for 48 hours. Also protect from sunlight and high temperatures and/or rain during setting.
- Work must be planned so that flooring is installed within no more than 28 days following pouring of lightweight concrete.
- Lightweight concrete is not to be left uncovered, and must always be covered with flooring.
- If several trades are required to work on top of the lightweight concrete, it is essential that concrete is protected by creating a circulation corridor with planks or by applying grouting to the concrete surface.
- In the case of infrequent passage, manual sweeping will remove all surface defects.
- Surface sweeping of concrete is mandatory prior to application of coatings (smoothing) to prepare flooring and installation of final floor covering.

## Installation and attachment of wall partitions

- XX® lightweight concrete can be used with partitions with weight less than or equal to 150 kg/linear metre. A minimum of 7 days drying time for the lightweight concrete is required.
- For heavy partitions (> 150 kg/linear metre), lightweight concrete must be reinforced or partitions must be integrated into it.
- In order to attach tracks or other types of guides, use drive dowels, carefully following drilling diameters.

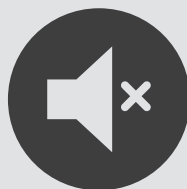
360° INSULATION



SOL



I.T.E. / PSE



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MONTRÉAL



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