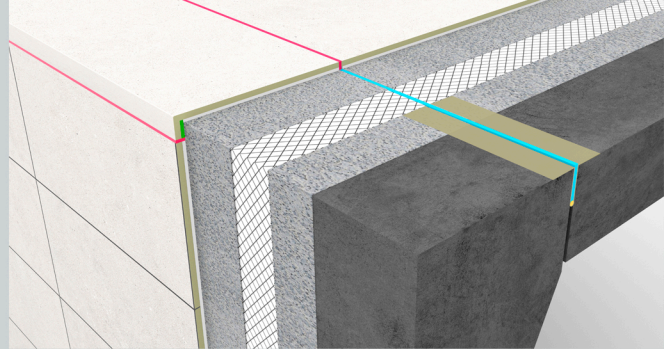


## LAYING PORCELAIN POOL-COPING TILES



Gres Aragón urges you to follow the guidelines established in the UNE 138002:2023 standard, which contains the general rules for the installation of ceramic tiles with bonding materials, in order to guarantee the quality, durability, technical properties and aesthetic characteristics of our ceramic tile products.

### LAYING STEP TILES AROUND POOLS

To ensure perfectly laid pool tiles, different types of joints must be incorporated in order to absorb stress caused by movements in the substrate or dimensional changes due to expansion or contraction as a result of temperature changes. This will guarantee the structural integrity of the pool, prevent water leaks, and conserve the appearance of the pool basin.

The following types of expansion joints are used in tiled pools:

#### STRUCTURAL JOINTS

These joints are incorporated during the initial construction of the pool in order to separate different parts of the structure; e.g. the pool wall or floor and the pool surround.

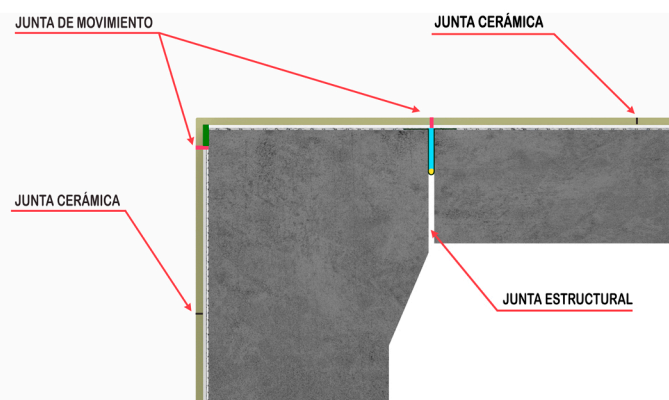
They help to absorb movements in the pool and in surrounding structures, preventing the appearance of cracks in the tiling.

#### MOVEMENT JOINTS

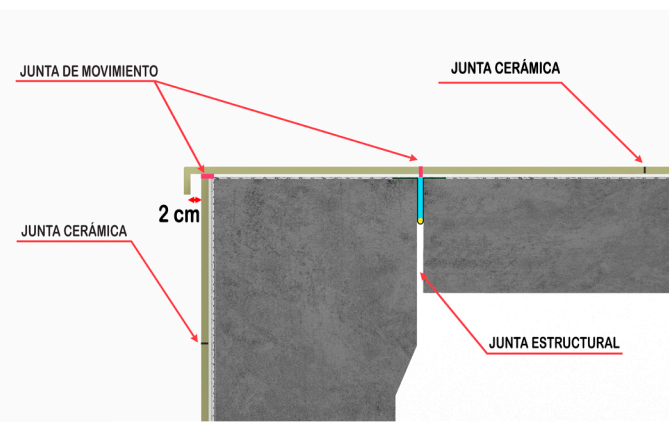
These joints are strategically located in areas where greater expansion or contraction is expected, such as the edges or corners of the pool, and around accessories like pool ladders or springboards. They allow the tiled surface to expand and contract in a controlled way when temperature changes occur, minimizing the risk of cracks and damage to the tiles. These joints must not interfere with any structural joints.

#### TILE JOINTS

These joints are filled with grout to seal gaps between the ceramic tiles and other elements, such as the edges of the pool, skimmers and jet nozzles. They prevent water leaks and the accumulation of dirt, protecting the tiled surface and prolonging its useful life. This kind of joint should not interfere with any structural or movement joints. They should be sealed with a water-proof elastomeric sealant.



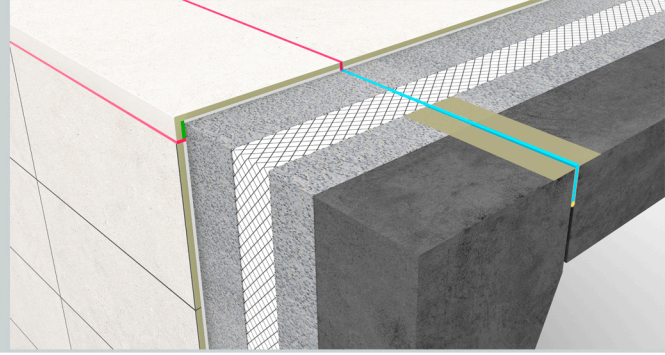
LAYING COPING FLUSH WITH THE BASIN LINING



LAYING COPING SO THAT IT JUTS OUT OVER THE BASIN LINING BY A MAXIMUM OF 2 CM (INNER MEASURE).

**Each type of joint plays a fundamental role in protecting and conserving the tiling of the pool. These joints must be properly designed and incorporated in order to guarantee the durability and functioning of the pool over the years.**

## LAYING PORCELAIN POOL-COPING TILES

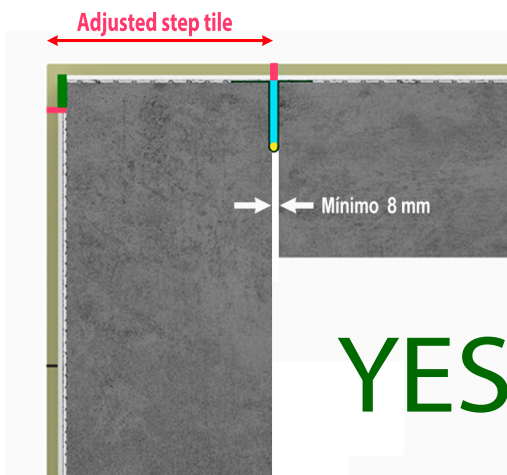


### STRUCTURAL JOINTS

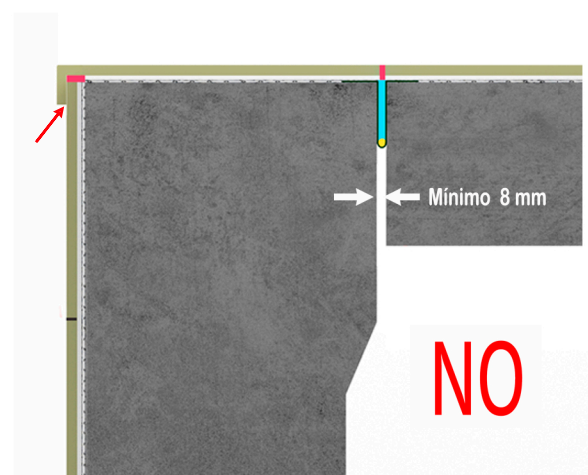
To lay porcelain step tiles properly as pool coping, the structural joints in the basin of the pool and the corresponding surround must be maintained. This is because the basin and the surround are formed with two separate sections of concrete with different movements. If these joints do not coincide, there are two alternatives:

- 1- Adjust the length of the step so that the structural joint coincides with the movement joint.
- 2 – Build up the concrete of the pool wall by inserting rebars and increasing the concrete up to the movement joint. If the pool is being refurbished, this piece of formed concrete in the surround will have to be cut.

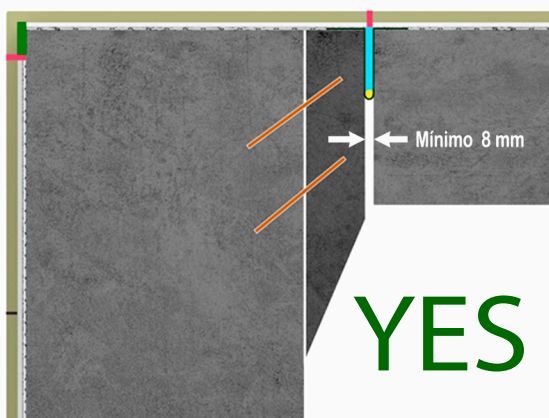
These structural joints must have a minimum width of 8 mm and they must be sealed with a waterproof membrane, filling the bottom of the joints with a waterproof elastomeric putty to prevent possible water leaks.



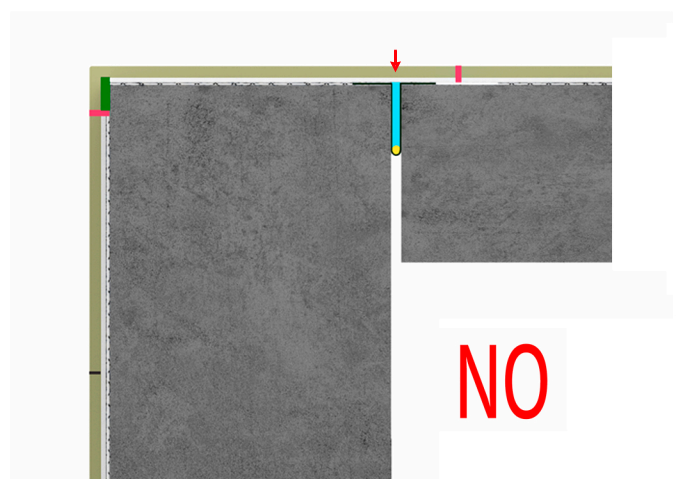
OPTION 1 (ADJUSTED STEP TILE)



THE FRONT OF THE STEP TILE MUST NOT TOUCH THE VERTICAL LINING OF THE BASIN.

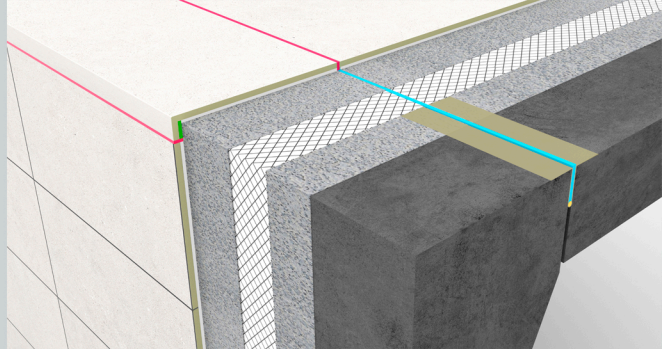


OPTION 2 (THICKENED CONCRETE OF BASIN WALL)



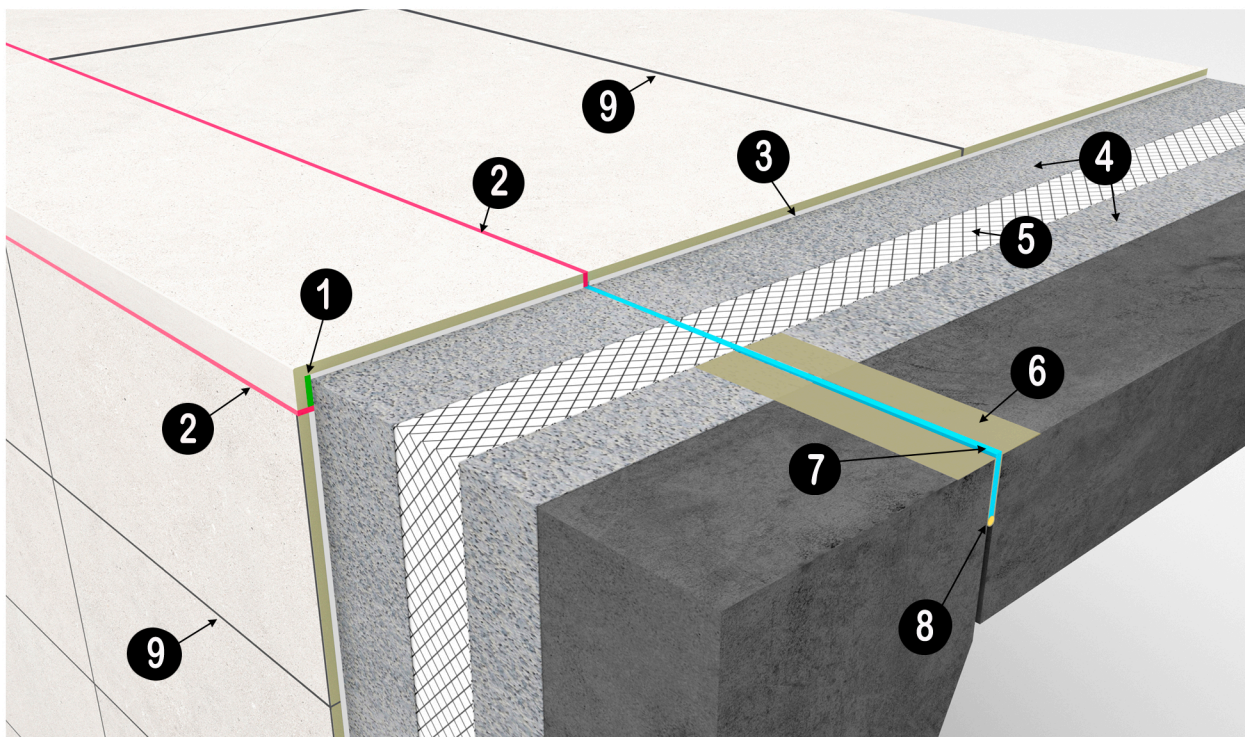
STRUCTURAL JOINTS MUST NOT BE COVERED OVER BY TILE JOINTS OR MOVEMENT JOINTS.

## LAYING PORCELAIN POOL-COPING TILES

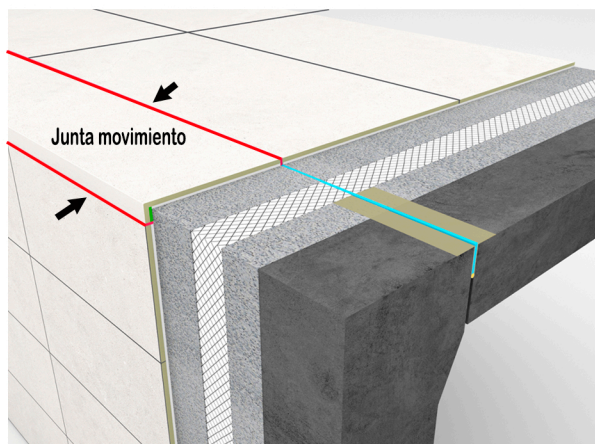


### MOVEMENT JOINTS

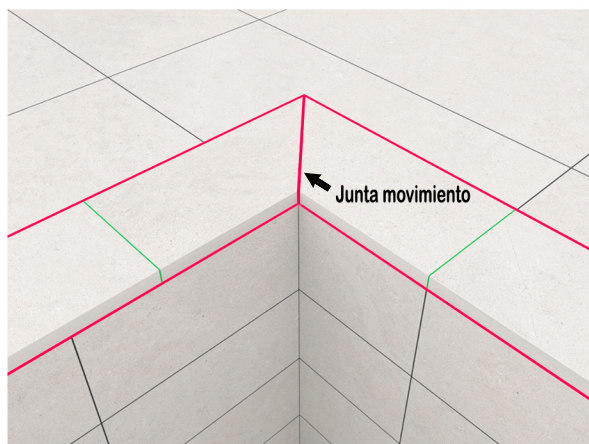
All the pool's movement joints must be filled with a flexible elastomeric putty and these joints must have a minimum width of 5 mm. The gap between the expansion joints perpendicular to the pool basin must be no more than 4 linear metres.



- 1 - Waterproof elastomeric joint sealant. The ceramic tiles must not touch the formed concrete wall. This joint must be at least 5 mm wide.
- 2 - Movement joint, sealed with a waterproof elastomeric putty. This joint must be at least 5 mm wide.
- 3 - C2S1 cement-based adhesive in the case of tiles with a long side less than 60 cm and C2S2 in the case of tiles with a long side of over 60 cm.
- 4 - Waterproofing cement to guarantee the water tightness of the pool and to prevent leaks.
- 5 - Reinforcing mesh between the two waterproofing layers at critical points to prevent possible cracks.
- 6 - Waterproof elastic membrane to control the movement of structural joints.
- 7 - Structural joints sealed with a waterproof elastomeric putty.
- 8 - Base of joint.
- 9 - Tile joints grouted with a CG2 WA grout.

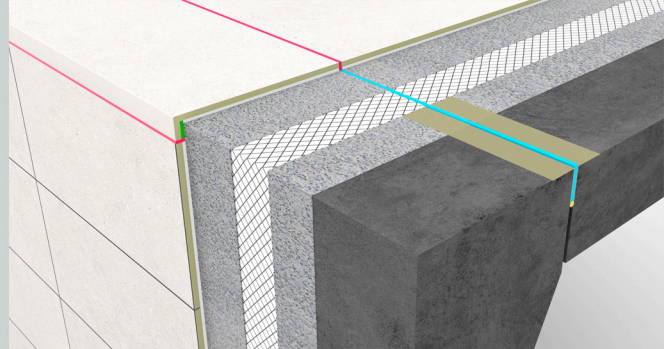


Movement joints marked in red, between the edge of the pool and the inner basin.



Movement joint marked in red in the corners of the pool.

The structural expansion joints in the concrete should be continued through to the tiled surface as movement joints.



## LAYING PORCELAIN POOL-COPING TILES

### TILE JOINTS

Tile joints of an appropriate width must be planned in order to ensure the stability of the pool basin, taking into account possible envisaged movements and the format of the tiles.

- Tile joints allow the tiles to expand and contract in a controlled way with changes in temperature or moisture. The bigger the tiles, the wider the tile joints. In outdoor settings, they should have a minimum width of 3 mm otherwise they will have limited capacity for expansion and contraction. If no joints are inserted, any movement will lead to a build-up of stress, eventually causing the tiles to crack.
- If the tiles are laid with tile joints less than 3 mm wide, they might gradually become unaligned. Small variations in the size and shape of the tiles might give the tiled surface an irregular unprofessional appearance.
- The joints act as controlled breaking points in the tiled surface. Without them, any accumulated stress might damage the tiles and the substrate below them, leading to costly repairs.
- Although tile joints might be thought to interrupt a surface visually, in reality they give it a cleaner appearance and a longer-lasting life. They also help to prevent the build-up of dirt and stains in areas between the tiles.

In short, it might be tempting not to insert joints between the tiles or to have joints with a width of less than 3 mm, but this can cause structural problems and visual flaws in the long term. It is crucial to comply with standard tile laying practices, including the incorporation of the right joints, in order to guarantee top-quality, long-term results.

	PORCELAIN TILES	
	Long side < 60	Long side > 60
WIDTH OF TILE JOINT	≥3mm	≥5mm

### Porcelain Pool Installation Material

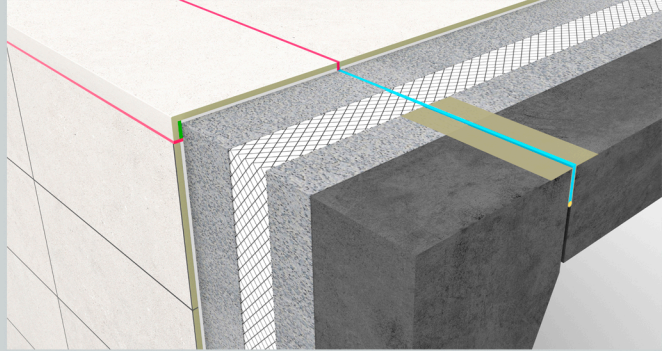
\* Use the floating and buttering method to ensure a robust tiled surface with no voids beneath the tiles.

	Long side > 30	Long side > 60	Long side > 90	Long side > 120
CEMENT-BASED ADHESIVE	C2S1	C2S1	C2S2	C2S2
TYPE OF TROWEL	U6	U8	U10	U12
GROUT	CG2 WA	CG2 WA	CG2 WA	CG2 WA

In demanding situations of immersion (swimming pools, spa baths, spas etc.) or when salt electrolysis or seawater is used, epoxy sealants should be used (RG)

CEMENT-BASED ADHESIVE	
<b>C</b>	CEMENTITIOUS ADHESIVE
<b>1</b>	NORMAL BOND
<b>2</b>	IMPROVED BOND
<b>S1</b>	DEFORMABLE
<b>S2</b>	HIGHLY DEFORMABLE

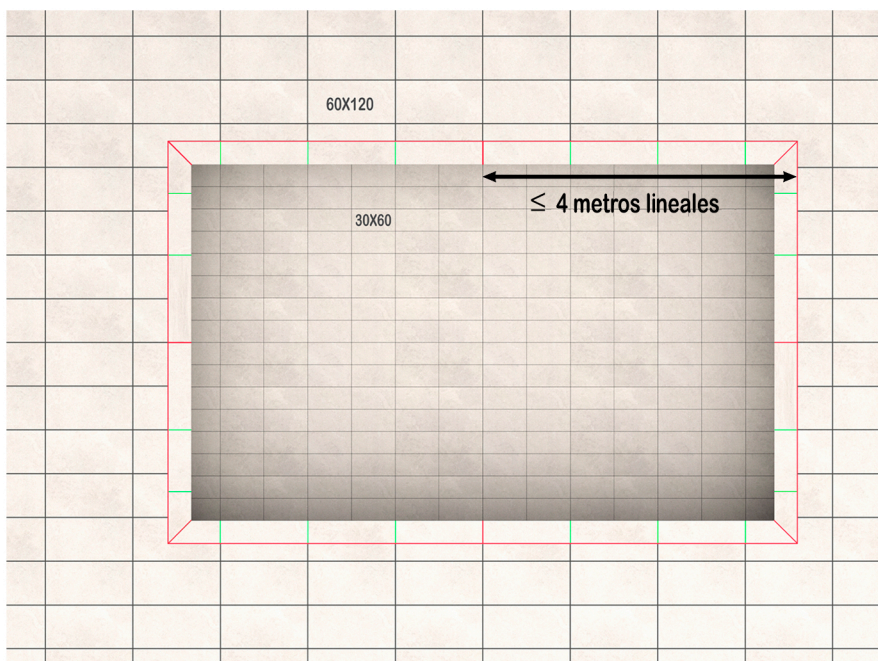
GROUTING MATERIAL	
<b>CG</b>	CEMENTITIOUS GROUT
<b>1</b>	NORMAL GROUT
<b>2</b>	IMPROVED GROUT
<b>W</b>	REDUCED WATER ABSORPTION
<b>A</b>	HIGH ABRASION RESISTANCE



## LAYING PORCELAIN POOL-COPING TILES

### Examples of Ceramic Format Installation

- \* Pool surround with 60x120 tiles (long side over 60 cm). Tile joints with a width of 5mm or more will be needed.
- \* 120 coping tiles (long side over 60 cm). Tile joints with a width of 5 mm or more will be needed.
- \* Pool basin with 30x60 tiles (60cm long side). Tile joints with a width of 3mm or more can be used.



- \* Play\* Pool surround with 30x60 tiles (long side over 60 cm). Tile joints with a width of 3mm or more will be needed.
- \* 60 coping tiles (long side over 60 cm). Tile joints with a width of 3 mm or more will be needed.
- \* Pool basin with 30x60 tiles (60 cm long side). Tile joints with a width of 3mm or more can be used.
- \* If, due to the format of the tiles, a 3mm-wide tile joint is used, make sure that any movement joints (marked in red) are 5 mm wide.

