



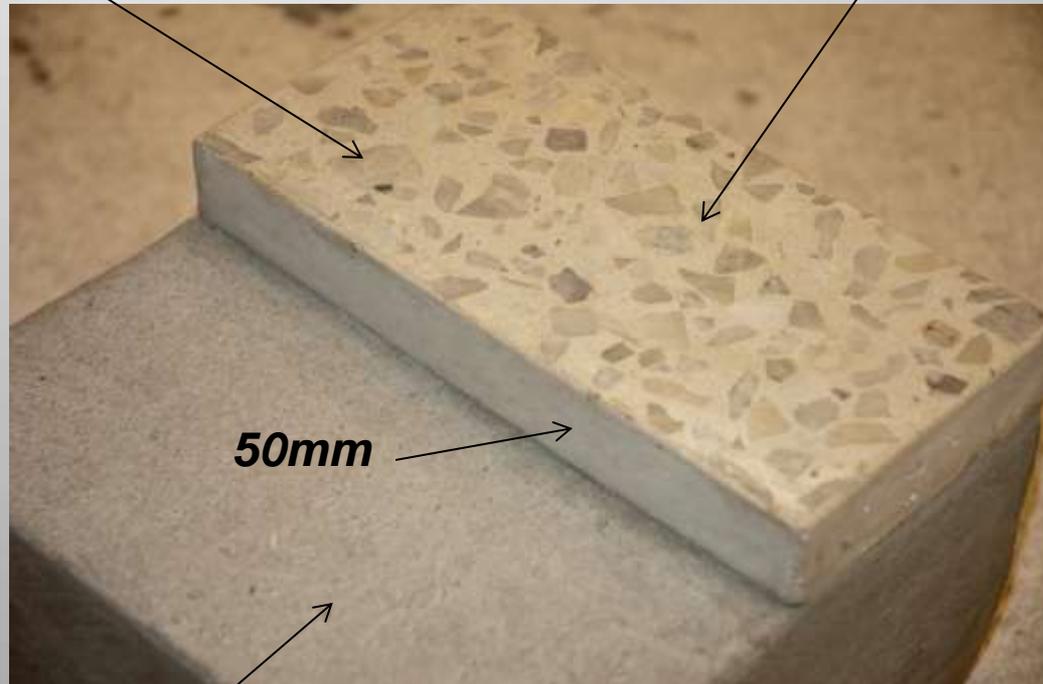
World of  
Decorative Concrete

# 50mm Decorative Concrete Overlay

# 50mm Decorative Concrete Overlay

50mm Decorative Concrete Overlay minimum 25 Mpa

Ground and Polished and/or just a Polished Finish



Structural Concrete min 25 Mpa

# Substrate and Surface Preparation

The surface under laying the **50mm Decorative Concrete Overlay** must be of solid insitu concrete, with a minimum compressive strength of **25 MPa**.

The most critical factor when covering concrete with an overlay, is to prepare the substrate properly. The **50mm Decorative Concrete Overlay** is designed to adhere to existing concrete. The overlay must have a clean, solid base to hold onto.

Overlooking the prep work, or not doing the job thoroughly, is the most common cause of overlay delamination and failure.

The surface preparation would include the following:

Cleaning the concrete to remove all substances that could reduce the ability of the overlay to bond, such as dirt, oil and grease.

Removing any unsound concrete down to solid concrete.

Filling active cracks so they don't mirror through to the overlay. Typically any cracks equal to or wider than the thickness of a credit card will require repair.

Profiling or roughening the concrete surface to improve the "grip" of the overlay, by using a machine that mechanically abrades the concrete, such as a **grinder** and/or a **scarifier**, is one of the most effective ways to prepare concrete substrates for resurfacing. These types of equipment not only removes most contaminants and unsound concrete, it will also leave behind a roughened surface profile.

# Scarify Surface



Profiling or roughening of the concrete surface



Scarifier



# Panel sizes when placing a 50mm Decorative Concrete Overlay

The design and layout of the concrete floor must allow for expansion joints. The maximum panel size must not exceed 30 times the total floor thickness. For example, for a 100mm thick floor slab plus a bonded 50mm Decorative Concrete Overlay, the maximum length of the longest side of a panel must not exceed  
**30x 150mm = 4500mm = 4.5 m**

Always respect the length/width ratio of the sides of the panels, meaning that the longest side of the panel must not be more than 1.5 times the shorter side of the panel.

Joints can be created by installing aluminum or brass profiles prior to the casting of the overlay, or it can be cut into the floor afterwards.

The concrete overlay must reach a compressive strength of **at least 25 MPa** before grinding can commence.

# 50mm Decorative Concrete Overlay

Calculation of maximum length between adjacent expansion joints



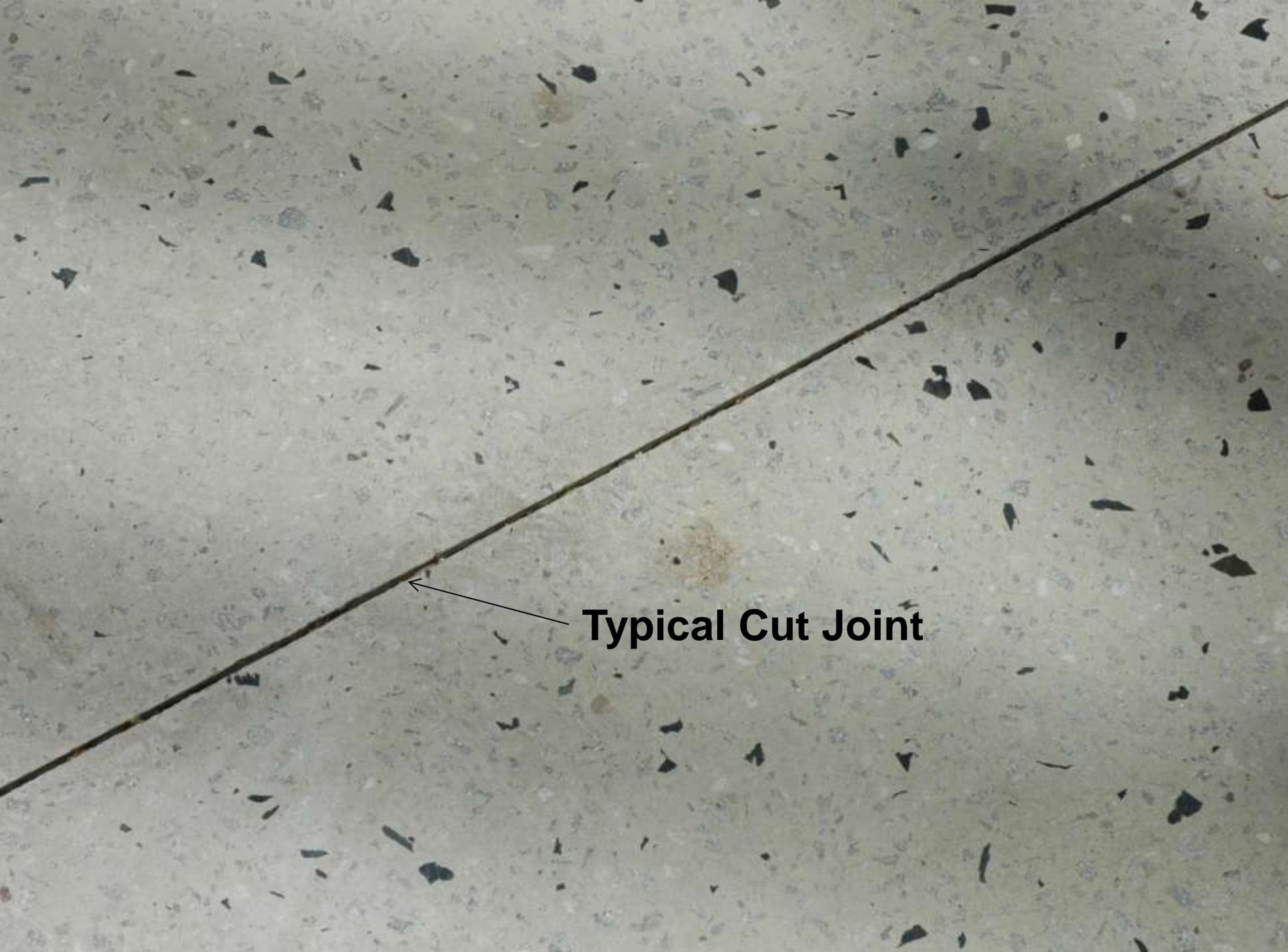
maximum length of panel size = 30 times the total thickness (  $d$  )

Example : If  $d_1 = 100\text{mm}$

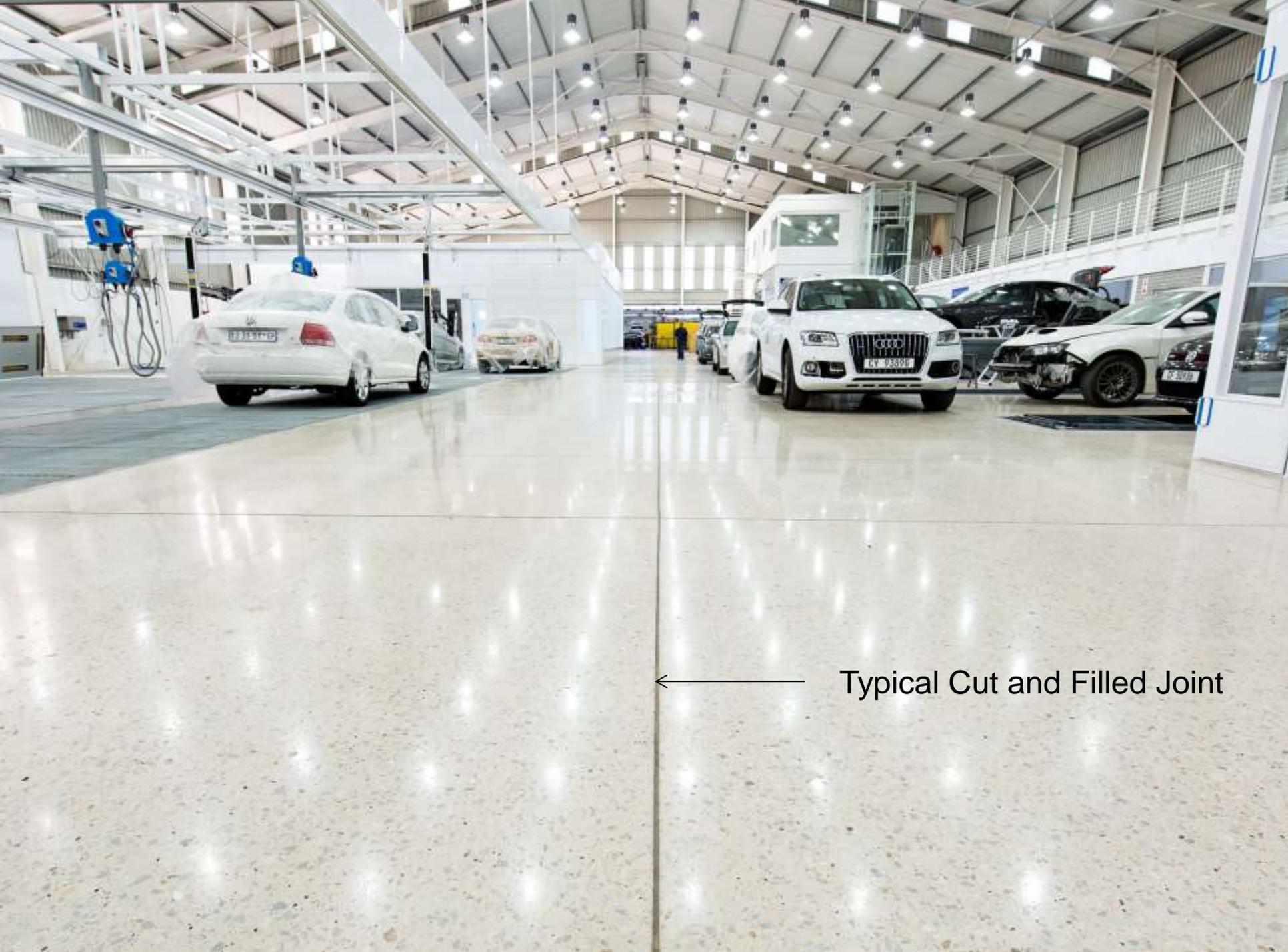
Meaning  $d = 100 + 50\text{mm} = 150\text{mm}$

Maximum length of panel size =  $30 \times 150\text{mm} = 4500\text{mm}$

**Note: The length of the shorter side of the panel must not be less than the maximum length divided by 1.5**



**Typical Cut Joint**



← Typical Cut and Filled Joint

# Position of joints

Cut Joint



Type of joint Construction



3000mm

Joint

Joint

6000mm

8000mm

$L/W \text{ Ratio} = 4000/3000 = 1.33$

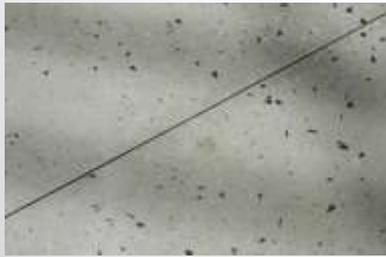
1.33 less than 1.5....approved

Total thickness  $d = 150\text{mm}$

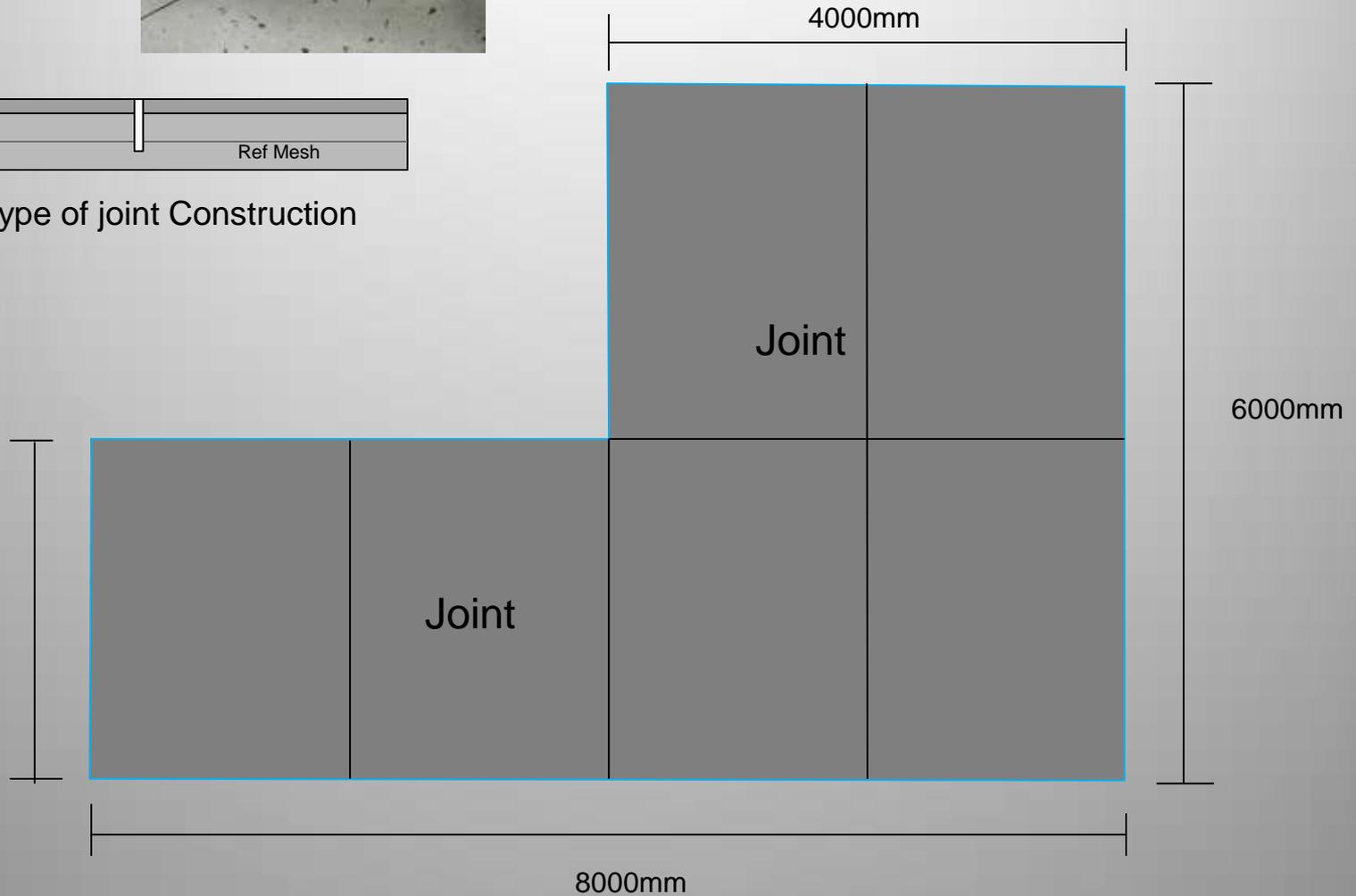
Meaning maximum spacing = 4500mm

# Position of joints

Cut Joint



Type of joint Construction



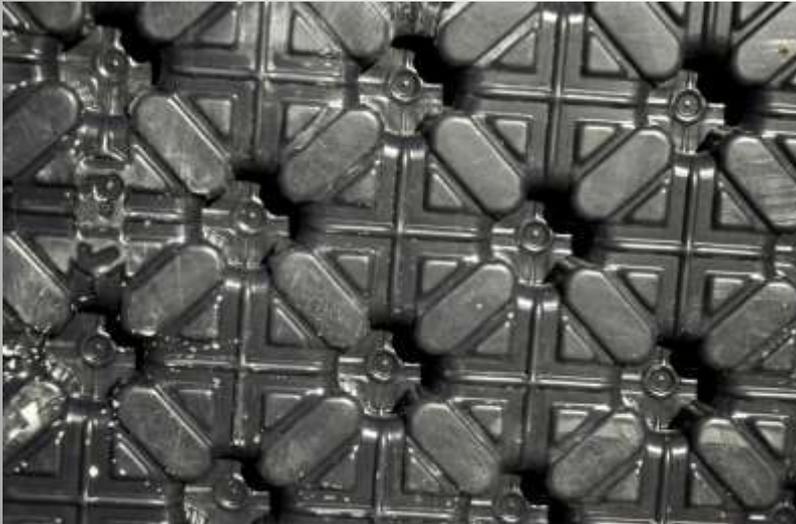
L/W Ratio= $3000/2000=1.500$

1.5 equal or less than 1.5....approved

Total thickness  $d = 120\text{mm}$

Meaning maximum spacing =  $3600\text{mm}$

# Typical Under Floor Heating Installation



Underside of Plastic UFH Knots plate



Typical Mushroom that hold the pipes and bond to the concrete



Concrete casted on UFH system



Concrete casted on UFH system. Please note Ref 193 mesh



**Polished Concrete**

**Unpolished Concrete**



**Polished Concrete**

**Unpolished Concrete**

Concrete floors deserve not being taken for granted.

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will make you really appreciate the advantages of  
having concrete as an exposed floor surface.

Dirty, grey floors are transformed into brilliant, easy  
to clean, environmentally friendly and durable floors.

It simply requires a small shift in attitude and thought.

Contact: Johan Coetzee 083 261 8778

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