



INTRODUCTION TO **weber**

SAINT-GOBAIN

TILE ADHESIVES SYSTEM

BY ONG SUE LI

SAINT-GOBAIN AT A GLANCE



A STRONG GLOBAL GROUP CLOSE TO ITS CUSTOMERS



Commitment to achieve
carbon neutrality in 2050



World or European leader
in most of our businesses

Founded over

350 years ago

Locations in

75 countries

Saint-Gobain Research

8

cross-business R&D centers

Around

168,000

employees ⁽¹⁾

Around

900

manufacturing facilities
around the world

Around

2,700

sales outlets

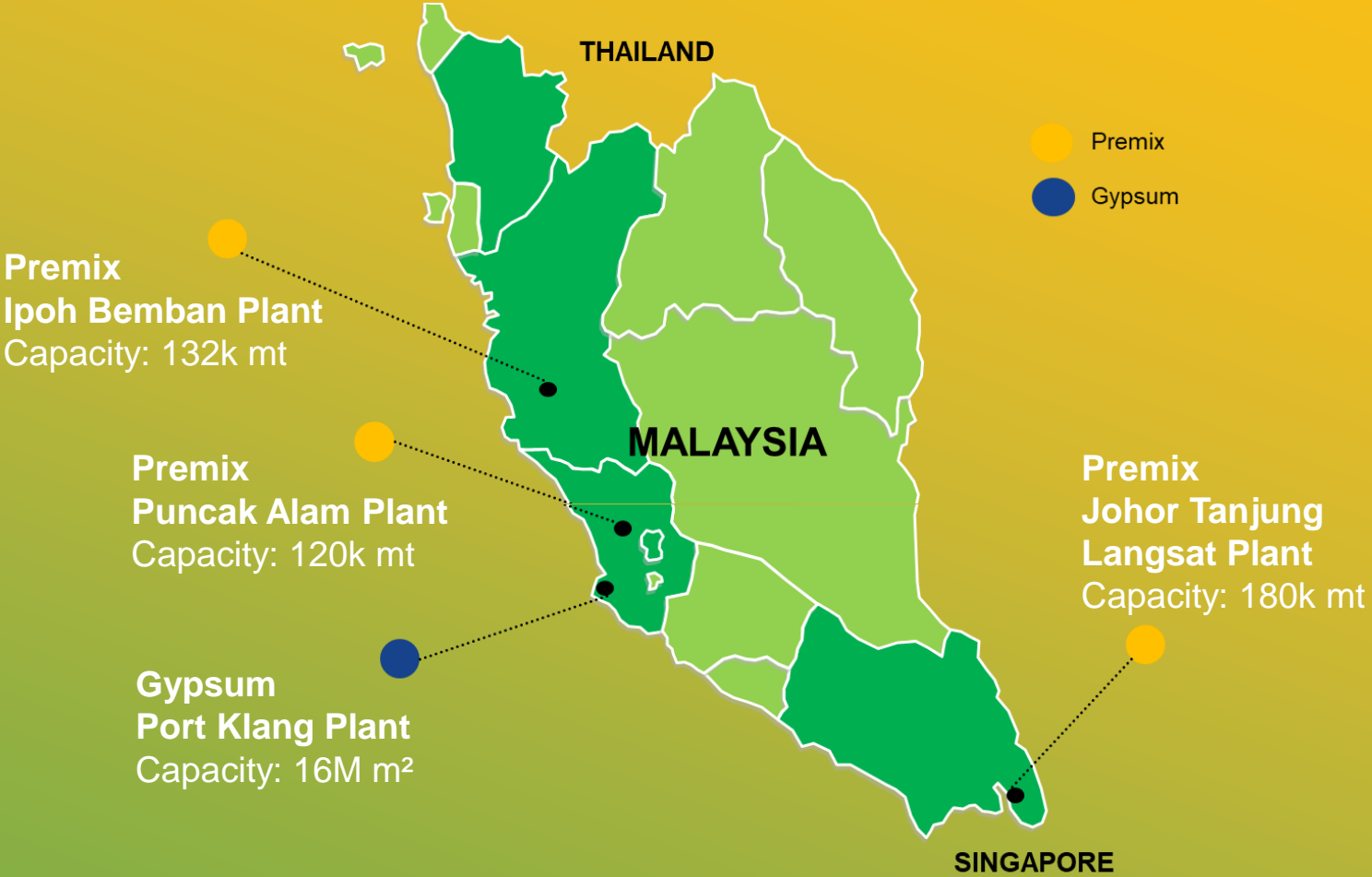
1) As of 2022/12/31

SAINT-GOBAIN Malaysia plant

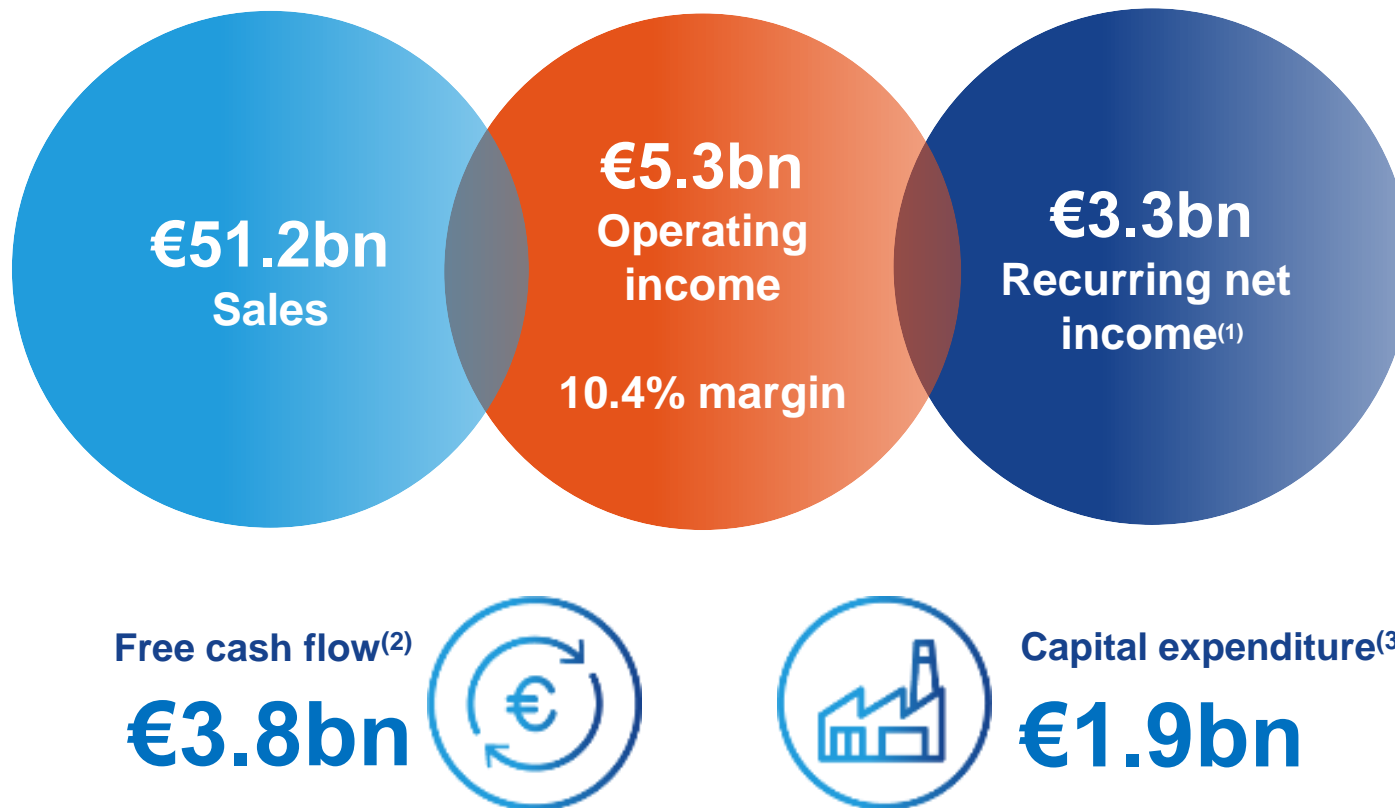


Saint-Gobain Malaysia was first established in year 2000 and continues to lead the market trend by bringing forward innovative solutions by offering a diverse variety of solutions, including:

<p>GLASS</p> 	<p>GYPSUM-BASED SOLUTIONS</p> 
<p>MORTARS & CONSTRUCTION CHEMICALS</p>  	<p>FIBRECEMENT</p> 



REMARKABLE FINANCIAL PERFORMANCE IN 2022



1) Net income (Group share) from continuing operations excluding capital gains or losses on disposals, asset impairments and significant non-recurring provisions.

2) Free cash flow = EBITDA - amortization of rights of use + financial result + income taxes - tangible and intangible investments excluding additional capacities + change in working capital requirement.

3) Capital expenditure = tangible and intangible investments.


INTRODUCTION TO **weber**

SAINT-GOBAIN

TILE ADHESIVES SYSTEM



COMMON ISSUES IN TILING



DE-BONDING / BUCKLING

Tile debonding refers to the separation of tiles from the surface they were adhered to. Over time, this can cause the tiles to loosen and eventually detach.

KEY POINT OF TILES INSTALLATION



The Right Tile Adhesive Control Joint Allocation Correct Workmanship

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The Right Tile Adhesive Control Joint Allocation Correct Workmanship

CERAMIC TILE ADHESIVE - CLASS C1

SPECIAL CONDITION



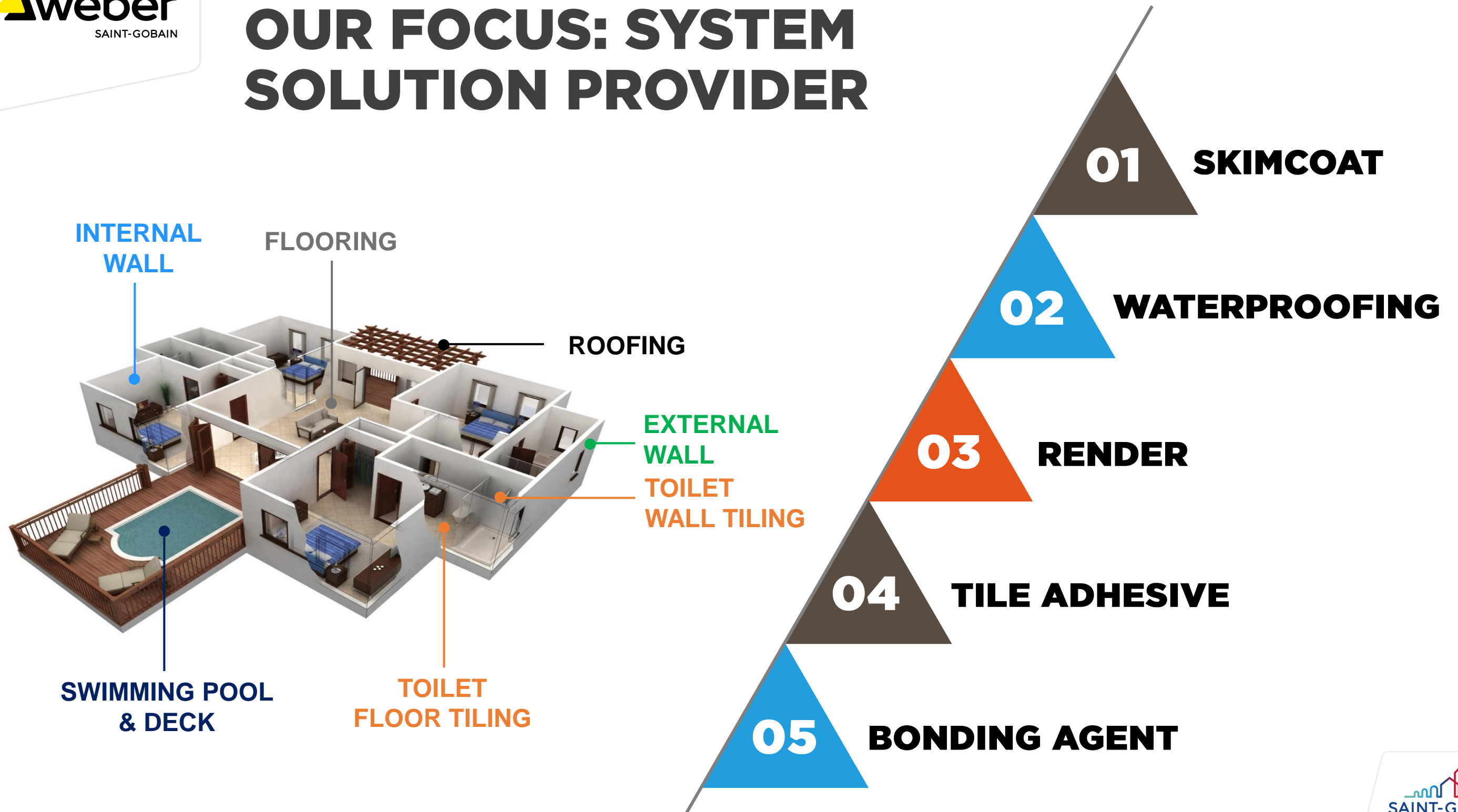
Weber Easy Bond Weber CTF Grey Weber Superstar Weber CTF white Weber Quick Fix

TILE GROUT CLASSIFICATION EN ISO 137007-3

Classification & Designation	Special Attributes
CG1 Normal Cement-based Tile Grout	W Reduced Water Absorption
CG2 Improved Cement-based Tile Grout	A High Abrasion Resistance
FG1 Flexion-Resistant Tile Grout	F Fast Setting Grout



OUR FOCUS: SYSTEM SOLUTION PROVIDER



ADHESIVE TECHNOLOGY EVOLUTION



Use Cement-Sand Mortar (cement shrinkage during curing)



Tiles installed using Buttering system



Mortar gauged with water – Limited scope of application



Modification of basic materials: Cement (Binder) & Sand (Filler) with chemical additive for improved chemical and physical properties



Improvisation of the Ceramic Tile installation method: Troweling System



Usage of Natural & Synthetic Latex Admixtures (with basic adhesive): performance for non-conventional ceramic tile installation

COMMON ISSUES IN TILING



DE-BONDING / BUCKLING

Tiles debonding refers to the separation of tiles from the surface they were adhered to. Over time, this can cause the tiles to loosen and eventually detach.

COMMON ISSUES IN TILING



HOLLOWNESS

Tiles hollowness refers to a condition in which the tiles are not properly bonded to the surface they are installed on and have an air pocket or gap underneath them. Hollow tiles can create a hollow sound or feel when stepped on.

COMMON ISSUES IN TILING



TILES LIPPAGE

Tiles lippage is where the edges of two adjacent tiles are not level with each other, resulting in one tile being higher or lower than the other. This unevenness can create a tripping hazard and affect the overall aesthetic appearance of the tiled surface.

KEY POINT OF TILES INSTALLATION



**The Right Tile
Adhesive**



**Control Joint
Allocation**



**Correct
Workmanship**

TYPES OF CERAMIC TILES

BASED ON ISO 13006 CLASSIFICATION

Type		WATER ABSORPTION (%)	BREAKING STRENGTH (N)	MODULUS OF RUPTURE (N/mm ²)
Porcelain Tiles	Bla	< 0.5	Min. 1300	Min. 35
Gres Tile / Mosaics	Blb	0.5 to 3	Min. 1100	Min. 30
Glazed Floor Tiles	Blla	3 to 6	Min. 1000	Min. 22
Grazed Floor / Quarry Tiles	BlIb	6 to 10	Min. 800	Min. 18
Glazed Wall Tiles (Ceramic)	BIll	> 10	Min. 600	Min. 15

Table 1 Classification of ceramic tiles with respect to water absorption (*E*) and shaping, from BS EN 14411:2006

	Group Ia	Group Ib	Group IIa	Group IIb	Group III
Water absorption (<i>E</i>)	$E \leq 0.5\%$	$0.5\% < E \leq 3\%$	$3\% < E \leq 6\%$	$6\% < E \leq 10\%$	$E > 10\%$
A Extruded	A Ia	A Ib	A IIa	A IIb	A III
B Dust-pressed	B Ia	B Ib	B IIa	B IIb	B III

TYPES OF CERAMIC TILES

CERAMIC WALL & FLOOR TILES

Porous Tiles with water absorption between 3-10%



Drop water testing leaves water marks due to water being absorb into the tile back.

VITREOUS / PORCELAIN HOMOGENEOUS TILES

Low water absorption Tiles with water absorption $< 0.5\%$



Drop water testing leaves no visible water marks due to water not being absorb into the tile back, water will just run down the tile back surface.

TYPES OF SUBSTRATES AND AREAS OF APPLICATION

Substrate to Apply On

Cement Sand Render

RC Wall (Concrete)

ALC Block

Pre-Cast Concrete

Drywall / Gypsum Board

Existing Tiles

Glass Surface

Metal Surface

Areas of Application

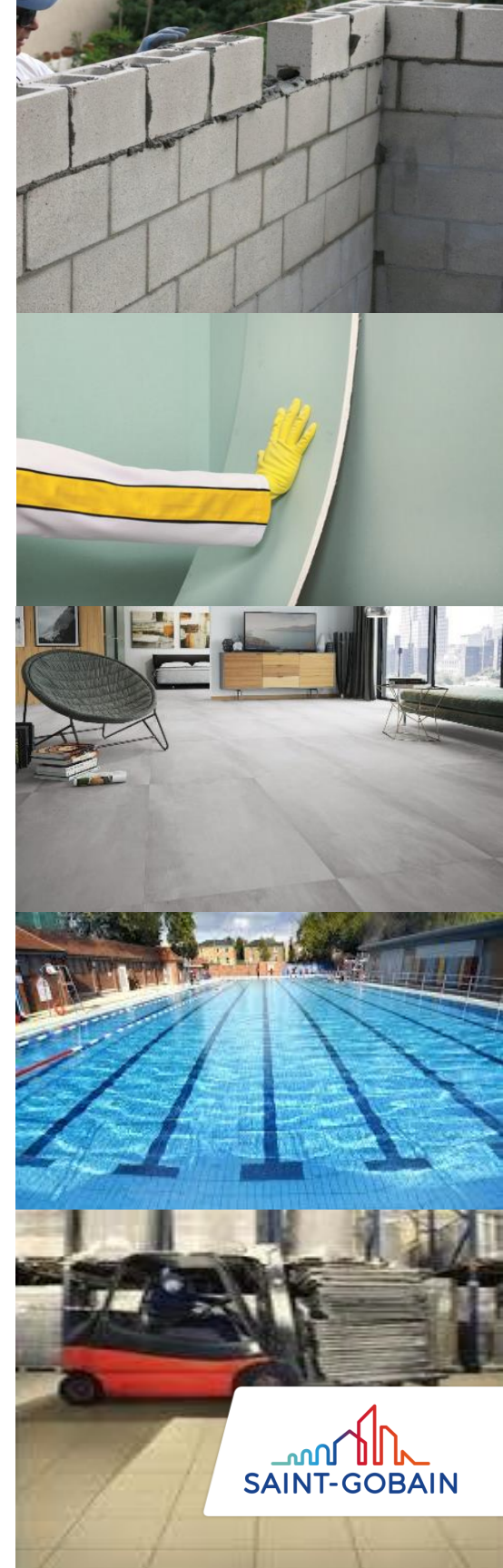
Internal General Area

Wet Area (Toilet & Shower Area)

External Area / Landscape Area

Heavy Duty Area

Swimming Pool



CLASSIFICATION OF TILE ADHESIVE EN ISO 13007-1

C1	
1	28 days RT cure
2	7 days RT and 21 days water soak
3	14 days RT cure and 14 days cure at 70°C
4	Freeze thaw cycling
All > 0.5 N/mm ²	
Tensile strength after 20 min Open time > 0.5 MPa	

C2	
28 days RT cure	
7 days RT cure and 21 days water soak	
14 days RT cure and 14 days cure at 70°C	
Freeze thaw cycling	
All > 1.0 N/mm ²	
Tensile strength after 20 min Open time > 0.5 MPa	

CLASSIFICATION OF TILE ADHESIVE EN ISO 13007-1

Classification & Designation:

C1

Normal Cement-Based
Tile Adhesive

C2

Improved Cement-
Based Tile Adhesive

D

Dispersion Tile Adhesive
(Ready-To-Use)

R

Reaction Resin Tile
Adhesive

Special Attribute:

E

Extended Open Time

T

Thixotropic (Low Vertical
Slip)

F

Fast Setting

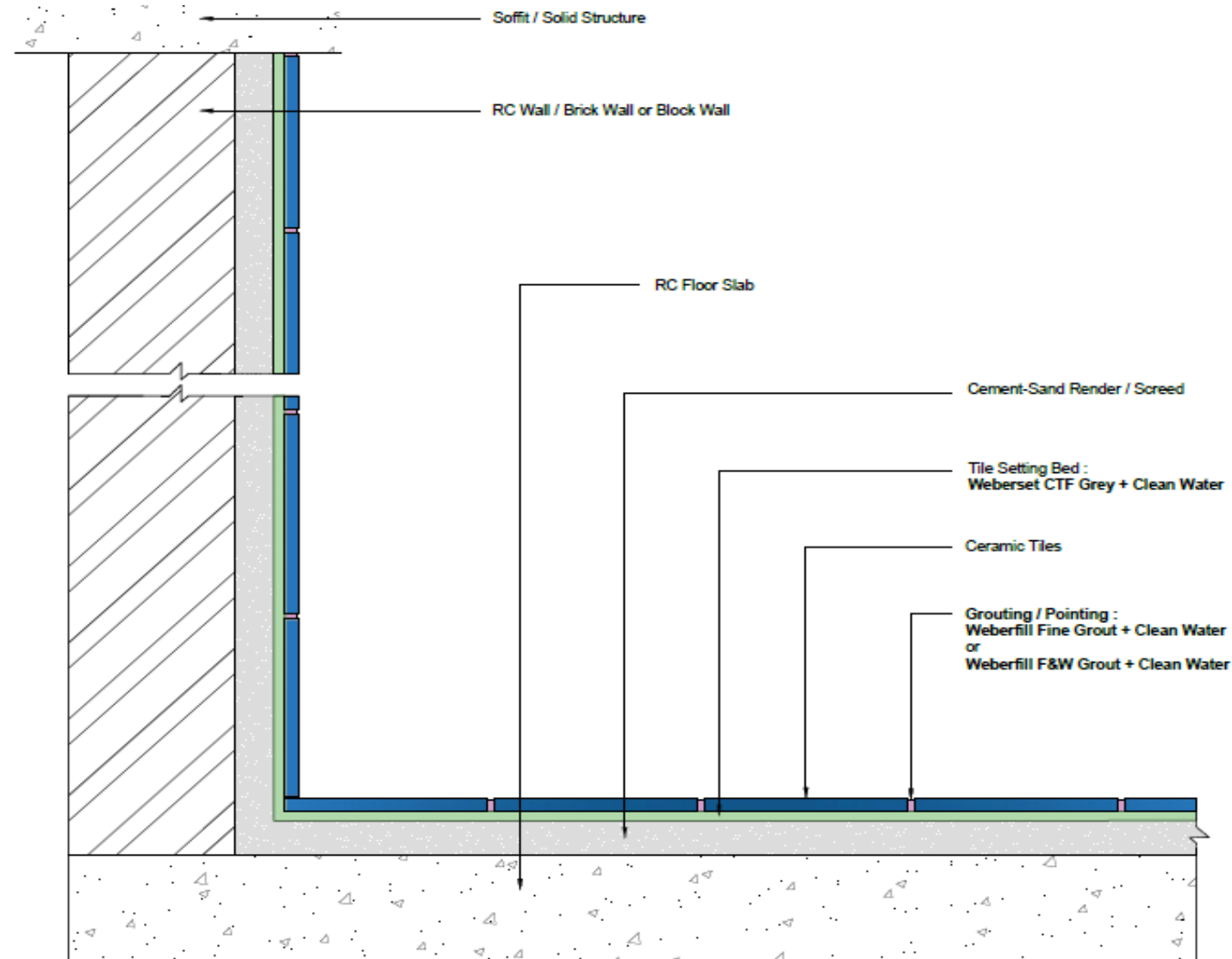
S1

Deformable

S2

High Deformability

INTERNAL GENERAL AREA – CERAMIC TILES (C1)



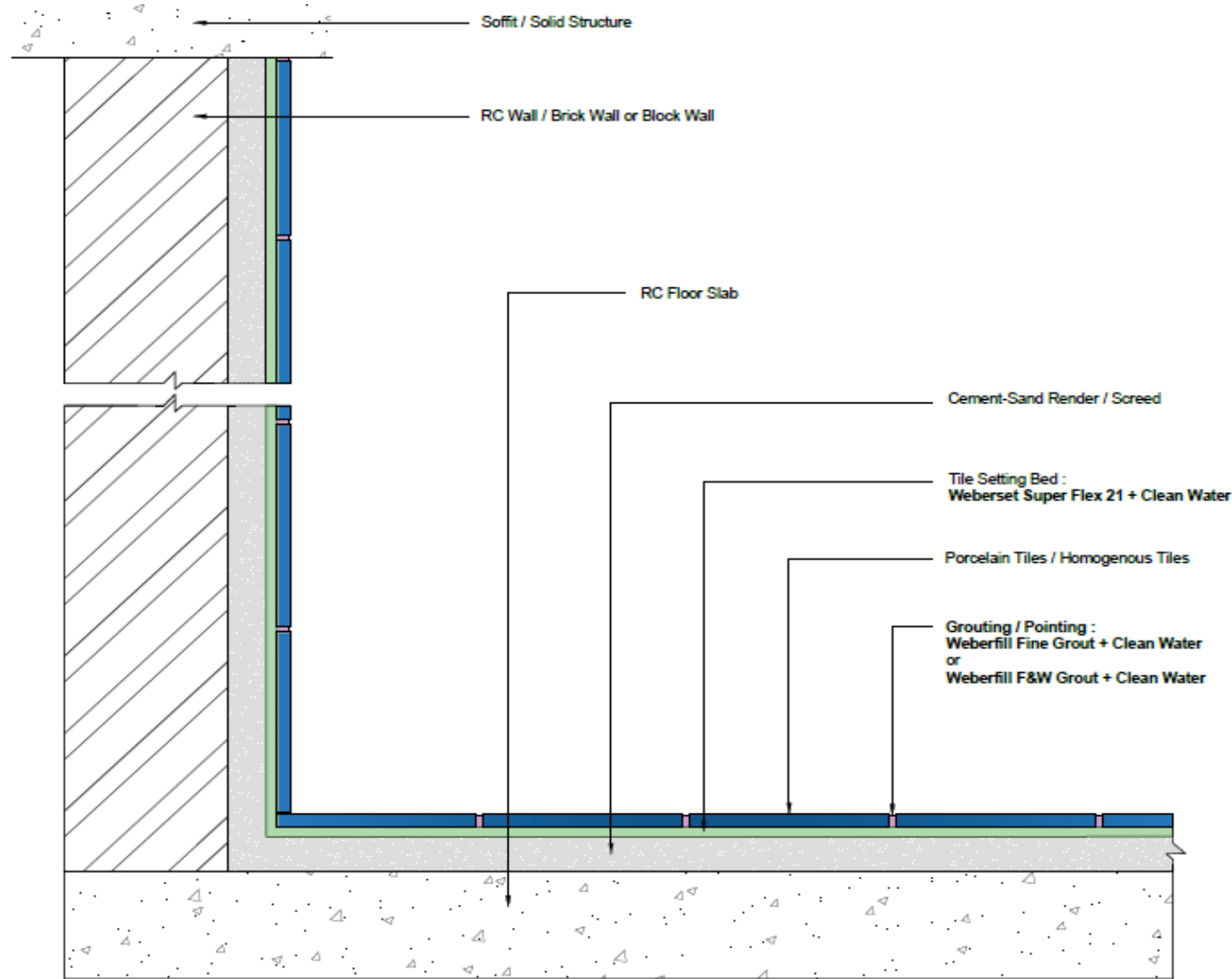
SPECIFICATION

Weberset CTF GREY



Type of Ceramic as laid to pattern on Cement Sand (1:3) backing render (measured separately) as described bedded with <Weberset CTF Grey>, adhesive and jointed and pointed in <Weberfill Fine Grout / Weberfill F&W Grout> to joints or other equal and approved cement grout as described to match walls/floors & column.

INTERNAL GENERAL AREA – PORCELAIN/ HOMOGENEOUS TILES (C2TE)



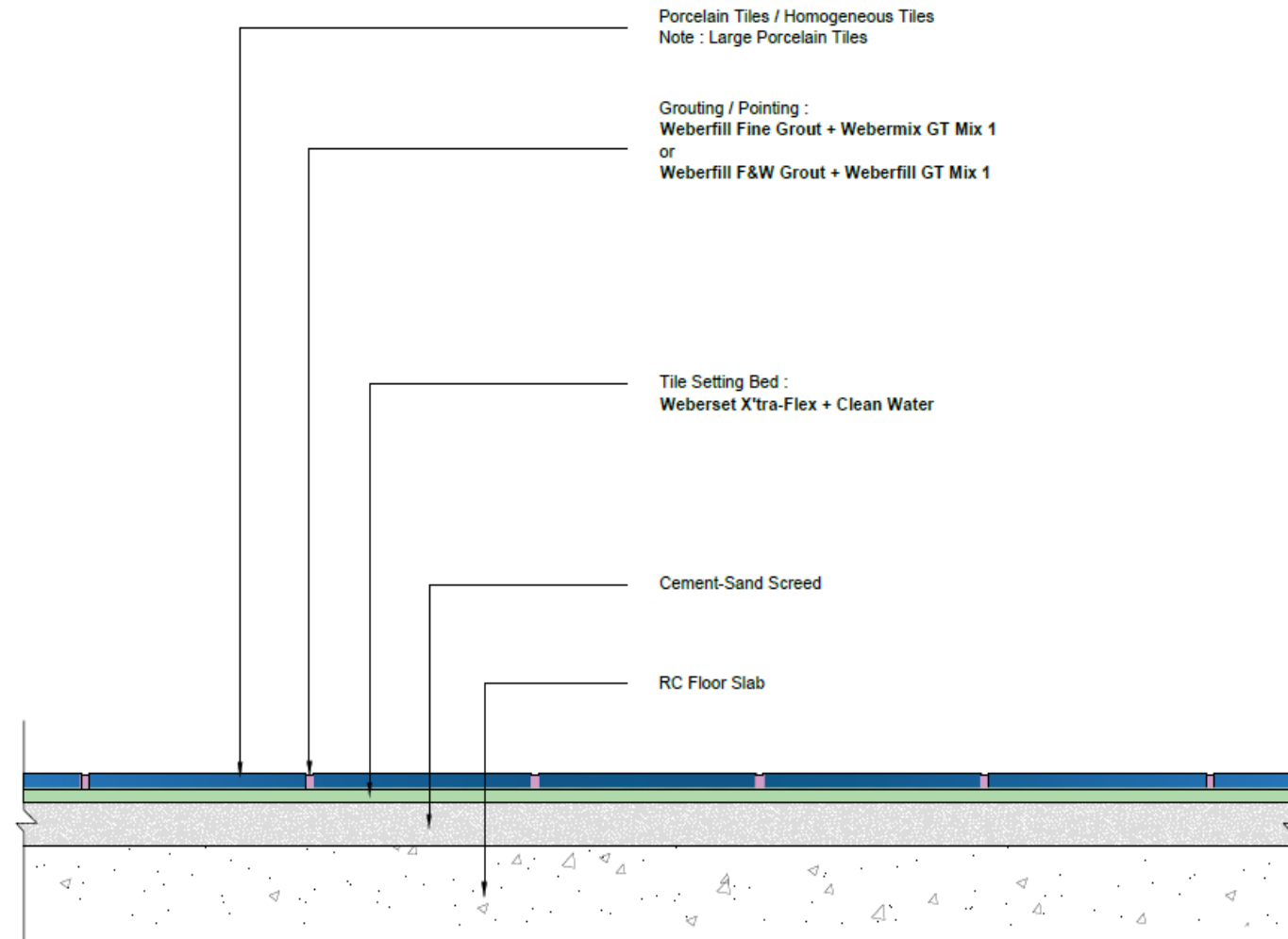
SPECIFICATION

Weberset Superflex 21



(Type of Porcelain / Homogeneous Tiles) as laid to pattern on Cement Sand (1:3) backing screed/render (measured separately) as described bedded with <Weberset Super Flex 21>, adhesive and jointed and pointed in <Weberfill Fine Grout / Weberfill F&W Grout> to joints or other equal and approved cement grout as described to match walls/floors & column.

EXTERNAL GENERAL AREA – PORCELAIN/ HOMOGENEOUS TILES (C2TES1)



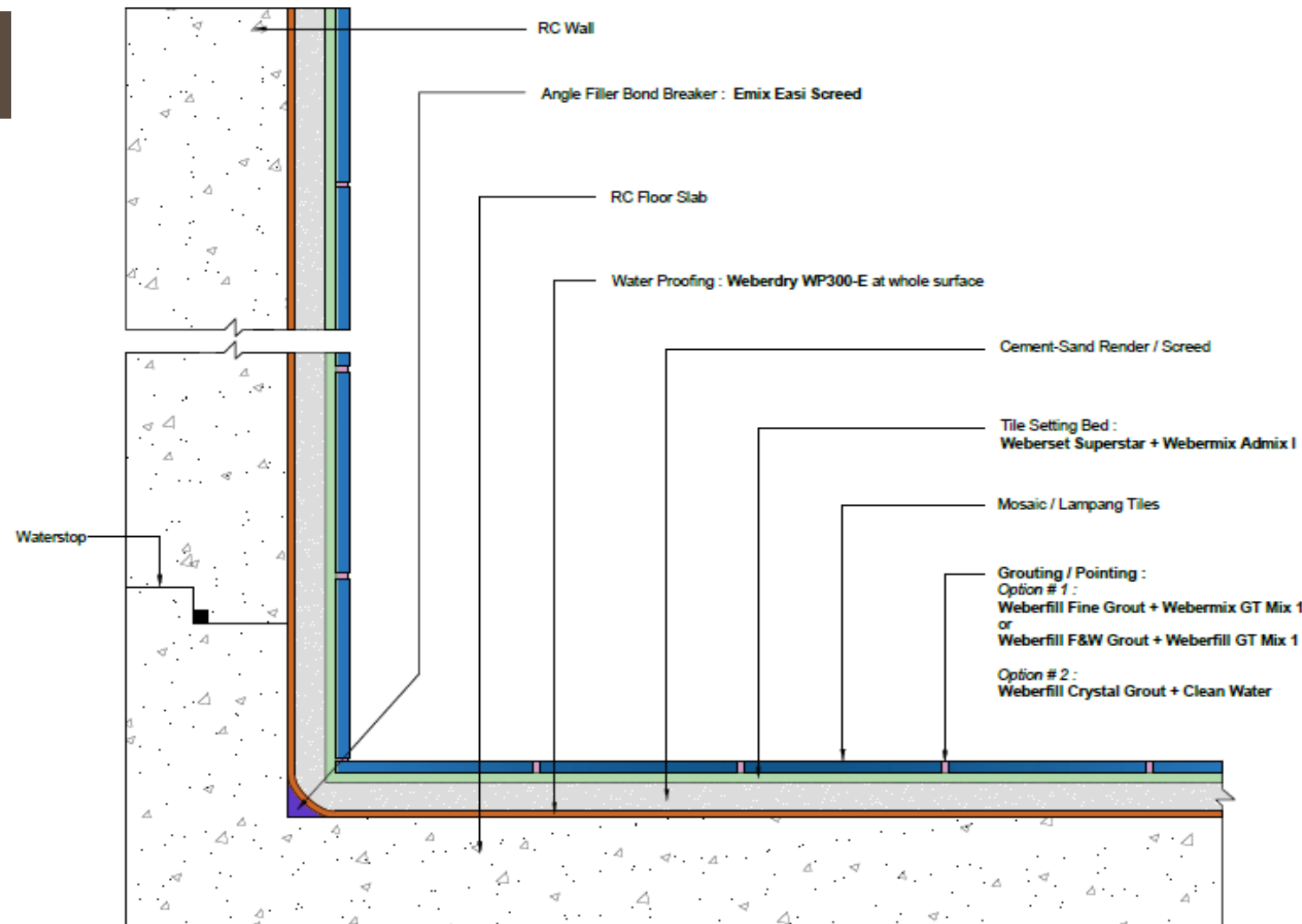
SPECIFICATION

Weberset X'traflex



(Type of Porcelain / Homogeneous Tiles) as laid to pattern on Cement Sand (1:3) backing screed/render (measured separately) as described bedded with <Weberset X'tra Flex>, adhesive and jointed and pointed in <Weberfill Fine Grout / Weberfill F&W Grout> incorporating <Weberfill GT Mix 1> to joints or other equal and approved cement grout as described to match walls/floors & column.

SWIMMING POOL AREA – MOSAIC/ LAMPANG TILES (C2TES1)



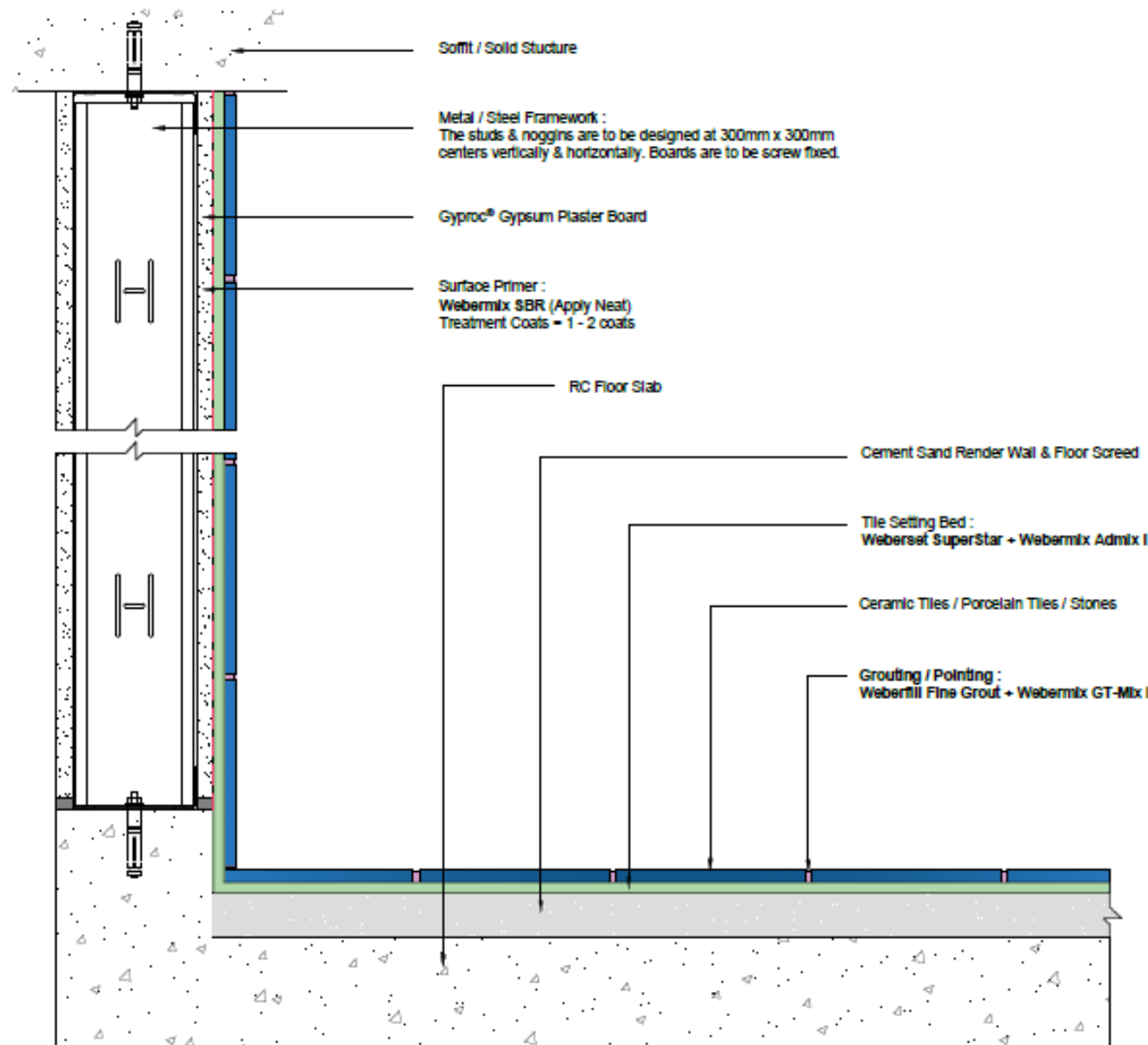
SPECIFICATION

Weberset Superstar & Weber Admix 1



(Type of Mosaic/Lampang Tiles) as laid to pattern on Cement Sand (1:3) backing screed/render (measured separately) as described bedded with <Weberset Super Star>, adhesive incorporating <Webermix Admix I>, latex admixture conforming to BS 5980: 1980 (MS 1295: 1992); and jointed and pointed in <Weberfill Fine Grout/Weberfill F&W Grout> incorporating <Weberfill GT Mix 1> to joints or other equal and approved cement grout as described to match walls/floors & column.

DRYWALL /GYPSUM BOARD- HOMOGENOUS/PORCELAIN TILES (C2TES1)



SPECIFICATION

Weberset Superstar & Weber Admix 1



Apply 1 to 2 neat coat of <Webermix SBR> and install Porcelain/ Homogenous tiles as laid to pattern on drywall /Gypsum board bedded with <Weberset Super Star>, adhesive incorporating <Webermix Admix I>, latex admixture conforming to BS 5980: 1980 (MS 1295: 1992); and jointed and pointed in <Weberfill Fine Grout/Weberfill F&W Grout> incorporating <Weberfill GT Mix 1> to joints or other equal and approved cement grout as described to match walls/floors & column.

KEY POINT OF TILES INSTALLATION



**The Right Tile
Adhesive**

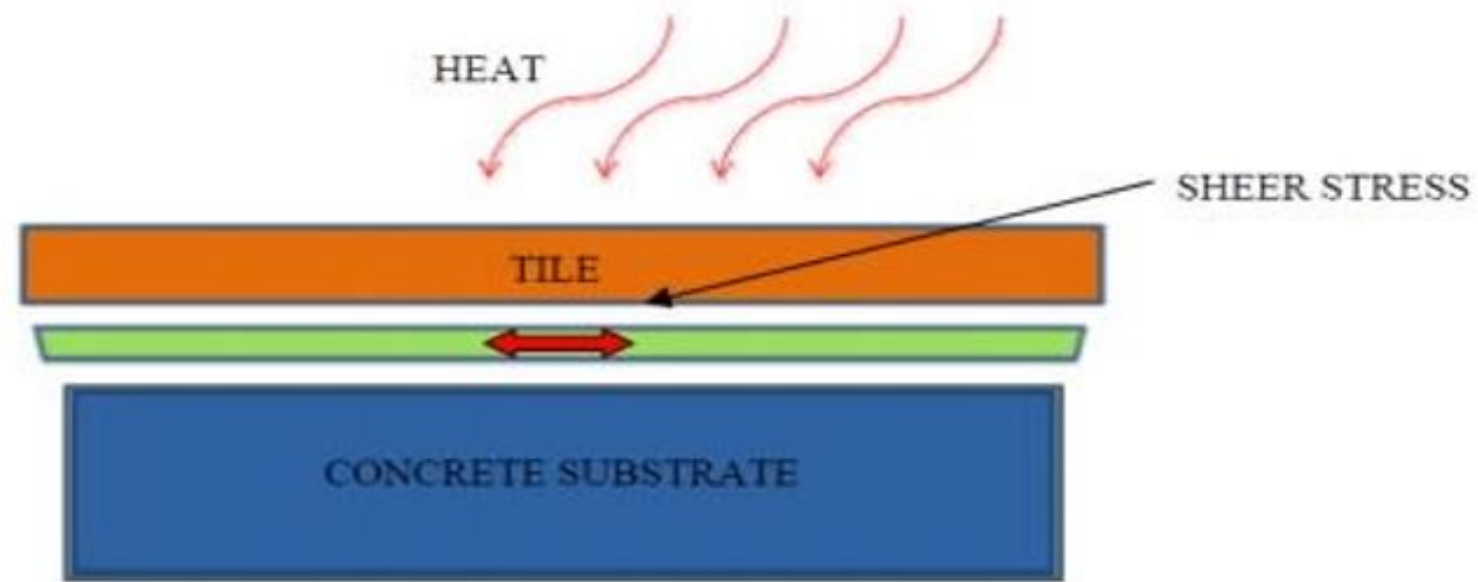


**Control Joint
Allocation**



**Correct
Workmanship**

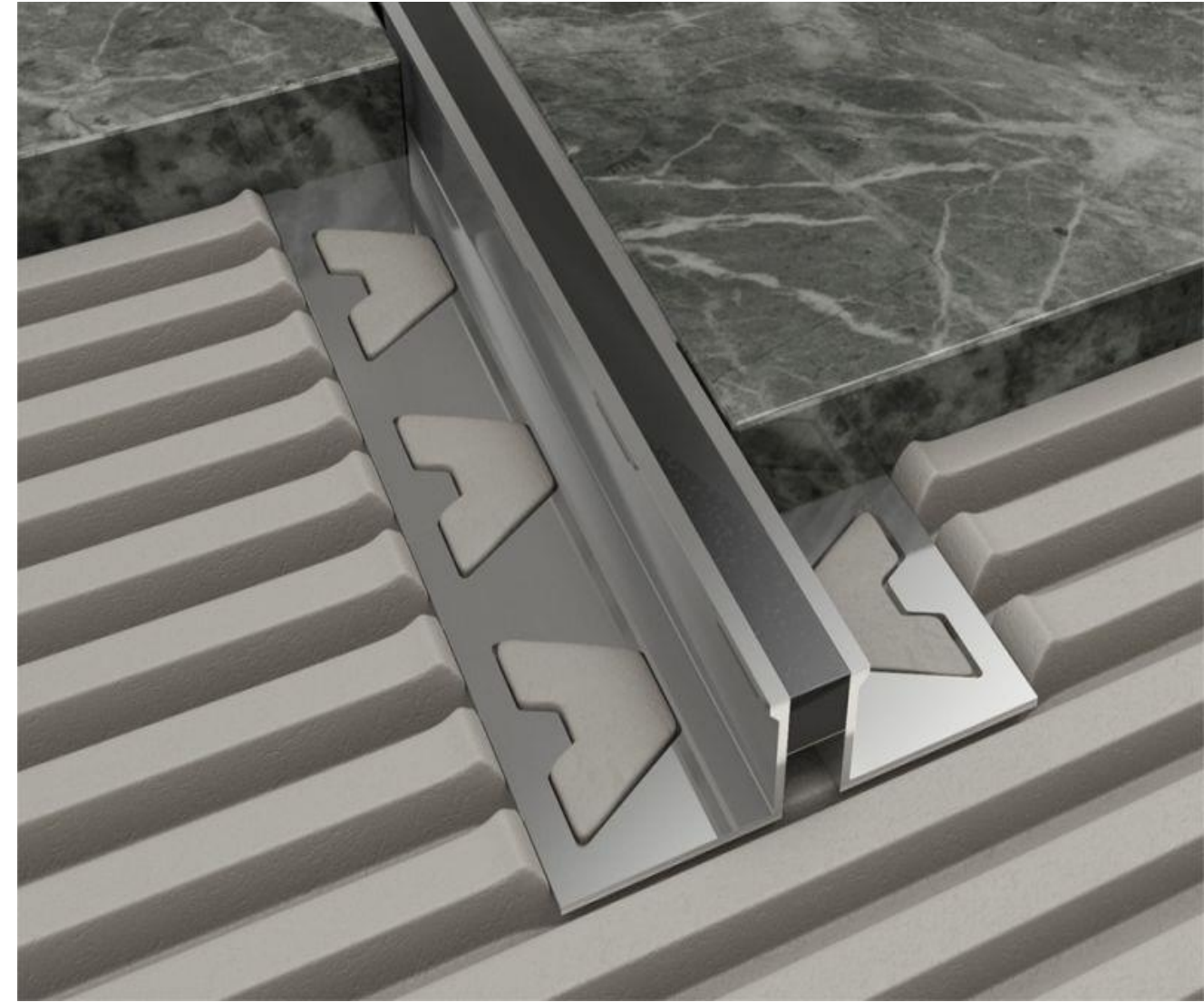
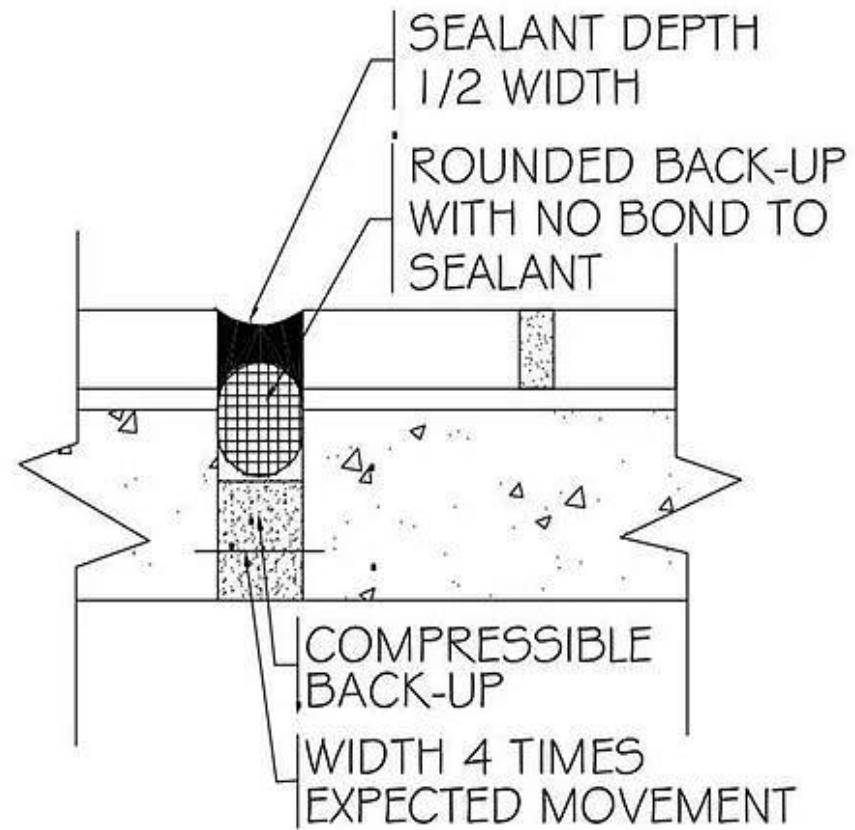
CONTROL JOINT ALLOCATION – WHY IS IT IMPORTANT?



CONTROL JOINT/ EXPANSION JOINT BUILT UP

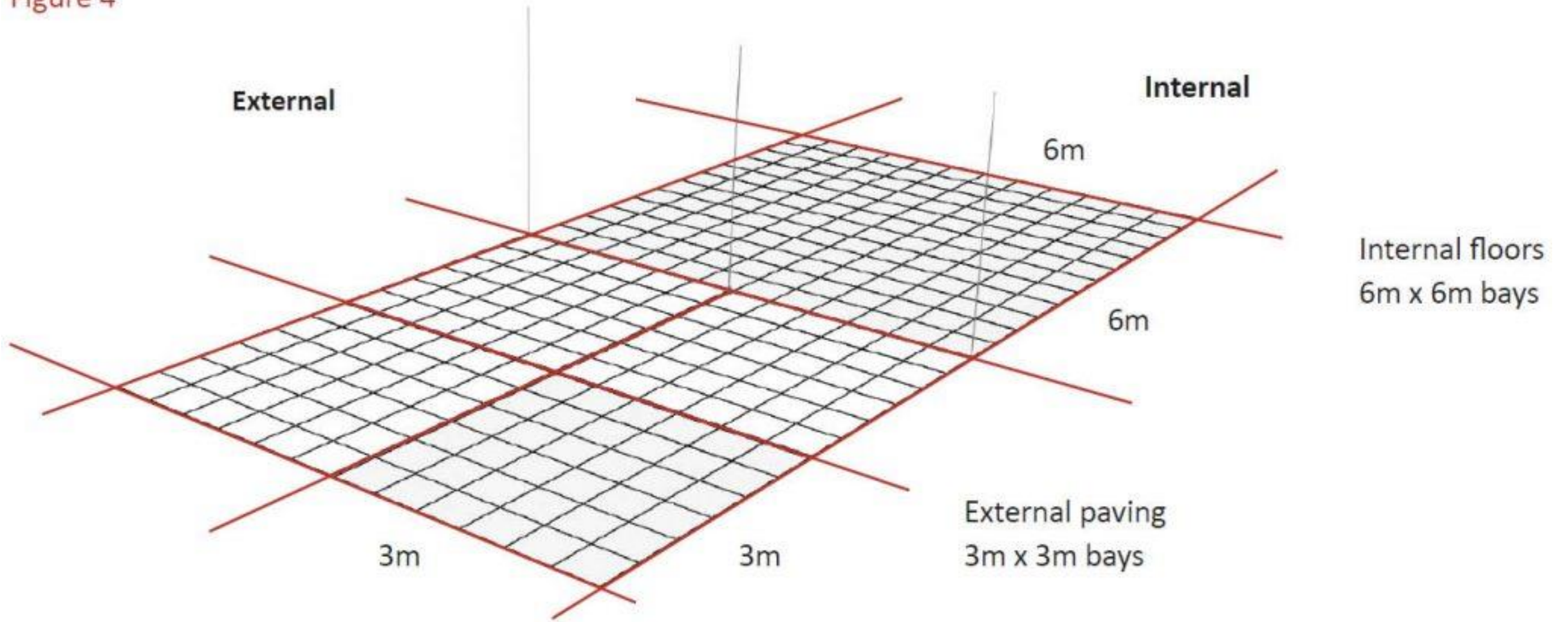
Expansion Joint

EJ171



BUILT UP OF MOVEMENT JOINT

Figure 4



PERIMETER JOINT ALLOCATION – 6mm width



KEY POINT OF TILES INSTALLATION



**The Right Tile
Adhesive**



**Control Joint
Allocation**



**Correct
Workmanship**

NOTCHED TROWEL



SPIRIT LEVEL



RUBBER Mallet



GROUT FLOAT



TILE SPACER

SURFACE PREPARATION



1 | Removing
concrete protrusion



2 | Cleaning concrete
surface with broom

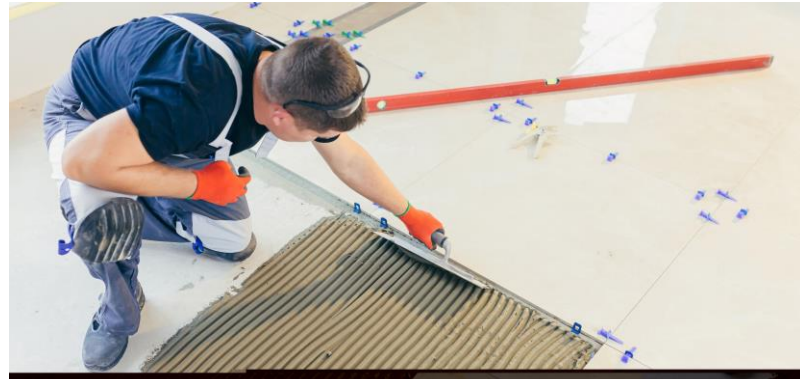


3 | Clean surface using
water jet



4 | Checking level
of substrate surfaces

TILES INSTALLATION PROCESS



1 | Spreading bedding mix in straight lines



2 | Applying coat of mix on back surface of tile/ stone



3 | Tapping tile/ stone onto uniform position



4 | Checking level of tile/ stone with spirit level



5 | Use plastic spacer



6 | Turn over tile/ stone to ensure satisfactory coverage of bedding

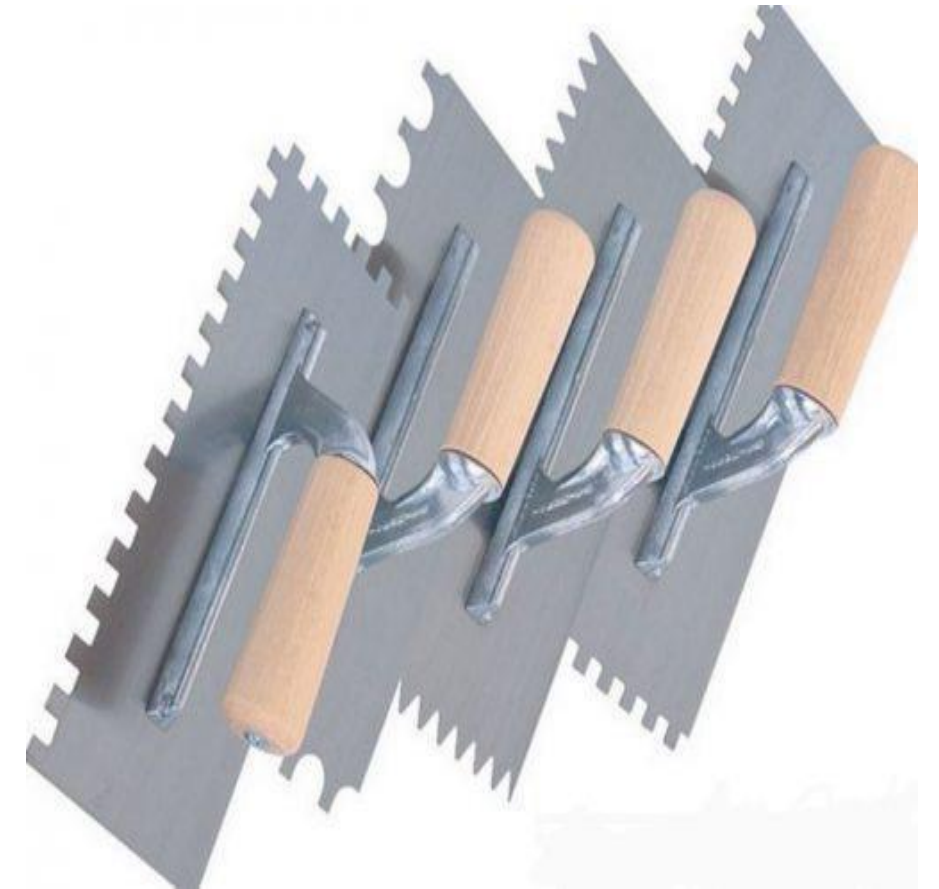
ADHESIVE TECHNOLOGY – DRY SYSTEM



Fixing of Ceramic Mosaics To Swimming Pool

NOTCHED TROWEL SIZE FOR DIFFERENT SIZES OF TILES

Trowel Size	Tile size
4mm x 4mm	Mosaic
10mm x 10mm	300mm x 300mm and below
12mm x 12mm	300mm x 600mm and above
20mm x 20mm	600mm x 600mm and above



GROUTING PROCESS



Cementitious Grouting of Ceramic Wall Tiles

GROUTING SYSTEM – SWIMMING POOL



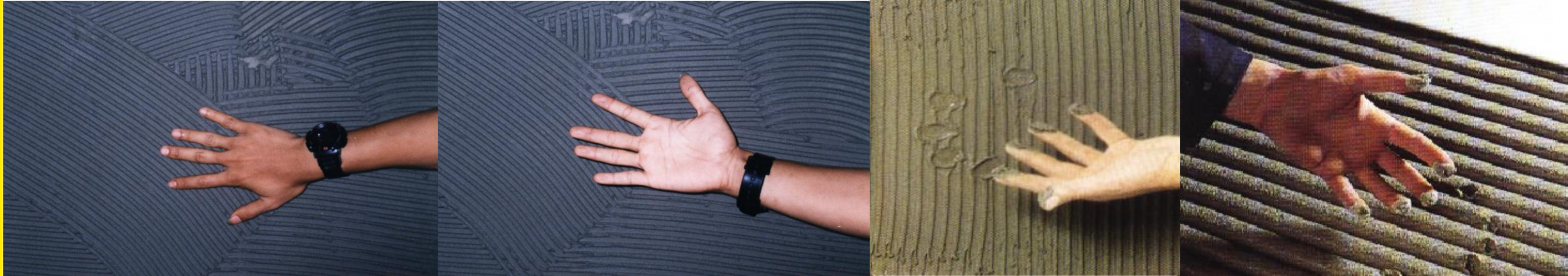
Latex Modified Grouting System To Swimming Pool

GROUTING SYSTEM – EPOXY GROUT



Epoxy Resin-Based Grouting System

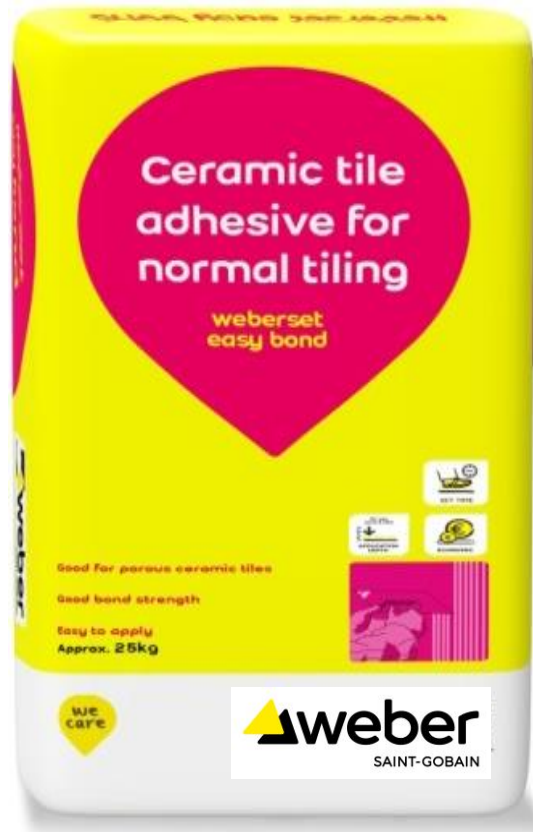
OPEN TIME EXPIRES: SKIN OVER



OPEN TIME STILL GOOD

CERAMIC TILE ADHESIVE - CLASS C1

SPECIAL CONDITION



Weberset Easy Bond



Weberset CTF Grey



Weberset Superstar



Weberset CTF white



Weberset Quick Fix

PORCELAIN TILE ADHESIVE - CLASS C2 ADHESIVE

ELIMINATES USE OF
EXPENSIVE LATEX ADMIXTURE

— SPECIAL CONDITION —



Weberset Easy Flex



Weberset One Fix



Weberset Superflex 21



Weberset X'traflex

ECO-FRIENDLY & COMFORT SERIES ADHESIVE



**Premium Grade Grey
C2 S1 Adhesive**



**Premium Grade Grey
C1 Adhesive**



**Premium Grade Grey
C2TE S1 Low Dust Adhesive**



**Premium Grade Grey
C1 Low Dust Adhesive**

TILE GROUT CLASSIFICATION EN ISO 137007-3

Classification & Designation:

CG1

Normal Cement-Based
Tile Grout

CG2

Improved Cement-
Based Tile Grout

RG

Reaction Resin Tile
Grout

Special Attribute:

W

Reduced Water
Absorption

A

High Abrasion Resistance

F

Fast Setting Grout

CEMENT BASED TILE GROUT – CLASS CG2



CG2 Grout (Unsanded)
Point Joints Up To 3mm Wide



CG2 Grout (Sanded)
Point Joints Up To 12mm Wide



CEMENT BASED TILE GROUT – CLASS CG2



Anti-Fungus CG2 Grout
Point Joints Up To 8mm Wide



Anti-Bacterial & Anti-Fungus CG2 Grout
Point Joints Up To 3mm Wide



RESIN BASED TILE GROUT - CLASS RG



**Chemical Resistance, Water Impervious Epoxy
Resin-Based Class RG Grout
Point Joints Up To 6mm Wide**

Thank You