
etex building performance Indonesia

formerly Eternit Gresik

# PT. Etex Building Performance Indonesia

**PT. Etex Building Performance Indonesia (formerly PT. Eternit Gresik) is the reference manufacturer of fiber cement building boards in Indonesia for over 40 years**

PT. Etex Building Performance Indonesia was established in 1971 and started its operation in 1973. Our expertise, integrated quality system and experience for over 40 years in building materials allows PT. Etex Building Performance Indonesia to offer you the best solution for each of your dry construction projects.

PT. Etex Building Performance Indonesia aims at the highest possible customer satisfaction and disposes of state of the art technology installed at the existing site in Gresik, East Java.

The new production site in Karawang, West Java, which is planned to go on line by the end of 2015 will accommodate the latest generation European technology for the production and finishing of fiber cement boards and will set entirely new quality standards for professional building boards.

PT. Etex Building Performance Indonesia products stand for health, durability and quality. Our products are developed and known for their straightness, flexibility and easiness of installation.

KALSI and ETER products are produced without asbestos fibers. PT. Etex Building Performance Indonesia is the pioneer in Indonesia for asbestos free building board manufacturing technology.

You can trust our products, they can be cut and fitted to size without any hazard for your personal health or the occupants of the buildings in which KALSI and ETER products are installed. Our products are trusted and appreciated by building material professionals all over Indonesia and South East Asia.

ETER products are large roofing elements for houseing, industry, and agriculture. KALSI branded products are applied for ceilings, partitions, cladding, listplank, and flooring. Head office and factory are located in Gresik – East Java, close to Surabaya, East Java's capital. Sales activities in Indonesia are run by means of a nation wide reliable distribution network. PT. Etex Building Performance Indonesia also exports its asbestos free boards throughout South East Asia.

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# Etex

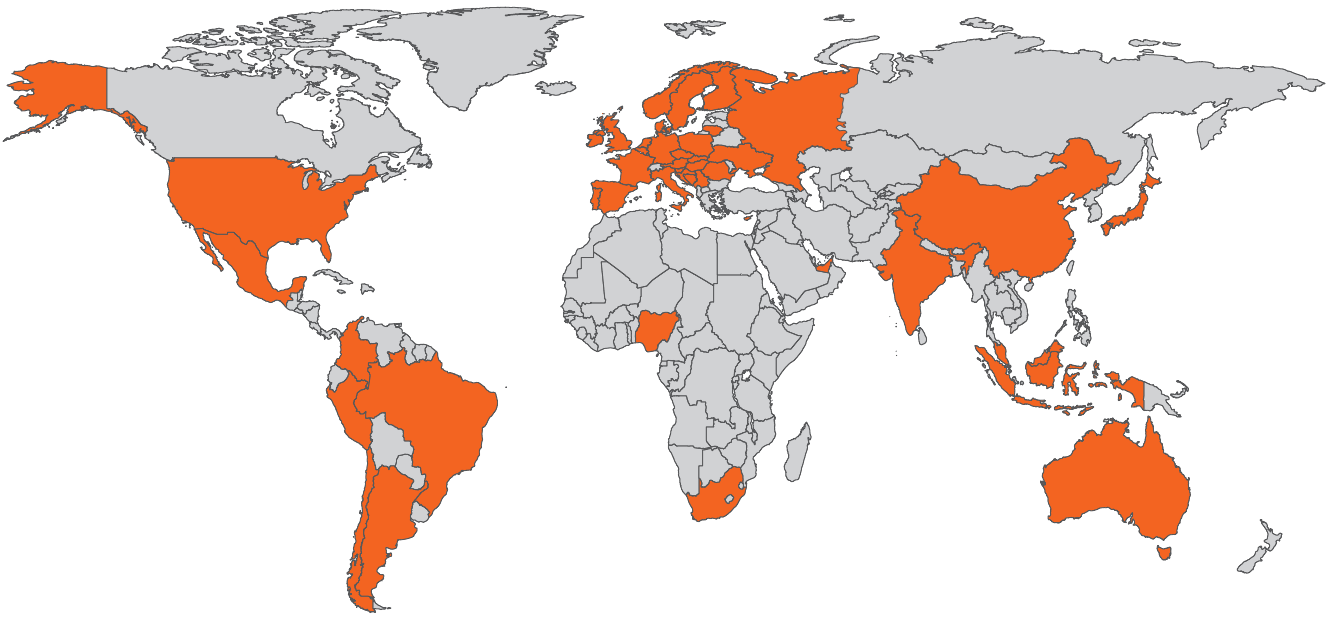
Eternit is a part of Etex, a Belgian industrial group that manufactures and markets high quality building materials and systems. Headquartered in Brussels, Etex currently operates 123 factories and 116 subsidiaries across 44 countries, employs more than 18,000 people and is one of the largest fibre cement producers in the world.

Through its subsidiaries, Etex offers an extensive range of products: small and large roofing materials, cladding and building boards, passive fire protection systems and ceramic tiles.

Etex is a professional, reliable partner for all kinds of construction projects.

Established in 1905, Etex consolidates its unique global presence through strong and proven expertise, a resource bank of technical knowledge, innovative corporate culture and deep understanding of local needs and requirements in all markets where it operates.

etex
inspiring ways of living



**The Etex Group International Network**


1
1
4
3
5
6
6
2


Kalsi

1. Cladding
2. Plank
3. Partition
4. Ceiling
5. Wet area
6. Floor
7. Special applications
8. Roof underlay

# Dry Construction

# Dry Construction

Dry construction is building technology that utilises composite boards installed over metal or timber subconstruction. It is often used to build exterior walls (claddings), interior walls (partitions), ceilings, floors and some other applications.

The cost effectiveness, strength, durability, design flexibility, adaptability, recyclability and sustainability are just some of the many advantages of dry construction over brick, block and wood. It not only makes good economic sense to choose the dry construction method, but good environmental sense, too... because CO2 emissions are minimised. Dry construction buildings are easier to renovate than brick, block and wood.


# Main Benefits Of Dry Construction

- Green and sustainable
- Cost effective
- Rapid installation
- Reduced wastage
- Easy installation of pipes and other services
- Light weight
- Durable
- Better resistance to seismic activity

The various components -- boards, studs and accessories -- assembled to create Eternit dry construction systems are easily dismantled at the end of the building's lifecycle. They are 100% recyclable and recoverable.

Kalsi® is the brand name of our fibre cement boards and planks.

Manufactured from a precise combination of cement, silica and cellulose, the boards are cured and stabilised in an autoclave -- a special process involving steam, high temperatures and pressure -- that ensures optimum dimensional stability and mechanical resistance.

Kalsi® fibre cement boards and planks are durable and highly resistant to most environmental conditions. They are the best alternative to wood, concrete and masonry constructions.

Kalsi® fibre cement boards and planks are manufactured in modern production facilities around the Asia Pacific region. The company's factories meet all modern benchmarks for quality and environmental impact.

"Cost effective, durable and highly resistant to moist, water and impacts"

## Physical and mechanical properties

| | Value | Standard |
|---|---|---|
| Dimensional conformity<br>• Thickness<br>• Length<br>• Width<br>• Straightness of edges<br>• Squareness of edges | Level II<br>(Pass) | ISO 8336: 2009 |
| Density* | ≥1200 kg/m$^3$ | ISO 8336: 2009 |
| Moisture content | ≤15% | ASTM C1185 |
| Water absorption | ≤31% | ASTM C1186 |
| Moisture movement | ≤0.04% | ISO 8336: 2009 |
| Water permeability | Pass | ISO 8336: 2009 |
| Thermal conductivity | 0.25 W/mK | ISO 8336: 2009 |
| Modulus of rupture<br>Category A (saturated condition)<br>Category C (ambient condition) | <br>≥7MPa<br>≥10MPa | ISO 8336: 2009 |

## Durability

| | | |
|---|---|---|
| Warm water performance | Pass | ISO 8336: 2009 |
| Soak-dry performance | Pass | ISO 8336: 2009 |
| Freeze-thaw performance (category A) | Pass | ISO 8336: 2009 |
| Heat-rain performance (category A) | Pass | ISO 8336: 2009 |

## Reaction to fire

| | | |
|---|---|---|
| Non-combustibility | Non-combustible | BS 476 Part 4: 1970 |
| Surface spread of flame | Class 1 | BS 476 Part 7: 1997 |
| Fire propagation index | I = 1.6<br>i(1) = 1.0<br>i(2) = 0.3<br>i(3) = 0.3 | BS 476 Part 6: 1989 |

# Benefits

- Resistant to the attack of termites, insects and most other vermin
- Moist,mould and water resistant
- Wide variety of thicknesses and applications
- Impact resistant
- Dimensionally stable
- Easy to work and install

GreenLabel SINGAPORE
041-081

# Board Finishes

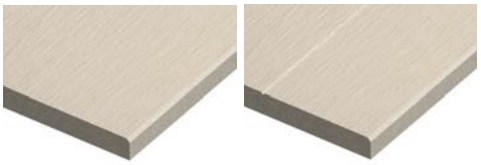
For ease of installation, and to improve functionality and aesthetic performance, Kalsi® fibre cement boards and planks are provided in several surface and edge finishes.

## Surface finishes

Kalsi® fibre cement boards are available with different surface finishing to enhance their overall performance, installation process and aesthetic appearance.

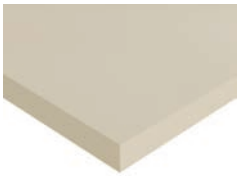
### Standard:

The standard surface of Kalsi® fibre cement boards is smooth and off-white in colour, making it appropriate for typical applications. Standard finish is recommended for textured coatings.



### Brushed:

The standard surface is brushed with a special machine to create delicate wood grain lines over the exposed surface of the boards.



### Top sanded:

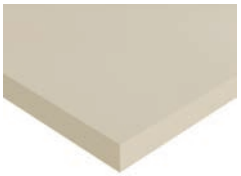
The standard surface is finely sanded to provide a premium finish with an improved upper surface, ideal for smooth paints and areas subject to the glare of lighting hot spots.

### Wood grain:

The wooden pattern comes in attractive textures that can be enhanced by a wide range of modern architectural finishes.

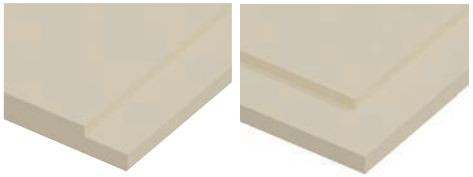
## Edge finishes

Kalsi® fibre cement boards come with squared or recessed edges to achieve express of flush joint solutions.



### Square cut:

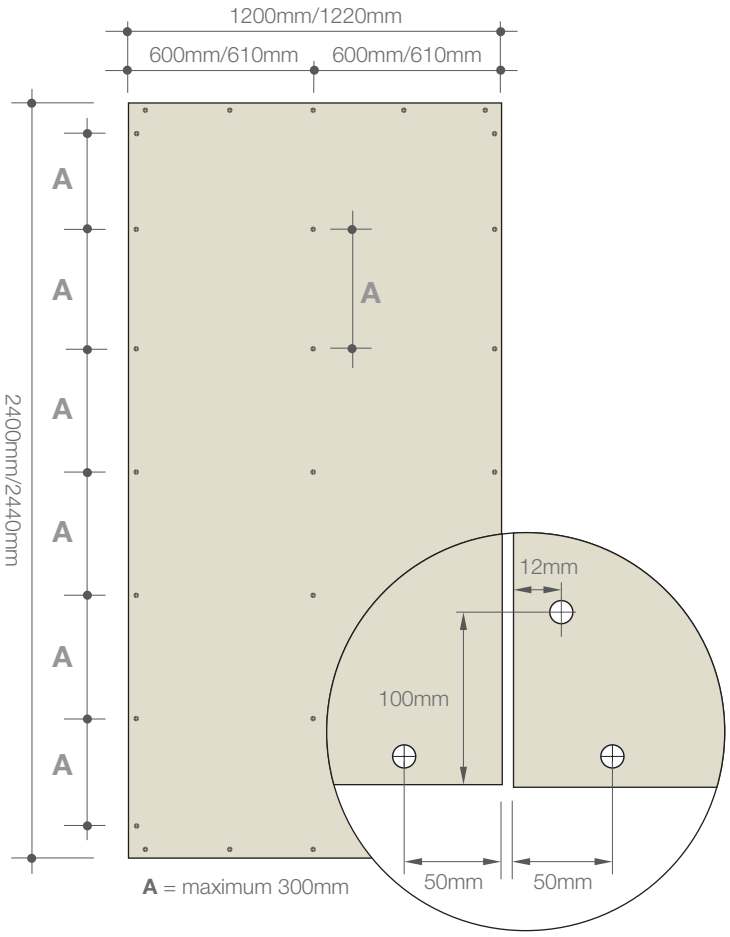
Standard for board edges which are cut at 90°. Ideal in expressed joint cladding.



### Bevelled edges:

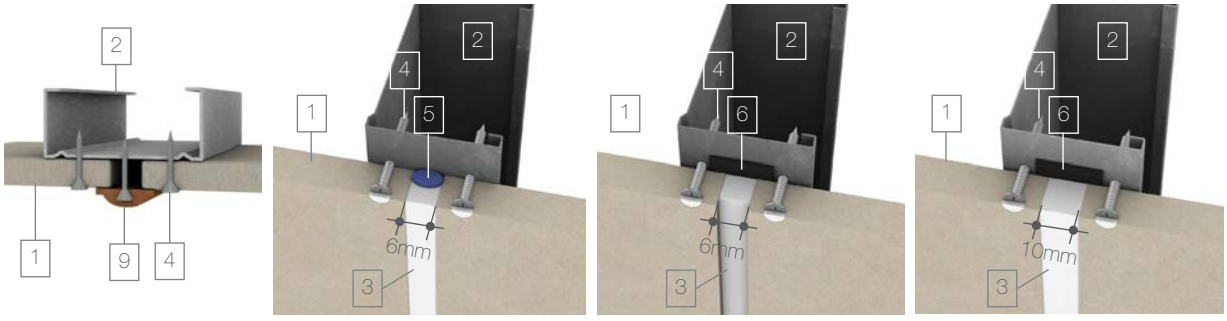
Boards bevelled on two or four edges ease joint finish, provide a smooth and flat surface.

# Fixing



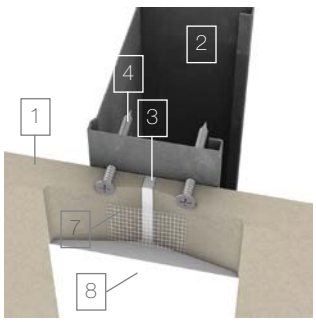

# Joint Treatment

## Visible Joint (Interior / Eaves)




Option **A** Option **B** Option **C**

## Inviisible Joint (Interior)




1. Kalsi® board
2. Steel stud
3. Polystyrene filler
4. Drywall screw
5. 6mm backer rod
6. Bond breaking tape
7. 50mm fibreglass mesh tape
8. Acrylic joint compound
9. Wooden molding (optional)

series Wood

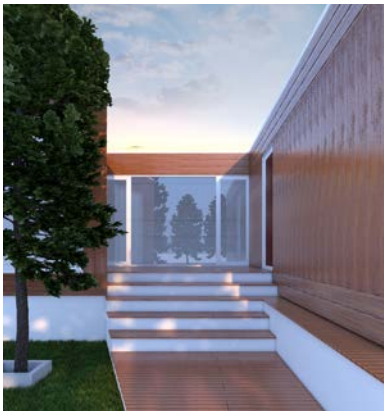
— by Kalsi —

series Wood
— by Kalsi —

Kalsi

## KalsiPlank





## KalsiDeck




# KalsiPlank

KalsiPlank is fibre cement siding designed for residential cladding. Easy to cut, nail and drill, Kalsiplank is a simple, pragmatic solution to most of the problems associated with timber.

KalsiPlank comes in four attractive surfaces finishes: Smooth, Jati, Meranti and Cedar.

There are two options for overlapping the planks, Overlapped Siding and Interlocking Siding.

"KalsiPlank® is a brilliant solution to most of the problems associated with timber"

## KalsiPlank Overlapped Siding Dimensions

| | Thickness (mm) | Width (mm) | Length (mm) | Weight (kg) |
|---|---|---|---|---|
| KalsiPlinth 8 | 8 | 100 | 3000 | 3.4 |
| KalsiPlank 8 | 8 | 200 | 3000 | 7.01 |
| KalsiPlank 8 | 8 | 300 | 3000 | 10.51 |
| KalsiPlank 9 | 9 | 200 | 4000 | 11.2 |
| KalsiPlank 8-Jati | 8 | 200 | 3000 | 7.01 |
| | 8 | 300 | 3000 | 10.51 |
| KalsiPlank 9-Cedar | 9 | 200 | 4000 | 11.2 |
| KalsiPlank 12 - Fascia | 12 | 150 | 3000 | 7.9 |

## KalsiPlank Interlocking Siding Dimensions

| | Thickness (mm) | Width (mm) | Length (mm) | Weight (kg) |
|---|---|---|---|---|
| KalsiPlank 10-IL<br>KalsiPlank 10-Jati-IL<br>KalsiPlank 10-Meranti-IL | 10 | 200 | 3000 | 8.75 |

## Surface finishes

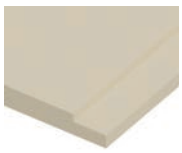
Wood grain

Smooth

Meranti

## Edge finishes

Square Edges

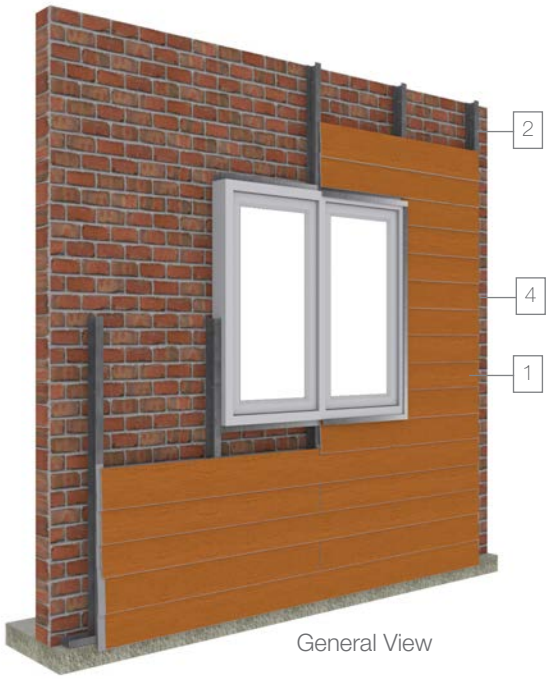


Interlocking Edges

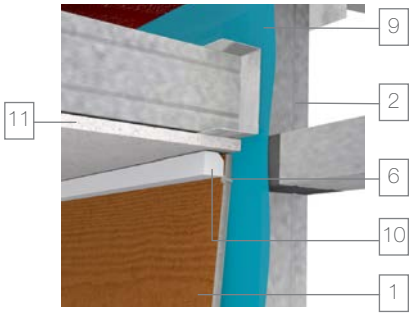
Fascia Edges

# KalsiPlank

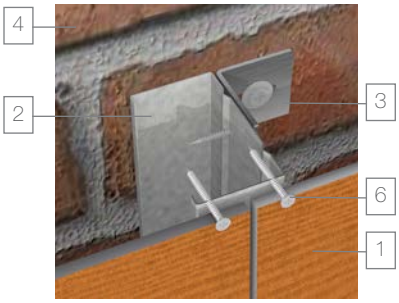
## Technical Details




General View

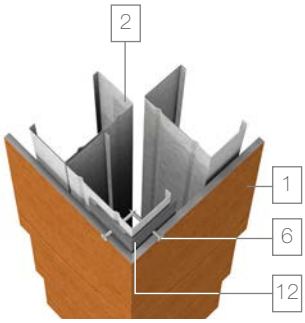



Soffit Detail

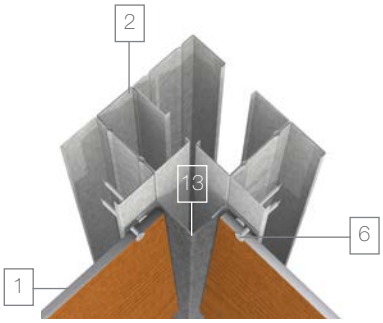



Board Jointing Detail


Vertical Fixing Detail




Eternal Corner Detail




Internal Corner Detail


Bottom Treatment Detail

1. KalsiPlank
2. Steel framing
3. Metal bracket
4. Mansory
5. Anchor bolt
6. Screw
7. Bottom track
8. Starter pack
9. Vapour permeable membrane (lightweight cladding)
10. Trim/polyurethane sealant
11. Soffit
12. Corner flashing
13. Mould corner

# KalsiDeck

KalsiDeck is a wood replacement product designed for interior and exterior decking and staircase application.

KalsiDeck is available in two different designs:

**KalsiDeck 20-Meranti**
**KalsiDeck 20-Meranti-VL**

"KalsiDeck® is a brilliant solution to most of the problems associated with timber"

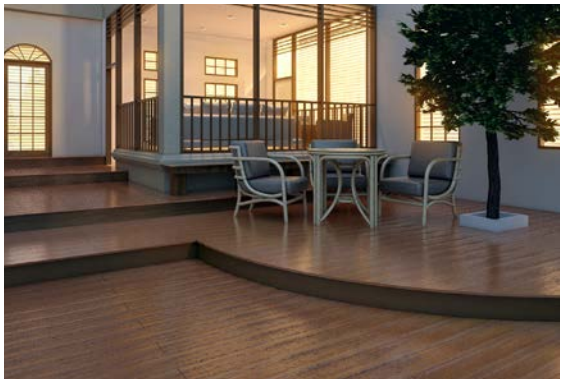
## KalsiDeck Standard Dimensions

| | Thickness (mm) | Width (mm) | Length (mm) | Weight (kg) |
|---|---|---|---|---|
| KalsiDeck 20-Meranti<br>KalsiDeck 20-Meranti-VL | 20 | 200 | 2400 | 14.5 |

## Surface finishes

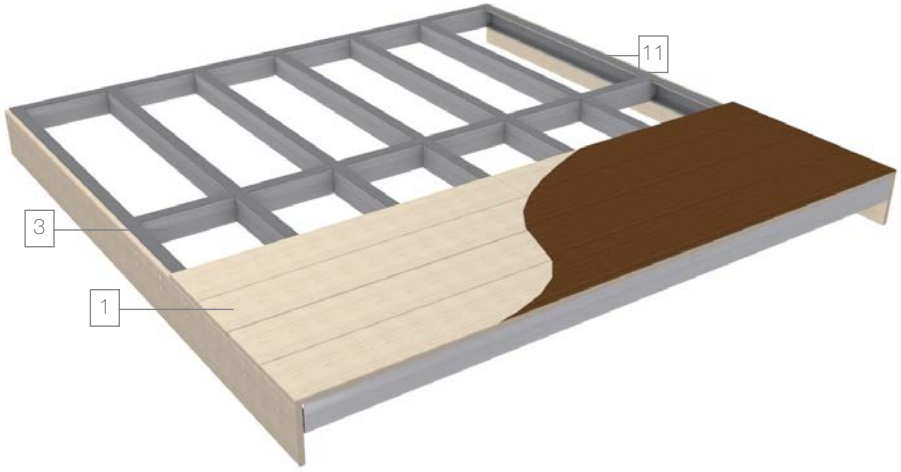
Meranti

Meranti-VL



# KalsiDeck

## Technical Details

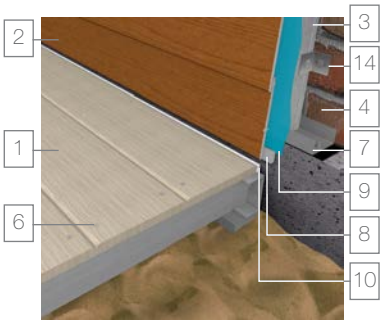



General View

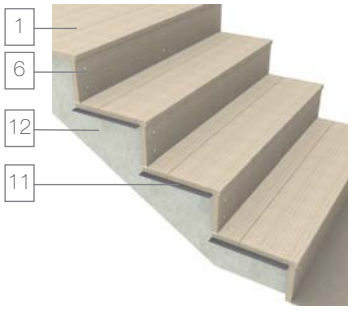

Jointing Detail


General Installation


Internal Deck Detail




External Deck Detail




Staircase Detail

1. KalsiDeck
2. KalsiPlank
3. Steel framing
4. Mansory
5. Anchor bolt
6. Screw
7. Bottom track
8. Starter pack
9. Vapour permeable membrane
10. Polyurethane sealant
11. Rubber/foam absorber
12. Concrete floor
13. Wall cladding
14. Metal bracket


# Kalsi Board Range

# KalsiBoard Ling

KalsiBoard Ling is a fibre cement board especially designed for ceiling application in both dry and wet areas. It's a lightweight but durable board that offers exceptional dimensional stability and years of functional service.

KalsiBoard Ling in thicknesses of 3mm to 4.5mm must be nailed to timber framing. The joints between the boards are designed to remain open and can be finished in conjunction with wooden joiners etc or moldings.

KalsiBoard Ling in thickness of 6mm can be nailed onto timber structure or screwed over a steel frame. Joints between the boards can be flushed or left open.

KalsiBoard Ling can also be used as a ceiling tiles. The extra-smooth surface ready to receive a wide range of finishes.

## KalsiBoard Ling Standard Dimensions

| Thickness (mm) | Width (mm) | Length (mm) | Weight per $m^2$ of sheet ($kg/m^2$) |
|---|---|---|---|
| **KalsiRata 3** | | | |
| 3 | 1000 | 1000 | 4.5 |
| | 500 | 1000 | 2.2 |
| | 1000 | 2000 | 8.5 |
| | 500 | 2000 | 4.3 |
| **KalsiBoard Ling 3.5** | | | |
| 3.5 | 1220 | 2440 | 14.8 |
| | 1200 | 2400 | 13.3 |
| **KalsiBoard Ling 4** | | | |
| 4 | 1220 | 2440 | 16.6 |
| | 1200 | 2400 | 16.4 |
| **KalsiBoard Ling 4.5** | | | |
| 4.5 | 1220 | 2440 | 19.0 |
| | 1200 | 2400 | 18.4 |
| **KalsiBoard Ling 6** | | | |
| 6 | 1220 | 2440 | 25.4 |
| | 1200 | 2400 | 24.6 |
| | 1200 | 2700 | 27.6 |
| | 1200 | 3000 | 30.7 |

* Other dimensions are available upon request. The properties in above table are mean values provided for informational purposes only

"KalsiBoard Ling is stable, resistant to water and durable"

## Surface finishes

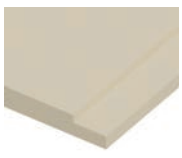
Standard

Top Sanded

## Edge finishes

Square Edges

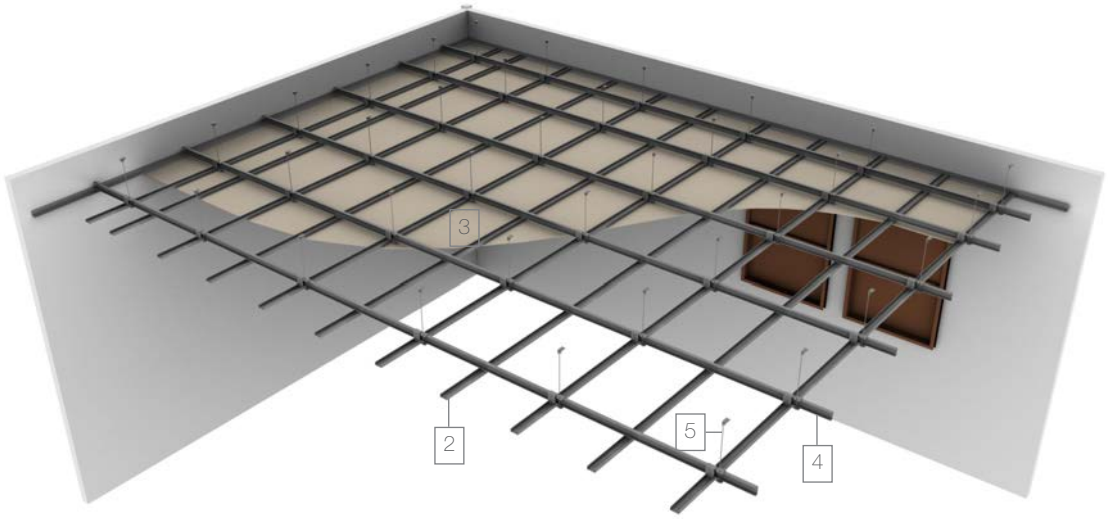
4 Bevelled Edges



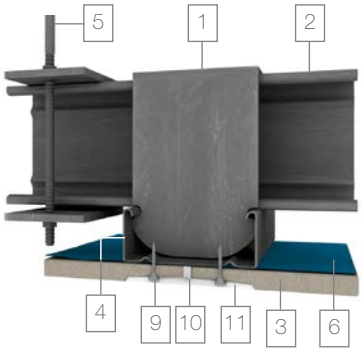
2 Bevelled Edges

# KalsiBoard Ling

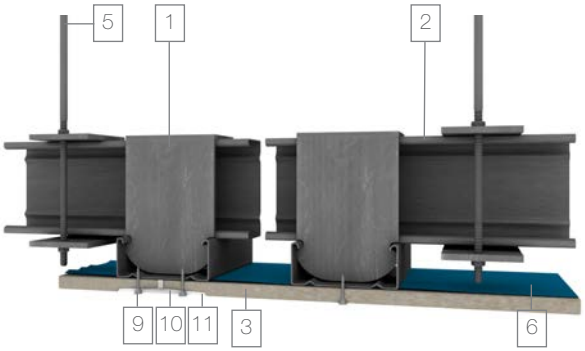
## Technical Details – Suspended ceiling



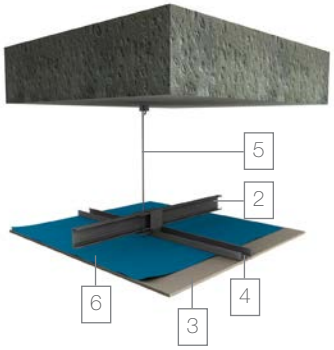

General View



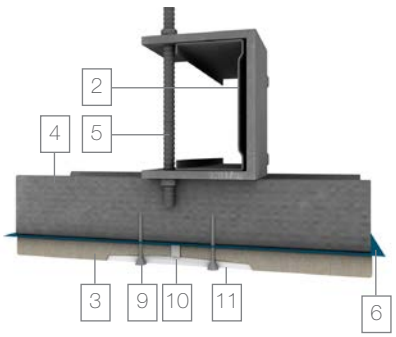

Joint Detail




Expansion Joint




Structure Assemble



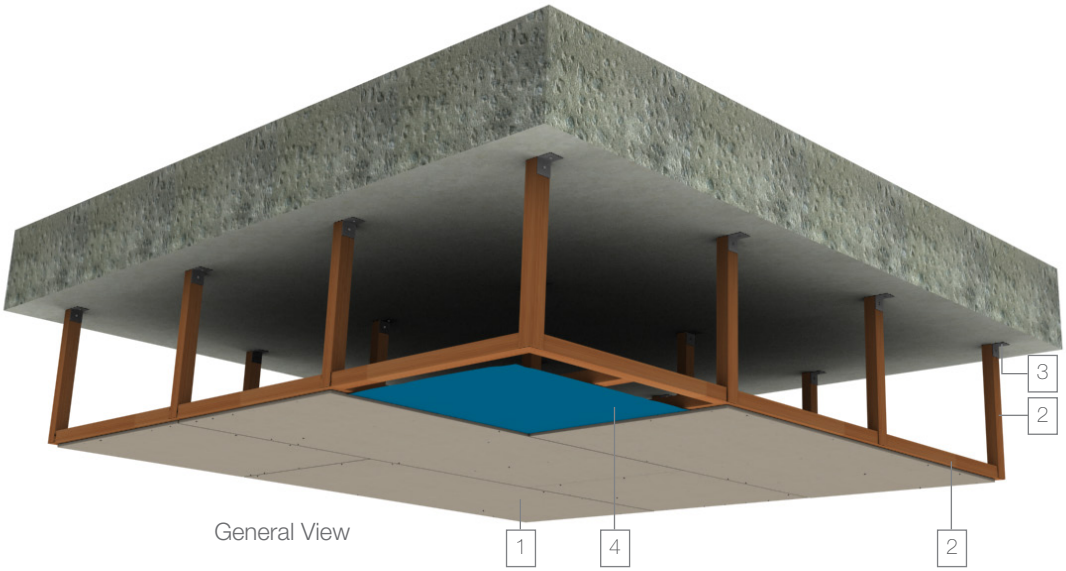

Hanger To Structure


Ceiling To Wall

1. Fixing hooks
2. Primary profile
3. KalsiBoard Ling
4. Secondary profile
5. Suspension rod/wire
6. Vapour membrane/barrier
7. L angle stud
8. Wall plug
9. Drywall screw
10. 50mm fibreglass mesh tape
11. Multipurpose joint compound

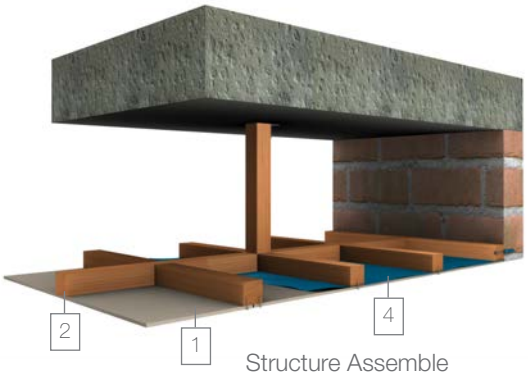
# KalsiBoard Ling

## Technical Details – Timber framing



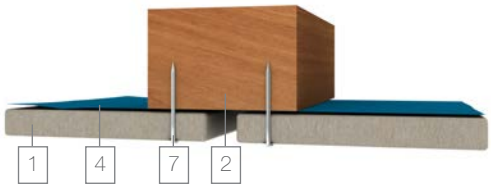

General View


Hanger Detail




Structure Assemble


Ceiling To Wall Detail

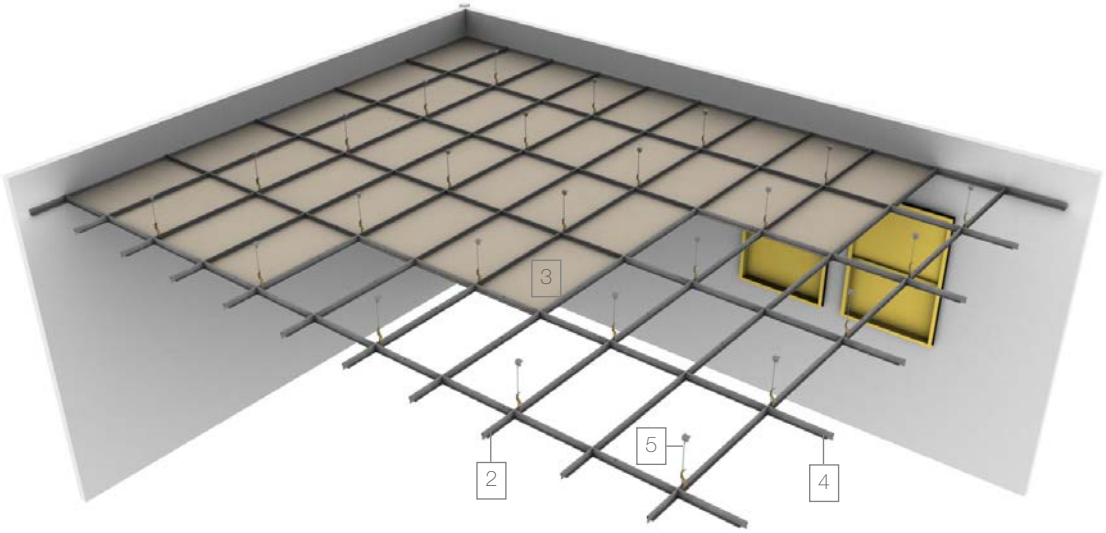



Jointing Detail

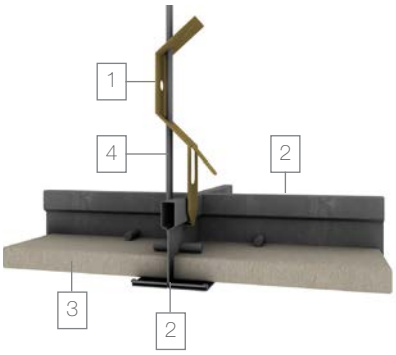
1.
2. Timber batten 40mm x 60mm
3. Metal bracket
4. Vapour membrane/barrier
5. Wall plug
6. Wood molding
7. Nail

# KalsiBoard Ling

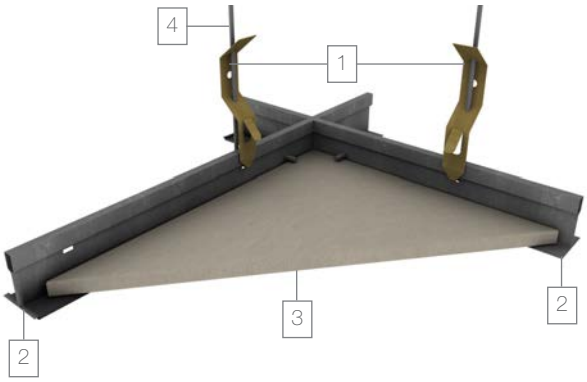
## Technical Details – Suspended ceiling (T Grid)



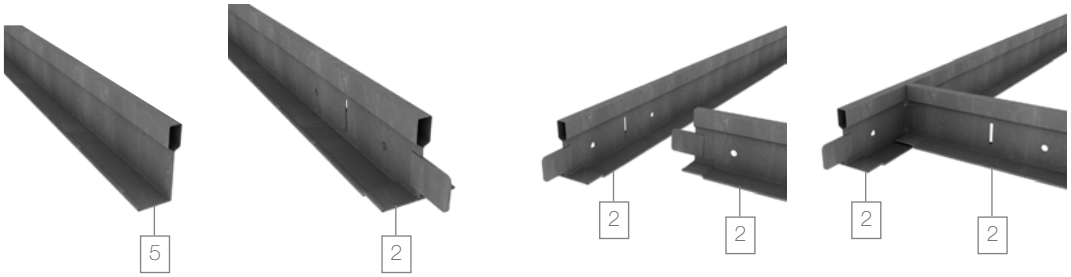

General View




T-profile Detail




Structure Assemble




1. Fixing hooks
2. T-profile
3. KalsiBoard Ling
4. Suspension rod/wire
5. L angle stud

# KalsiBoard Ling

## Project Reference

# KalsiPart

KalsiPart is the ideal solution for the most demanding internal wall applications subject to high traffic or humid conditions:

KalsiPart provides excellent acoustic insulation. The inclusion of mineral wool in the wall cavity improves both thermal and acoustic performance.

All kinds of conduit, wiring, pipe and other services are easily installed in the cavity of every KalsiPart system.

"KalsiPart is resistant to impact, moisture and water. It is the ideal solution for high traffic areas"

## KalsiPart Standard Dimensions

| Thickness (mm) | Width (mm) | Length (mm) | Weight per $m^2$ of sheet ($kg/m^2$) |
|---|---|---|---|
| **KalsiPart 8** | | | |
| 8 | 1220 | 2440 | 33.8 |
| | 1200 | 2400 | 32.7 |
| | 1200 | 2700 | 36.8 |
| | 1200 | 3000 | 40.9 |

* Other dimensions are available upon request. The properties in above table are mean values provided for informational purposes only

## Surface finishes

Standard

Top Sanded

# KalsiQua 8

KalsiQua 8 is an 8mm thick fiber cement board, 100% asbestos free product, consisting of the following: cement, selected mineral fillers, organic reinforcing fibers, and functional additives that are specifically designed for wet area applications. KalsiQua 8 acts as a high performance wet area application board, and requires no additional waterproofing.

## KalsiQua Standard Dimensions

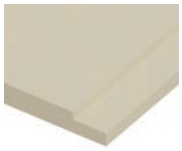
| Thickness (mm) | Width (mm) | Length (mm) | Weight per $m^2$ of sheet ($kg/m^2$) |
|---|---|---|---|
| **KalsiQua 8** | | | |
| 8 | 1200 | 240 | 32.7 |

* Other dimensions are available upon request. The properties in above table are mean values provided for informational purposes only

## Edge finishes

Square Edges

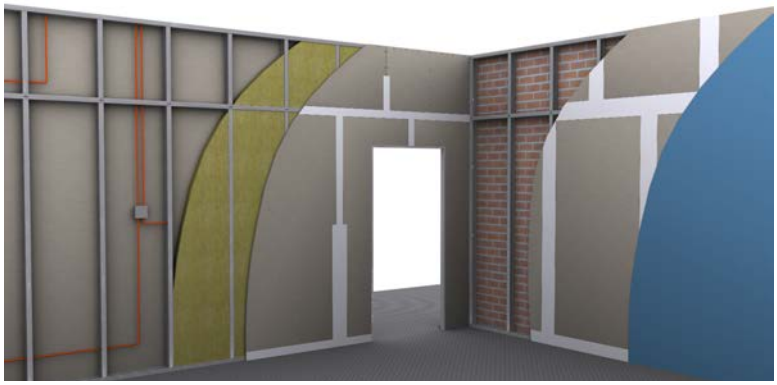
4 Bevelled Edges



2 Bevelled Edges

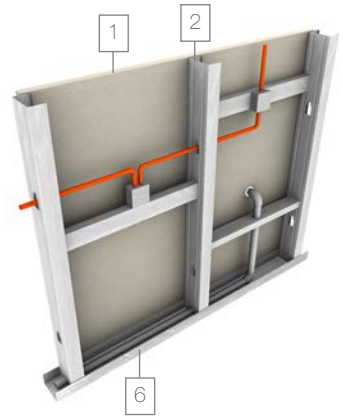
# KalsiPart

## Technical Details

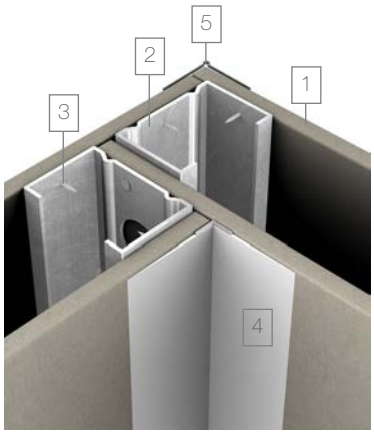


General View

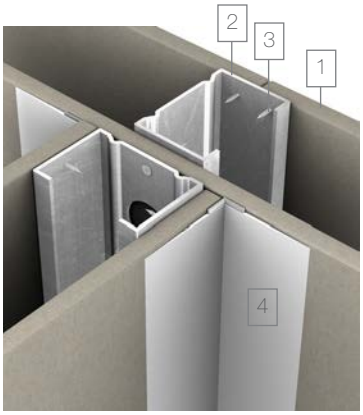
Ceramic Tiling



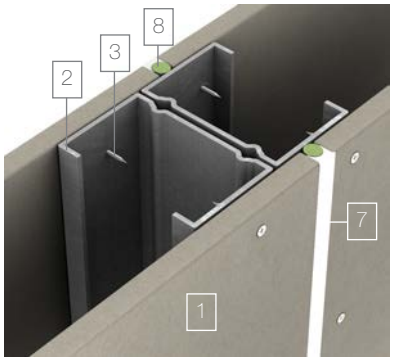

Conduit And Service Installation



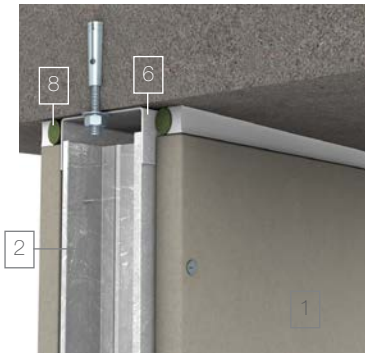

L Corner Detail



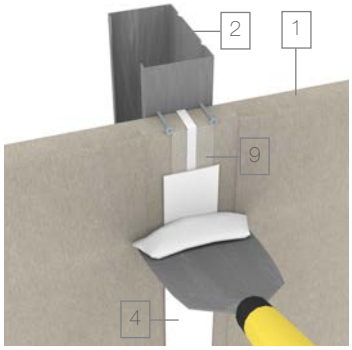

T Corner Detail




Expansion Joint




Deflection Track System




Joint Treatment

1. KalsiPart
2. Steel stud
3. Drywall screw N°6 x 1"
4. Multipurpose joint compound
5. Corner bead
6. Horizontal channel
7. Polystyrene filler
8. 6mm backer rod
9. 50mm fibreglass mesh tape

# KalsiPart

Kalsi

## Project Reference

# KalsiClad

KalsiClad is a board specifically designed for external wall cladding. Its light weight and versatility are the best features for new or renovation projects which demand design flexibility, and modern, contemporary solutions.

KalsiClad can be finished with expressed or flushed joints.

KalsiClad can be coated with an exterior acrylic or texture coating for monolitic render.

**"KalsiClad is an external, light weight yet strong solution for new and renovation projects"**

## KalsiClad standard Dimensions

| Thickness (mm) | Width (mm) | Length (mm) | Weight per $m^2$ of sheet ($kg/m^2$) |
|---|---|---|---|
| **KalsiClad 10** | | | |
| 10 | 1200 | 2440 | 42.3 |
| | 1200 | 2400 | 40.9 |
| | 1220 | 2700 | 51.1 |
| **KalsiClad 12** | | | |
| 12 | 1220 | 2440 | 50.7 |
| | 1200 | 2400 | 49.0 |
| | 1200 | 2700 | 55.2 |
| | 1220 | 3000 | 61.4 |

* Other dimensions are available upon request. The properties in above table are mean values provided for informational purposes only

## Surface finishes

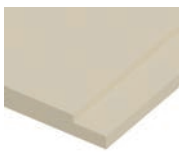
Standard

Top Sanded

## Edge finishes

Square Edges

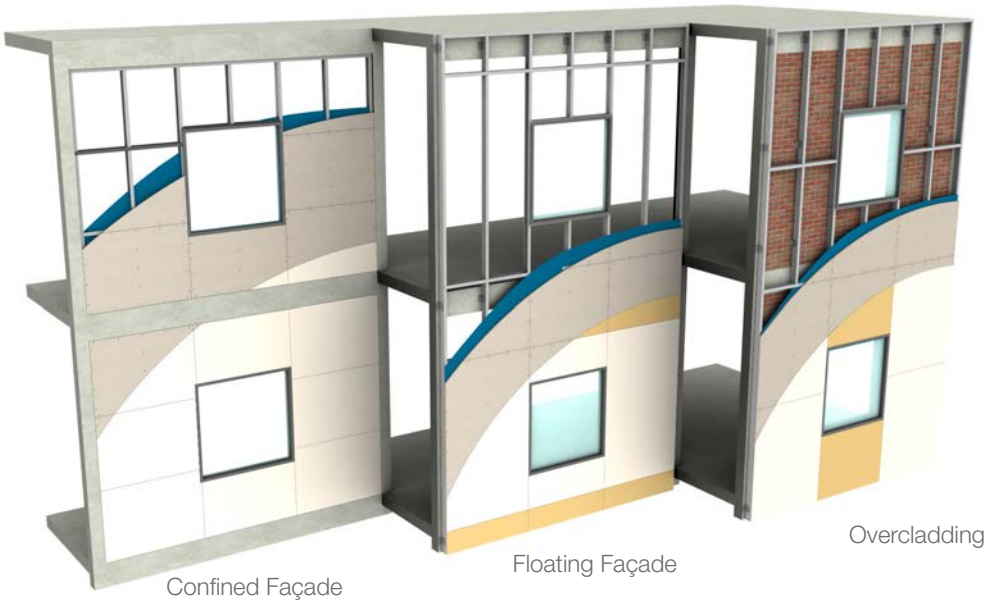
4 Bevelled Edges



2 Bevelled Edges

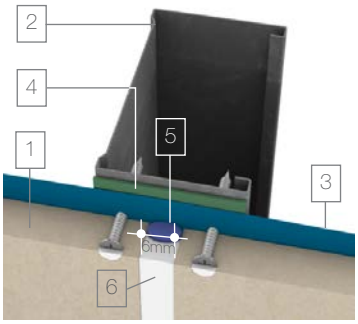
# KalsiClad

## Technical Details

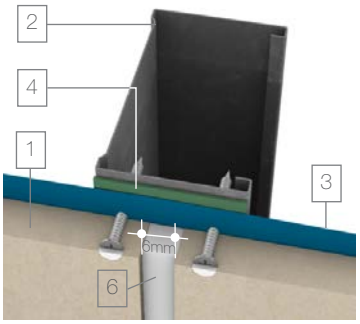



General View

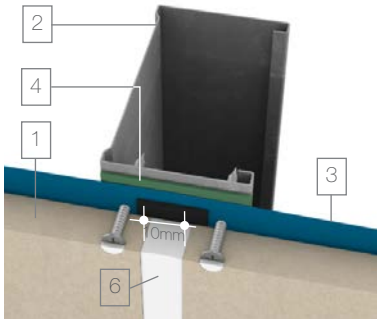

Bracket To Slab Detail



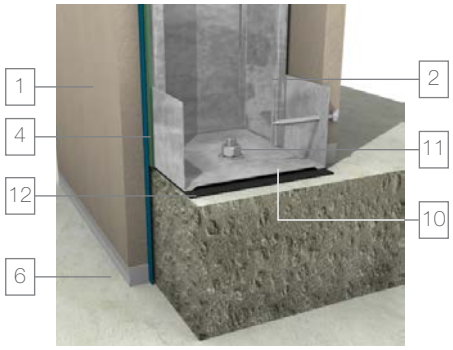

6mm Joint Treatment (Option A)



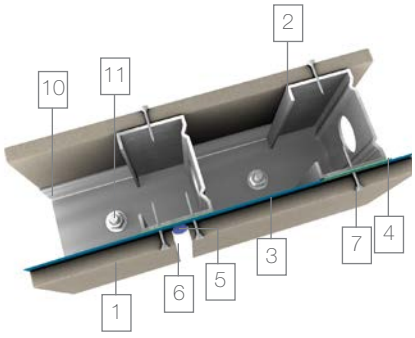

6mm Joint Treatment (Option B)




10mm Joint Treatment




Construction To Bottom Detail




Expansion Joint

1. KalsiClad
2. Steel stud
3. Vapour membrane/barrier
4. Thermostop*
5. 6mm backer rod
6. Polystyrene filler
7. Drywall screw
8. Bond breaker film
9. Metal bracket
10. Steel channel
11. Anchor bolt
12. Flashing

*If required by local building codes and/or local atmospheric conditions

# KalsiClad

Project Reference


# KalsiFloor

KalsiFloor is a strong fibre cement board suitable for internal flooring applications. KalsiFloor can be directly finished (with carpet or vinyl tiles) in residential projects or offices, or with reinforced mortar screed in industrial and heavy duty applications.

KalsiFloor is a superb alternative to concrete slabs because it is an incredible lightweight solution.

KalsiFloor is fast and clean to install.

"KalsiFloor® is an ideal substrate for internal flooring"

## KalsiFloor Standard Dimensions

| Thickness (mm) | Width (mm) | Length (mm) | Weight per $m^2$ of sheet ($kg/m^2$) |
|---|---|---|---|
| **KalsiFloor 20** | | | |
| 20 | 1200 | 2400 | 81.8 |

* Other dimensions are available upon request. The properties in above table are mean values provided for informational purposes only

## Surface finishes

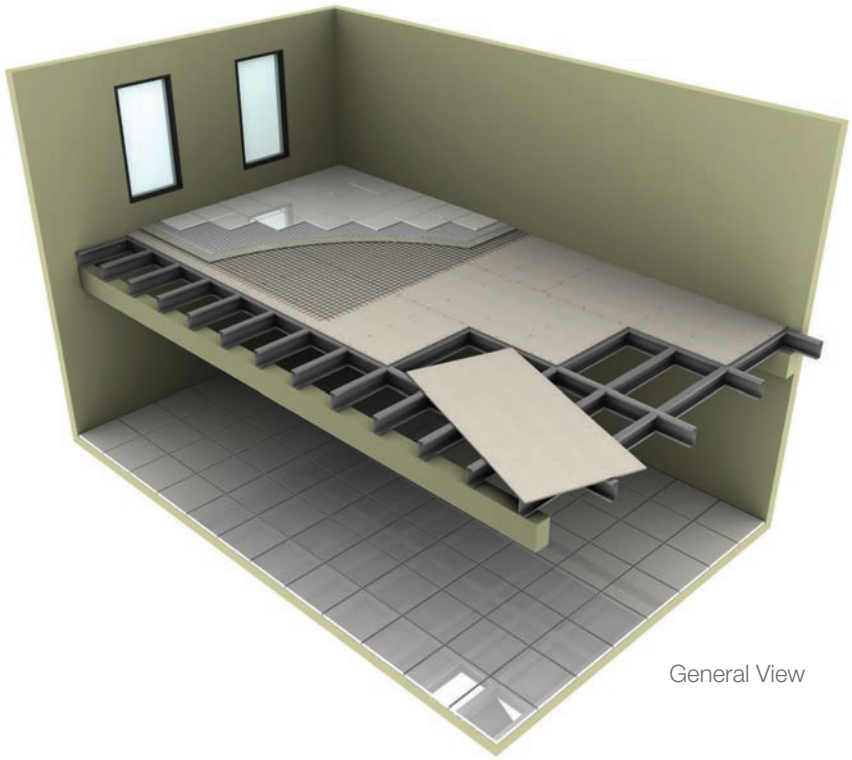
Standard

## Edge finishes

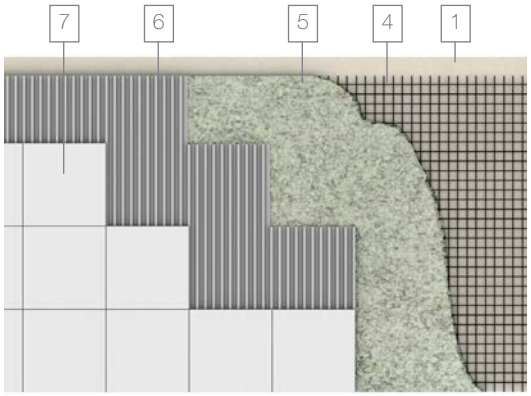
Square Edges

# KalsiFloor

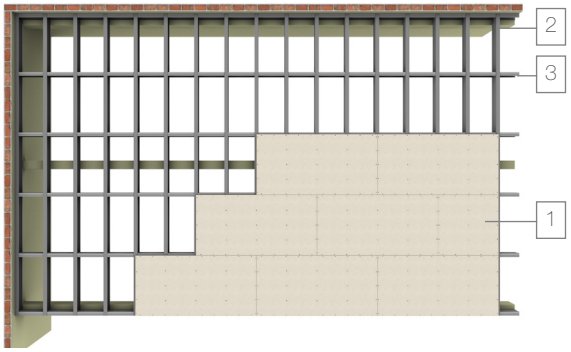
## Technical Details



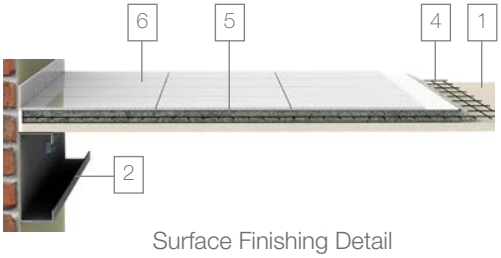
General View




Surface Finishing Detail




Installation Practice

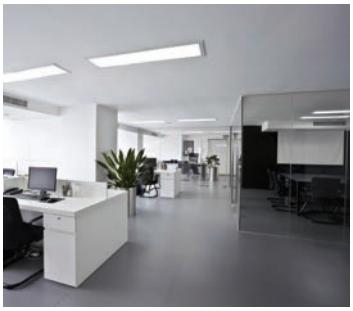



Surface Finishing Detail

1. KalsiFloor 20
2. Steel purlin
3. Steel bracer
4. Steel reinforcement
5. Mortar/screed
6. Tile adhesive
7. Finishing (ceramic tile, stone)

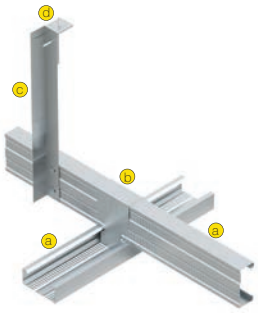
# KalsiFloor

Project Reference



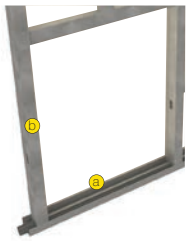
# Accessories

For the best result always using Kalsi® fibre cement accessories




Metal frame for Ceiling

- a **KalsiFuring MCR**
- b **KalsiFuring MJC**
- c **KalsiFuring AMP**
- d **KalsiFuring LB**




Metal frame for Partition

- a **KalsiFrame MT-51**
- b **KalsiFrame MS-51**


Jointing fibre tape

**KalsiTape FG-50**

Screw for wooden frame ceiling application

**KalsiNail 3-4.5**

Screw for metal frame ceiling application

**KalsiScrew CE**
**KalsiScrew CE-S**

Screw for siding & cladding application

**KalsiScrew PC**

Screw for flooring application

**KalsiScrew FL**


Multi purpose compound

**KalsiKompon IN-F**


Jointing Compound

**KalsiJoint Compound**

Sealant

**KalsiSeal**

Easy workability is another feature of Kalsi® fibre cement products. They are normally installed with conventional tools.

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### Important note

*Some of the project reference images in this document are not necessarily fabricated from systems outlined in this specific publication. They are included for the intention of indicating to the reader a generalised look or appearance typical of products and systems under the Kalsi®/ KalsiBoard® brand and brand names. Most of the projects here correspond to structures using fibre cement boards manufactured by Etex Group network companies in several locations worldwide. The sole purpose of such images in this publication is to illustrate the versatility of products and systems from Etex Building Performance Indonesia, and the proven international expertise of the Etex Group.*

### Your local supplier

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