

Magboard[®] Benelux

Supplier of **ecological** Multi-purpose construction board



SMARTSHEET



SMARTSHEET

CONTENT

Product information	2
Surface Application	
Structure Approvals and standards	
Delivery Program	2
Data Sheet	3
Accessories	4
Profiles	
Principle for the ventilated Facade	5
Installation	6+7
Detail drawings & Bending Radius	
Processing	8
Safety Cutting Drilling	
Cleaning and Maintenance	9
High pressure cleaning Calcium residues	
Storage and Handling	10-11

SMARTSHEET is a weather resistant facade board with a smooth surface. Application areas are self-ventilated facades, gables, fascia, garages and car ports.

SMARTSHEET is a 100% asbestos free fibre cement product made from natural high quality cellulose fibres, cement and sand. This combination results in a product with high strength and flexibility which at the same time is easy to process and handle.

SMARTSHEET is CE marked and fulfils the demands in the European standard for fibre cement EN 12467:2012. The boards are fire tested and classified according to the European standard for reaction to fire EN 13501-1, where they have been classified as non-combustible A2-s2, d0. The manufacturer's quality management system is certified according to ISO 9001:2008

Advantages:

- Weather resistant
- Non-combustible
- Resistant to fungi
- Resistant to termites
- Low weight
- Easy installation
- Easy maintenance

<i>Available thickness</i>		
<i>Thickness mm</i>	<i>Length mm</i>	<i>Width mm</i>
6	2400	1200
8	2400	1200
10	2400	1200
12	2400	1200
16	2400	1200
18	2400	1200

SMARTSHEET has a light grey smooth front side and a light structured backside.

<i>Property</i>	<i>Standard</i>	<i>Unit</i>	<i>Value</i>
Density	EN 12467	Kg/m ³	1330
Length	EN 12467	mm	2400
Width	EN 12467	mm	1200
Thickness	EN 12467	mm	6/8/10/12/16/18
Tolerance, length	EN 12467	mm	+1.0
Tolerance, width	EN 12467	mm	+1.0
Tolerance, thickness	EN 12467	mm	+0.1/-0.04
Bending strength (wet)	EN 12467	MPa	15
E-module (wet)	EN 12467	MPa	6100
Water absorption	EN 12467		RL>0.75
Moisture movement	EN 12467	%	0.05
Category, class	EN 12467		NT A2
Reaction to fire	EN 13501-1		A2-s2,d0

Boards from the same batch

SMARTSHEET may have minor colour variations from batch to batch.

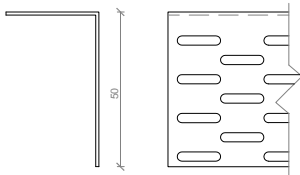
This is quite normal for fibre cement products, thus minor colour differences are not subject to claims.



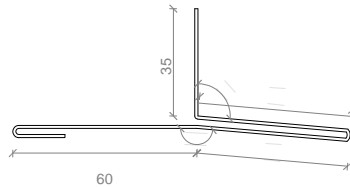
Profiles

For internal corners, external corners, window sills and flashings a range of coloured aluminium profiles are available

Starter Profile 393050 (Insect stop, ventilation)



Drip Nose 385035

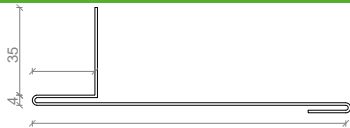


Window Sill 3715125



34 35

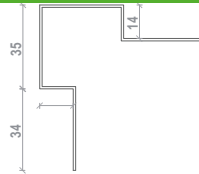
Window flashing 362535



25

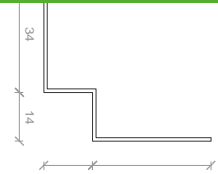


External corner 301414



14

Internal corner 312525



EPDM Rubber

The wooden sub construction must be covered with a rubber profile 0.8x100 mm EPDM, available in rolls of 25 m.

Screws

Fastening is made with façade screws 4.8x32 TX20 with 12 mm heads. Alternative fastening with self-drilling wing screw 4,9x38 mm.



Ventilated Facade

SMARTSHEET must always be installed as ventilated facade. This can be assured by using a vertical sub frame made from 22x95 mm planed wood which makes sure there is a 22 mm ventilation gap between the cladding and the basic wall which can be an existing wall or an extra insulation layer.

The ventilated facade acts as a rain screen preventing rain and other climatic impacts from reaching the insulation and main construction of the building. Thereby the insulation will always be kept dry and maintain its optimal performance.

Especially on older and bad insulated buildings the ventilated facade has great advantages since it is covering cold bridges and reducing heat loss from the building.

The ventilation gap is preventing water vapour from con-

densing in the building construction and thereby reducing the risk of mould and fungi growth on the internal walls.

The façade cladding is also contributing to stabilize the indoor climate by preventing the outer wall from over-heating in summer and cooling down in winter.

Furthermore the cladding reflects noise from traffic and the external environment and thereby improves the comfort level indoors.

Installation

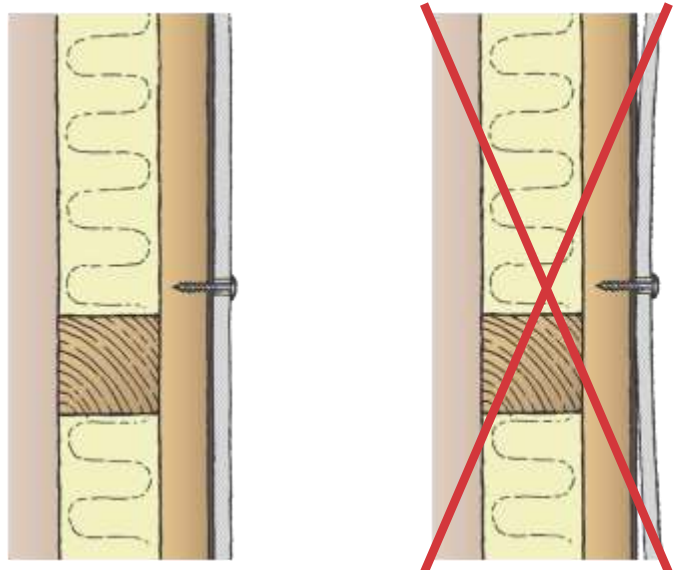
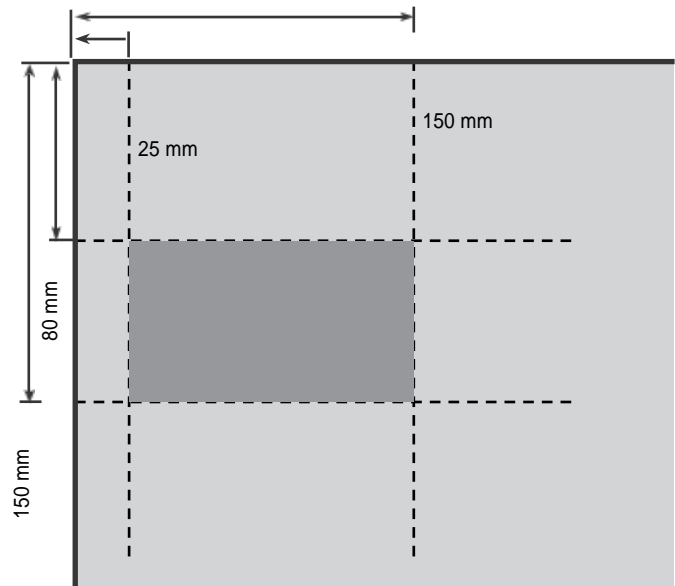
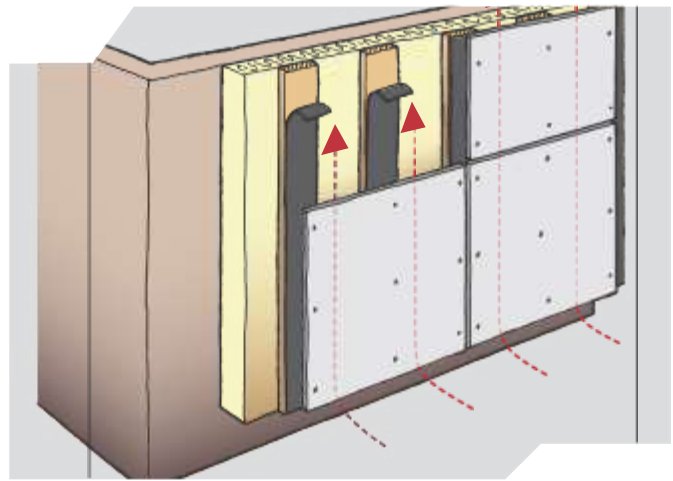
For outdoor use SMARTSHEET is intended for buildings up to four floors (floor height defined as 2,800 mm). The boards must always be installed as ventilated facade. This can be assured by using a vertical sub frame made from 22x95 mm planed wood which makes sure there is a 22 mm ventilation gap between the cladding and the basic wall which can be an existing wall or an extra insulation layer.

The sub frame is fixed to the basic wall with a max distance of 600 mm for 8 mm boards and 400 mm for 6 mm boards. In case of doubt it is advisable to execute a wind load calculation.

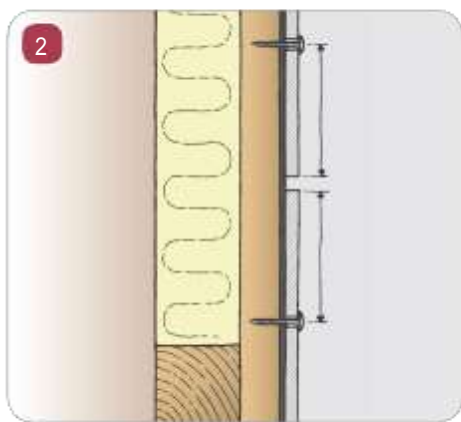
The sub frame must be covered with a 0.8x100 mm EPDM rubber band as underlay for the facade boards.

Screw Distances

SMARTSHEET is installed with open joints. Joint width is equal the board thickness and may easily be obtained by using a small cut-off of the board as distance holder. The boards are fixed to the sub frame with 4.8x32 mm facade screws through 7 mm pre-drilled holes in the boards. An alternative is the 4.9x38 mm self-drilling wing screw. The wings make sure there is an oversize hole in the boards.



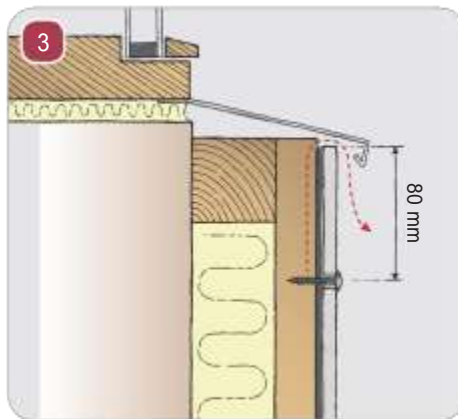
As most building products fibre cement boards have a minor natural moisture and temperature movement. This movement is made possible by using oversize holes. The screws are placed min 25 mm from the vertical board edges and min 80 mm from the horizontal board edges. Max edge distance is 150 mm. Max distance between screws is 400 mm.



Drawing No 1. Vertical cross section at base
The cladding should start approximately 150 mm from ground level.

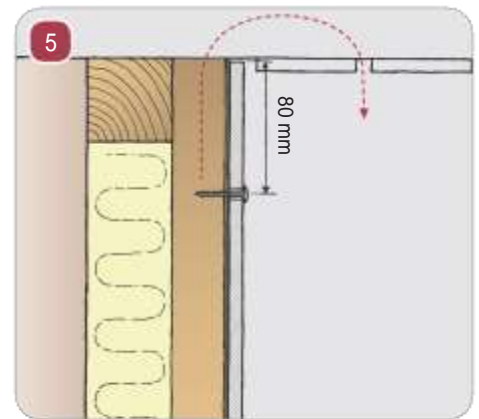
Ventilation profile No 393050 is fixed on the sub frame covering the ventilation gap. Beware when installing the first course that the boards are absolutely horizontal and in a straight line. This is crucial to the following rows of boards. The lower board edge is kept approximately 10 mm below the sub frame.

Drawing No 2. Vertical cross section at horizontal joint
There is an open joint between the boards corresponding to the board thickness (6-8 mm). This is easily made by using a cut off from the facade board. Screws are placed min 80 mm from the board edge and tightened with moderate pressure.



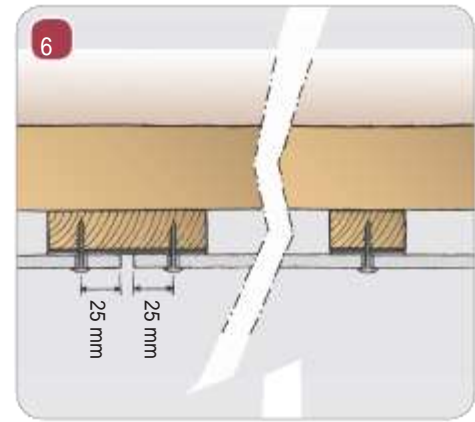
Drawing No 3. Vertical cross section at window sill
Under the windows the opening in the facade cladding is covered by a window sill - profile No 3715125. There must be a 10 mm ventilation gap between window sill and façade boards.

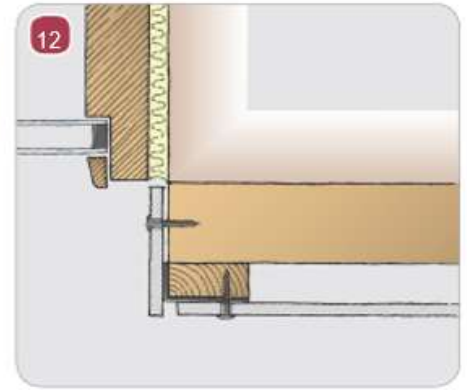
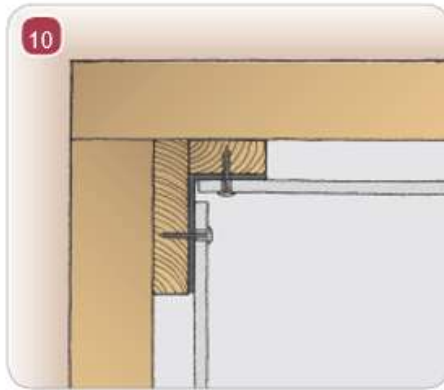
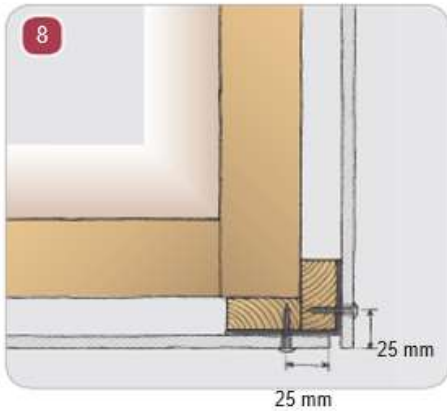
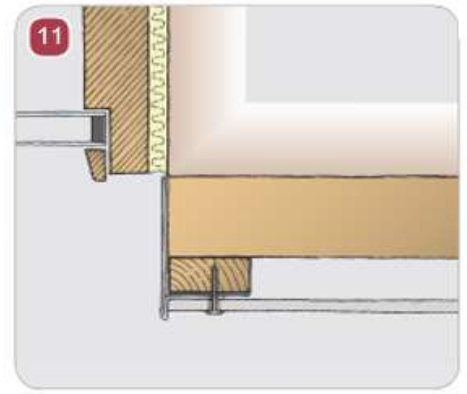
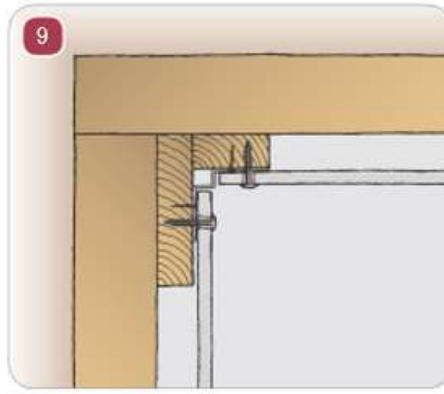
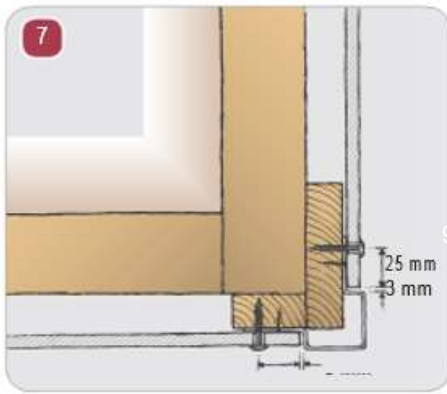
Drawing No 4. Vertical cross section at window top edge
Over the window drip nose profile No 385035 is installed level with the window opening. The sub frame starts 10-15 mm above the drip nose profile. There must be a 10 mm ventilation gap between the profile and the facade board.



Drawing No 5. Vertical cross section at the roof edge
At the roof edge the last facade board is cut to length so it is ending immediately under the rafter and covered by the cladding on the eave. Ventilation outlet must be secured through the eave.

Drawing No 6. Horizontal cross section at joints and intermediate sub frame
There is an open joint between the boards corresponding to the board thickness (6-8 mm). This is easily made by using a cut off from the facade board. Screws are placed min 25 mm from the board edge and tightened with moderate pressure.





Drawing No 7-8. Horizontal cross section at external corner (2 solutions)

Drawing No 9-10. Horizontal cross section at internal corner (2 solutions)

Drawing No 11-12. Horizontal cross section at window openings (2 solutions)

At the external corners there are 2 standard solutions.

At the internal corners there are 2 standard solutions.

There are several options for finish at window openings. Here are two proposals.

1. External corner profile 301414 is fixed to the sub frame and the façade boards are placed with a 3 mm clearance from the profile. (Drawing No 7).

1. Internal corner profile 311414 is fixed to the sub frame and the façade boards are placed with a 3 mm clearance from the profile. (Drawing No 9).

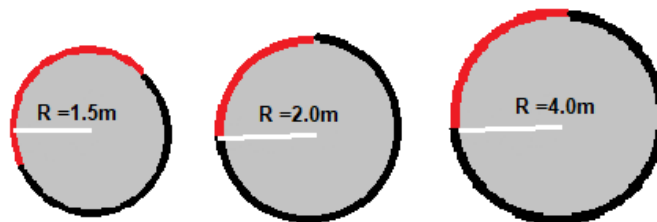
1. Use the window flashing profile 362535. The profile can be cut to size in both length and width.

2. Facade boards are installed with normal joint width at the board edge. (Drawing No 8).

2. Facade boards are installed with normal joint width at the board edge. Keep a clearance of 3 mm from the sub frame. (Drawing No 10).

2. Use a strip made from the facade board cut to size level with the facade. With the option shown in the drawing the joint is visible from the front. It may also be made with the joint visible in the window recess.

Bendable. No water is needed while bending the board.



6 mm /1.5m.bending radius

8 mm /2m.bending radius

10 mm/ 4m.bending radius

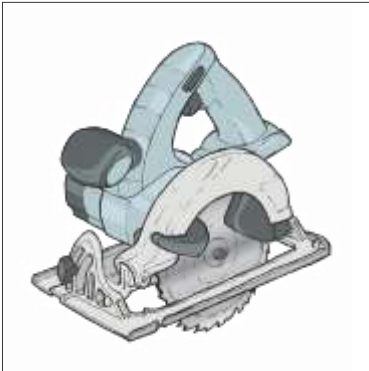


Safety

It is important to observe local legislations concerning safety rules and guidelines during processing and handling of SMARTSHEET Plank. Make sure there is sufficient ventilation and exhaust of dust at the working area.

Cutting and drilling produces dust and necessary precaution must be taken by use of adequate gloves, goggles and mask.

Dust from fibre cement is characterized as mineral dust which may lead to lung deceases



Cutting

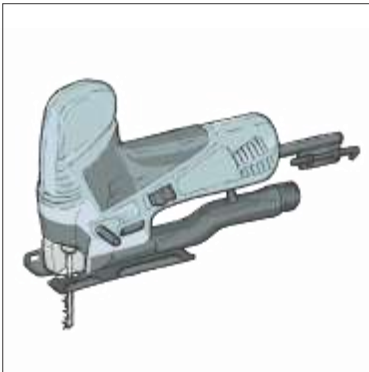
Best with circular saw

Cutting of SMARTSHEET Plank can be made with a jig saw or a circular saw with a diamond tipped sawblade.

The best result is achieved with a circular saw. With a hand held jig saw or circular saw the planks are cut with the backside up. On a sawing table the planks are cut with the front side up. This will secure a clean cut and avoid chipping of the cut edges.

Periphery speed of the cutting blade is 40-50 m/s, and cutting depth should be 10-15 mm.

Cut outs and holes can be made with a jig saw. Holes may also be drilled with a cup drill for masonry.



Drilling

Minor holes are drilled with a drill for masonry or concrete and always from the front side of the plank. Use a piece of plywood as support for the plank in order to avoid chipping of the backside of the drill hole.



Cleaning and maintenance

SMARTSHEET does not require any special treatment to maintain its strength and weather resistance. A regular inspection and light cleaning with a brush and some household detergent diluted in water will keep the planks in good shape. Dust and dirt from the environment has no negative influence on the durability of the planks and may normally be washed off easily.

It is recommended to maintain the surface regularly in order to avoid build-up of algae growth which over time may damage the surface treatment on the planks.

Moss and algae growth can be removed with a water based PH-neutral disinfection agent like Rodalon or similar.

Note! Always rinse with clean water after cleaning the boards

High pressure cleaning

Do not clean the boards using high pressure cleaning. Too high pressure and too short distance between the nozzle and the boards may cause damaging of the surface paint.



Calcium based residues

Occasionally calcium carbonate residues can be found on the surface of fibre cement products. These residues will not damage the material, but for optical reasons it is desirable to have them removed. They are however not water soluble and cannot be removed with water alone. For cleaning purposes 10% acetic acid (CH_3COOH) solution can be used to try to dissolve the calcium compounds. Do not use a higher concentration than 10%. Let the cleaning agent work for a few minutes. Do not allow the solution to dry but rinse with lots of clean water. Do not execute the cleaning process with acetic acid in direct sunlight and on hot surfaces. This might create permanent stains in the surface paint.

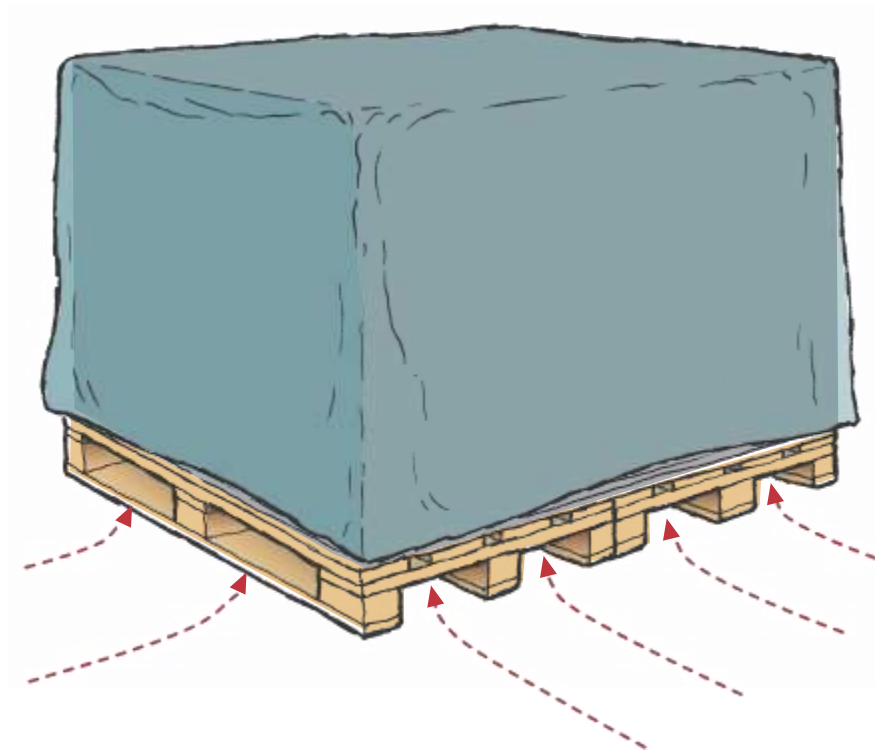
It is important afterwards to neutralize the effect of the acetic acid by rinsing with lots of clean water. Take all necessary precautions by wearing the required safety equipment for working with acetic acid.

Please note that calcium residues on the surface are not subject to claims since they may occur as part of the cement curing.

Surface treatment

It is possible to paint SMARTSHEET Bord with a type of paint developed for cement based substrates. Consult your paint supplier and follow his instructions.

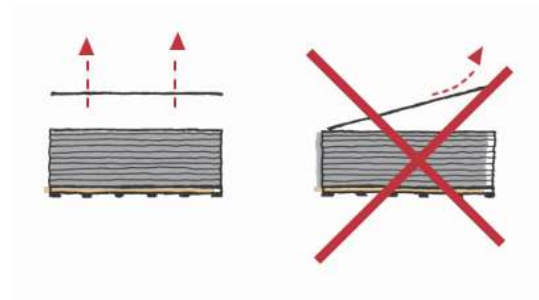
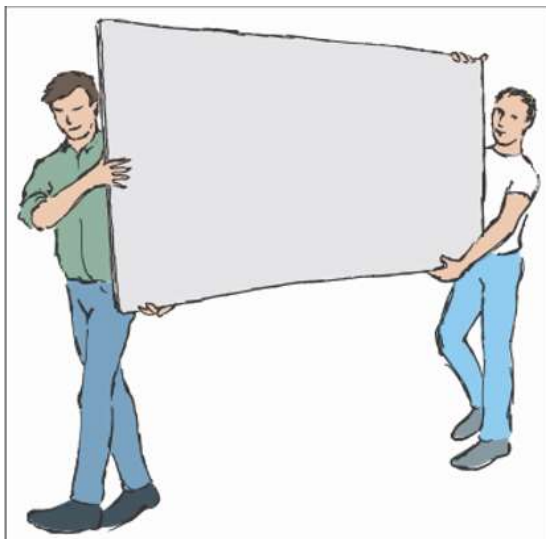
Note! BMC Danmark will not guarantee the result of a surface treatment, thus it is not subject for claims.



Storage

Optimally SMARTSHEET should be stored on the original pallets indoors or under a tarpaulin cover and always in their original packaging until installation takes place. Pallets must be stored on a dry flat and solid substrate.

As an alternative the boards can be placed on joists which are laid out on a flat surface with a max distance of 300 mm. The boards must at any time be covered by a tarpaulin protected from the climate. If moisture penetrates between the boards there is a high risk of development of calcium residue on the board surface (please see section about this phenomenon above).



HANDLING

SMARTSHEET must be lifted vertically from the pallet and not drawn over the surface of the underlying board. This would lead to scratching of the board surface.

Handle the boards individually and always carry them in a vertical position in order to avoid breaking

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