INSTALLATION GUIDE

SHERA NON ASBESTOS

With the living philosophy of working on dreams & innovation SHERA has successfully developed a range of products to suit idealistic living. SHERA's creativity helps you live modern life with the nature in the nature.

SHERA NON ASBESTOS

as far as...your imagination can go

Boundless Envision

Imagination is set free to design with SHERA. No matter whether a new construction or renovation works, SHERA provides fuel for creation. Unique architectural styles with arches and aesthetically rounded structures blend best with SHERA's products.

Spectacular Design

SHERA Collection's distinctive design elegantly dresses-up the building in the latest trend. SHERA Siding Collection ,Ceiling Collection ,Flooring Collection and Roofing Collection are offered in a variety of colors, textures, and profiles. These sidings can also be furnished with most of other decorative materials such as ceramic tiles, color paints, laminates, wall papers etc.

Speedy Fabrication

SHERA's ease of handling, preparation, workability and installation has ensured the speed of fabrication matches with the speed of thinking.

Environmental Friendliness

SHERA products are made from natural and recycled cellulose fibers. The product contains NON ASBESTOS rendering it as environmental friendly & harmless product. SHERA Plank's impeccable wood texture brings us close to nature without disturbing the nature.

Superlative Attribute

SHERA's unique cement based composite material is specially designed for both interior and exterior usage. Its superior performance in terms of high durability, material stability, moisture and fire resistance offers hassle-free quality for lifetime.

content

inspiration 's component

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Bangkorlhaem, Bangkok, 10120, Thailand
Contact Number: (662) 291-2888
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Product Feature

Weather Resistance

SHERA products are manufactured to withstand cyclic weather changes. These products have been tested for durability according to EN 12467 : 2000 and ASTM C 1185 standards & confirm stability in testing cycles of freezing - thawing, heating - raining & soaking - drying. They also pass the test for warm water resistance.

Non-Asbestos

SHERA is environmental friendly product, made from eco-friendly non-forestry plantations and recycled fiber and does not contain asbestos which is harmful for human life.

Immune to Water Damage

SHERA's cement based material renders SHERA with an excellent resistance against water damage. SHERA provides an exceptional product for both interior and exterior applications.

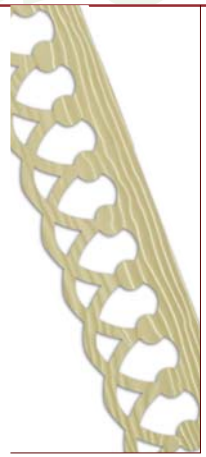
SHERA eave

SHERA eave

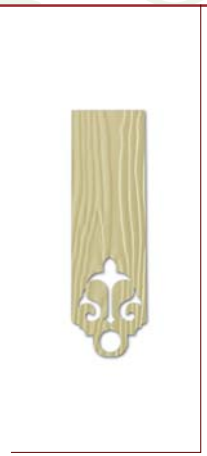
SHERA eave

profile		
Curve	Curve	Square-Cut
surface texture		
Smooth	Cassia	Smooth
size (mm.)		
17 x 150 x 3050 17 x 200 x 3050	17 x 150 x 3050 17 x 200 x 3050	17 x 150 x 3050 17 x 200 x 3050

Product Portfolio



profiles		
Lotus	Dokrak	Tulip
surface texture		
Cassia	Cassia	Cassia
size (mm.)		
8 x 200 x 1000	8 x 200 x 1000	8 x 200 x 1000



profiles			
Classic	Dokjik	Puang Thong	Goldenbell
surface texture			
Cassia	Cassia	Cassia	Cassia
size (mm.)			
8 x 150 x 300 8 x 150 x 500	8 x 150 x 300 8 x 150 x 500	8 x 150 x 300 8 x 150 x 500	8 x 150 x 300 8 x 150 x 500

Product Portfolio

8 x 150 x 400

SHERA underlay board

SHERA shingle

SHERA shingle

SHERA shingle

profiles			
Square-Cut	Curved	Triangle	Hexagon
surface texture			
Unsanded Smooth	Cassia	Cassia	Cassia
size (mm.)			
10 x 1200 x 2400 10 x 1220 x 2440	8 x 150 x 400	8 x 150 x 400	8 x 150 x 400

Accessories

SCREW FIX-B

for fixing SHERA with light gauge steel frame thickness 0.55 – 1.00 mm.

SCREW FIX-W

for fixing SHERA with steel frame, thickness more than 1.00 mm.

finished class	
1	1
length (mm.)	
20 / 30	32 / 40
diameter	
10 G	10 G
package size	
500 pcs./Box	200 pcs./Box

Accessories

SHERA *acrylic coating*

100% pure acrylic emulsion with excellent resistance aginst fungus and alkali

packaeg size
0.946 liter

coverage
35-40 sq.m.US.gallon
(25-30 micron)

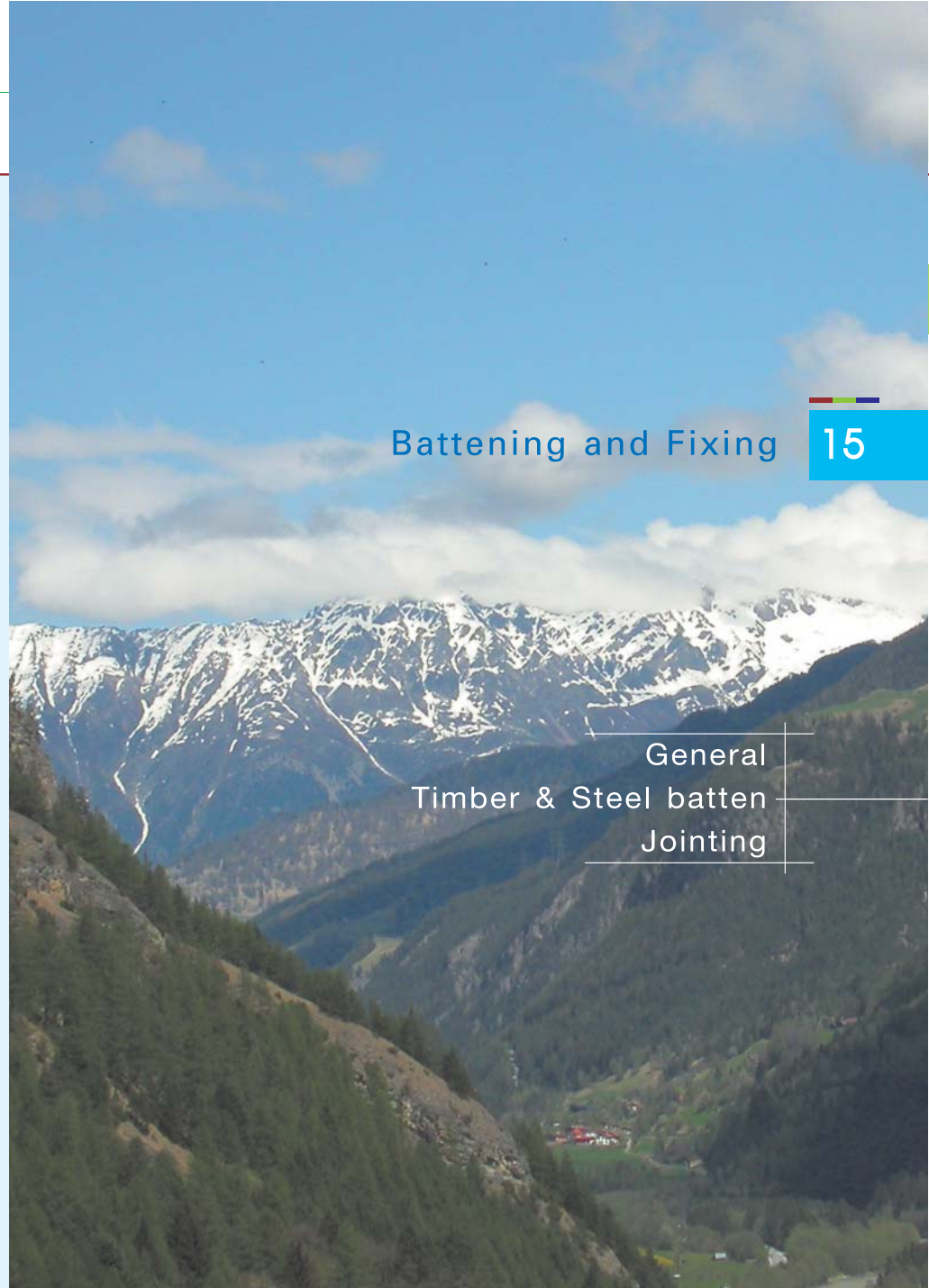
SHERA *sealant PU25*

15" aluminium barrel gun used for applying both cartridge and sausage types of SHERA Sealant PU 25

package size
310 / 600 ml

SHERA *barrel gun*

15" aluminium barrel gun used for applying both cartridge and sausage types of SHERA Sealant PU 25



Battening and Fixing 15

General
Timber & Steel batten
Jointing

general

- SHERA roofing products can be fixed with either steel or timber batten. Battens and fasteners must comply with relevant building regulations and standards in each country, as well as SHERA Roofing Installation mannal.

- When used in severe whether, class 3 or 4 screw or nail should be used to avoid corrosion and damage. Contact your local fasteners manu faturer for more information on these types of fasteners.

timber & steel batten

- Timber for batten must have the level properties and durability in accordance with their desired service life.
- Nail should be used when fixing SHERA roofing with timber batten. Contact your local nail supplier for more information.
- Nails should not be over or under driven as it will reduce holding strength of the sheet. See figure 1 for recommended application.

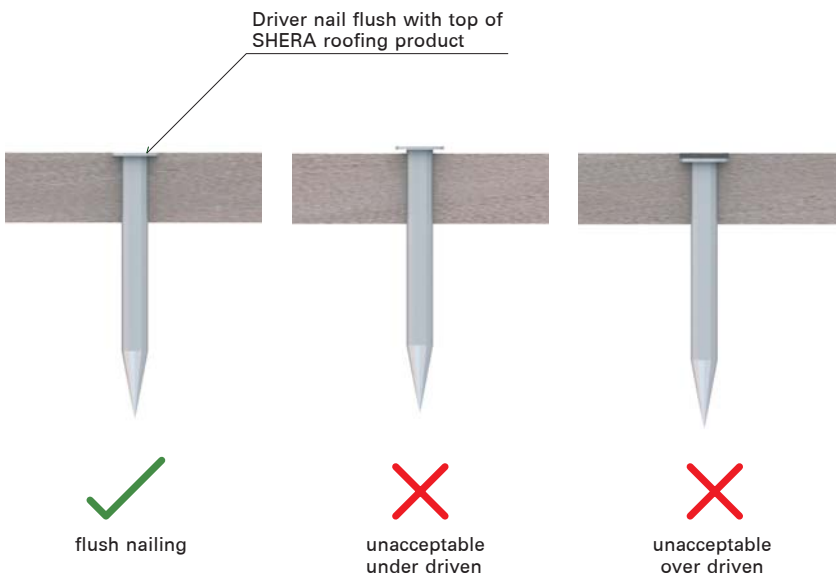


Figure 1 : Nail Fastener

- SHERA Fix-B or Fix-W Screw should be used when fixing SHERA roofing with steel batten.
- Screw should not be over or under driven as it will reduce holding strength of the sheet. See figure 2 for recommended application.

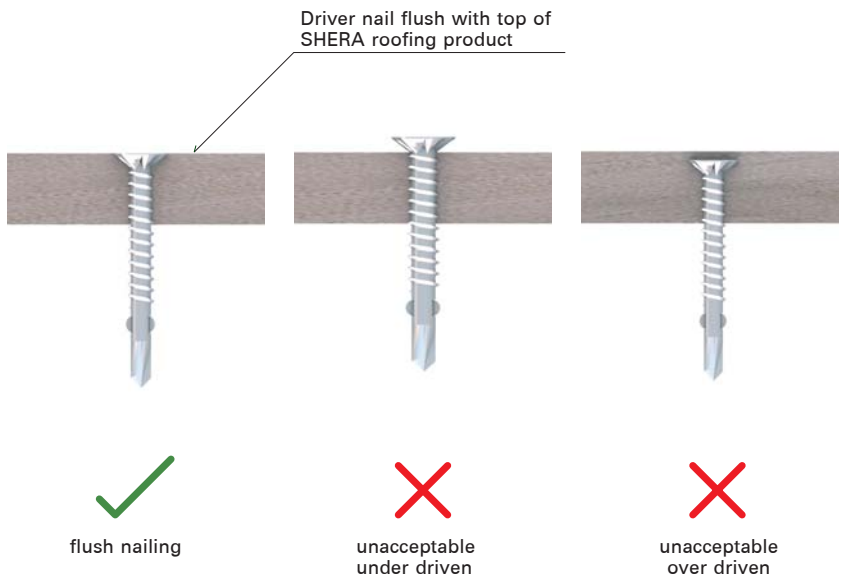


Figure 2 : Screw Fastener

timber & steel frame

- Minim um stud width at sheet joint is 38 mm.

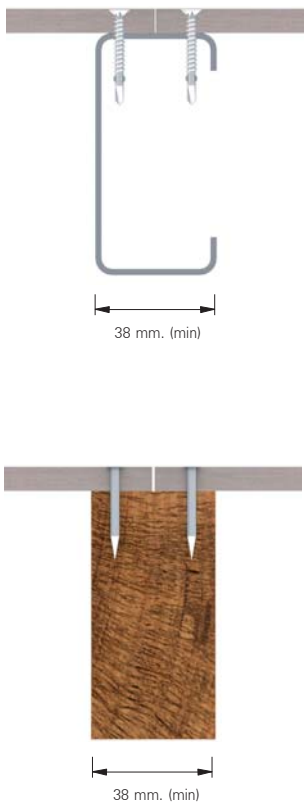


Figure 3 : Screw Fastening

- When width of stud at the joint is less than minimum requirement (38 mm.), additional stud or steel angle must be attached to ensure that the sheets are adequately supported. See figure 4 and 5 for correct joint details.

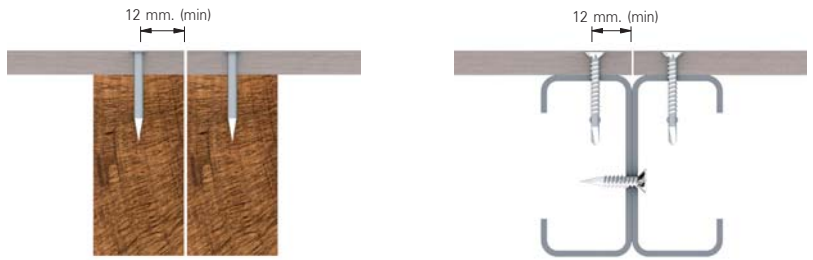


Figure 4 : Jointing with two studs

Figure 5 : Jointing with stud and angle

jointing

- Butt Joint

  butt joint can be used in dry siding area and where an exposed joint appearance is acceptable.

Figure 6 : Butt Joint

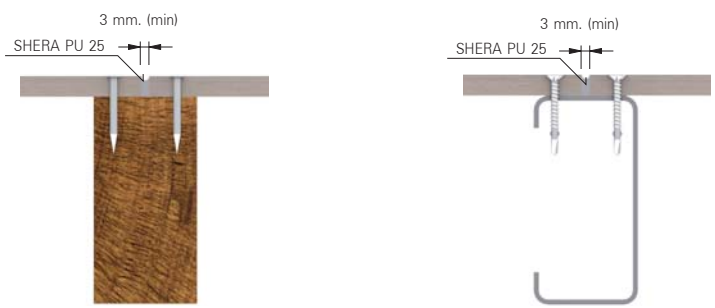


Figure 7 : Polyurethane Joint

- Before putting sealant into the gap between the sheets, cover the edge of board or plank with easily removable masking tape. Fill the gap with sealant in an upward motion until it was completed full. Immediately remove the masking tape after complete sealant application. Refer to figure 8 for application method.

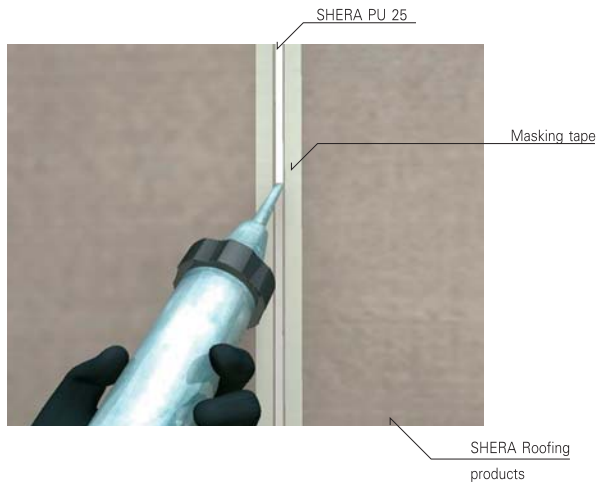


Figure 8 : Polyurethane Sealant Application

Battening

Product Feature

Sound Insulation

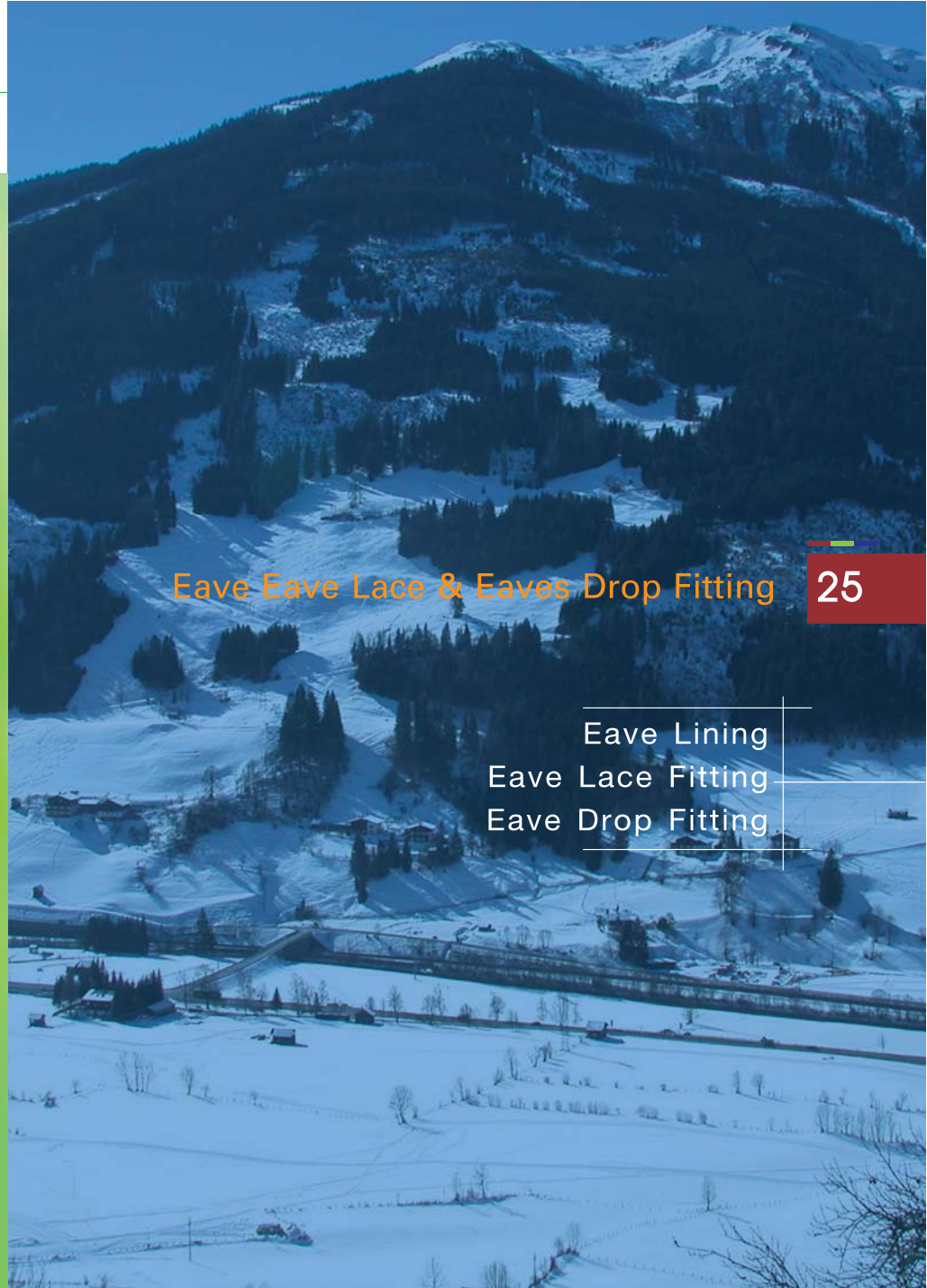
SHERA board has been tested for sound insulation properties according to ASTM E90-99 standard. Optimum STC value obtained by SHERA ensures the satisfactory level of sound prevention in SHERA Board cladded wall & ceiling systems.

Termite Resistance

SHERA products are unaffected by termites and insects.

Low Shrinkage

SHERA's Autoclave's Technology has enhanced product's dimensional stability. This property makes SHERA products suitable for a wide range of applications including exteriors , underlayment , and etc.



Eave Eave Lace & Eaves Drop Fitting

Eave Lining
Eave Lace Fitting
Eave Drop Fitting

eave lining

- General

  SHERA eave should be fixed with timber rafter or timber batten attached to end of steel rafter using 2 inches nail. Please refer to page ??? for recommended fastener application, and page ??? for special installation details and work instruction.

- Fixing

  SHERA eave should be fixed with batten at every end of rafter. 2 inches nail should be used and fitted at the center of batten. Maximum allowable spacing of batten for eave lining is 1 meter. For best result, please ensure that end of sheets and sheet's joint is located on the batten. Refer to figure 9 and 10 for installation details.

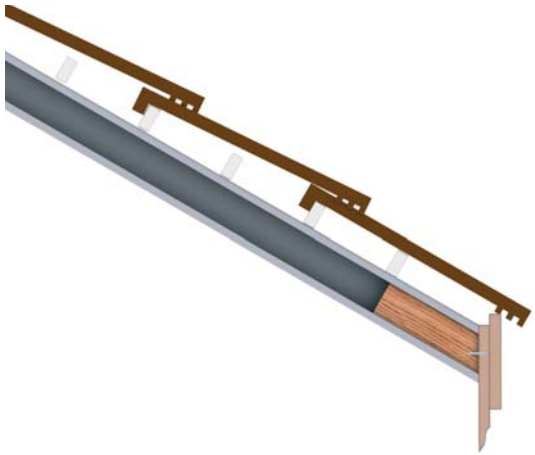


Figure 9 : Eave Lining (1)

eave lining

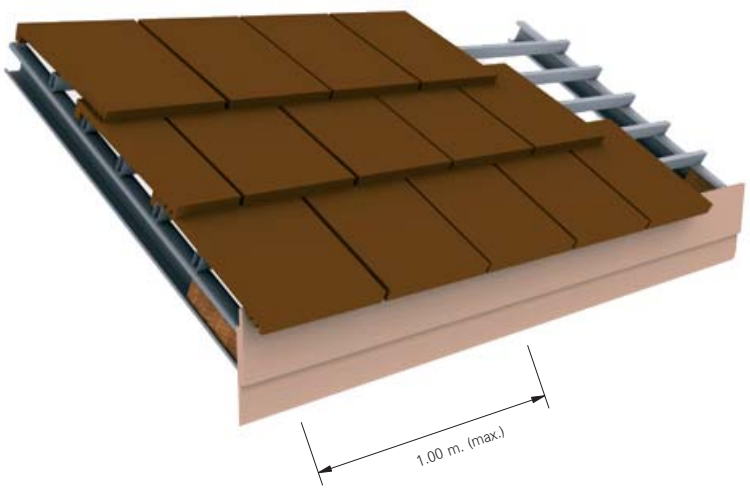


Figure 10 : Eave Lining (2)

eave lace fitting

- General

  SHERA eave lace should be fixed on timber or fiber-cement fascia as shown in the figure 11. Please refer to page ??? for recommended fastener application, and page ??? for special installation details and work instruction

- Fixing

  SHERA eave lace should be fixed to fascia with 1 inch nails. Nail should be located at more than 12 mm. form sheet edge and 50 mm. from sheet end. Maximum allowable spacing for fastener is 500 mm.

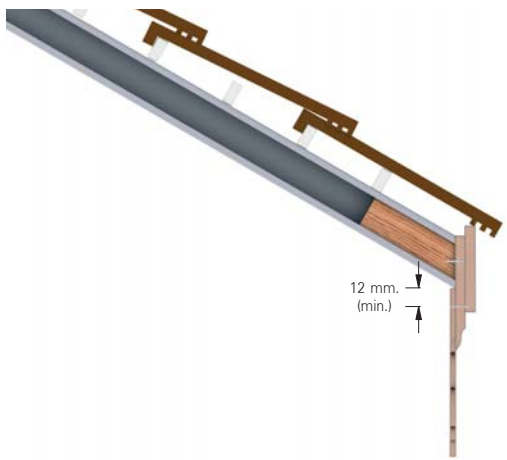


Figure 11 : Eave lace fitting (1)

eave lace lining

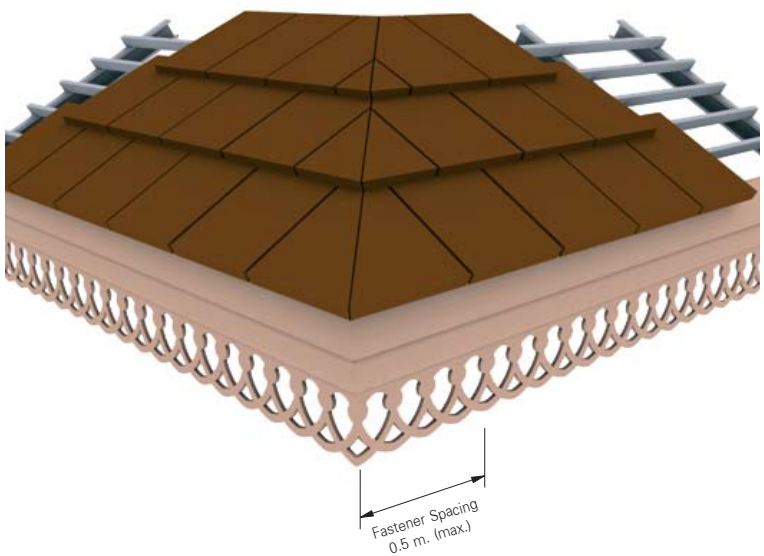


Figure 12 : Eave lace fitting (2)

eave drop fitting

- General

  SHERA eave drop should be fixed on timber or fiber-cement fascia as shown in the figure 11. Please refer to page ??? for recommended fastener application, and page ??? for special installation details and work instruction.

- Fixing

  SHERA eave drop should be fixed to fascia with 1 ince nail. Nail should be located at the horizontal center of sheet and should be located at more than 12 mm. from sheet edge.

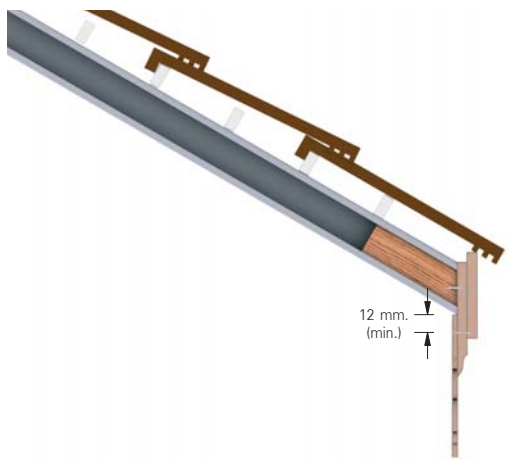


Figure 13 : Eave drop fitting (1)

eave drop fitting

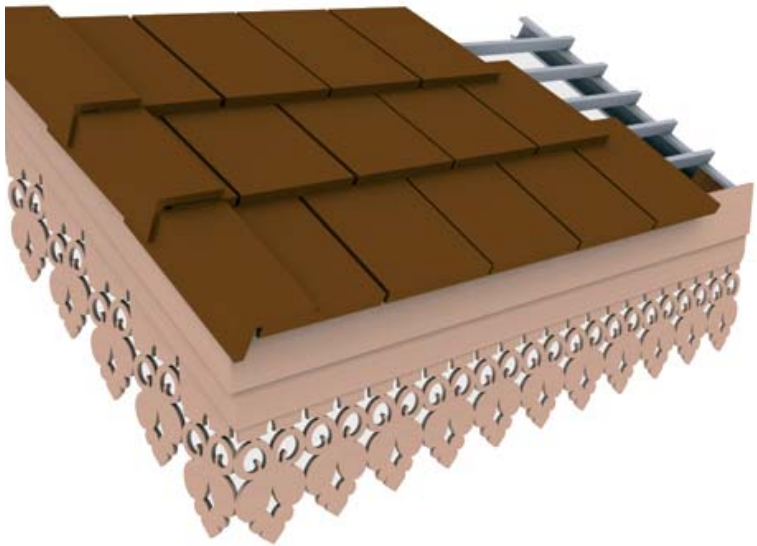


Figure 14 : Eave drop fitting (2)

Underlay Board Fitting
Shingle Fitting

underlay board fitting

- General

  SHERA underlay board should be fixed on timber purlin using nail and steel purlin using screw with thread length more than 15 mm. Please refer to page ??? for recommended fastener application, and page ??? for special installation details and work instruction.

- Board Layout

  Underlay board should be laid on the purlin in staggered pattern as shown in figure 15. To ensure water leakage prevention, joint of underlay board should be sealed by proper sealant for external propose such as SHERA PU 25, polyurethane sealant. Please refer to page ??? for recommended jointing application.

- Fitting

  Fasteners must be located at more than 12 mm. form board edge and 50 mm. form board corners. Fastener spacing must not be exceed 300 mm. Please see figure 15 for details

- Load Bearing

  Uniform load bearing capacity of underlay board installed at 600 mm. batten spacing is 95 kg/m^2

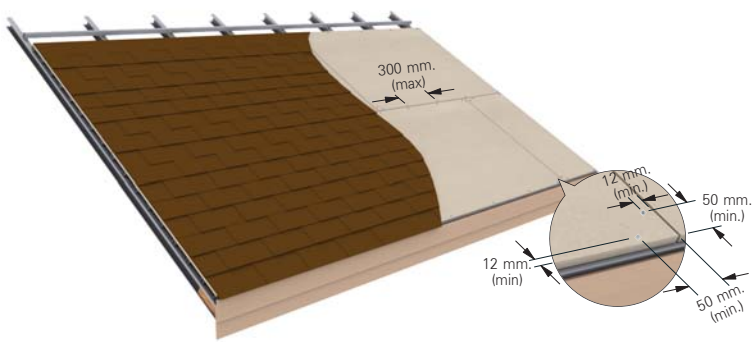


Figure 15 : Underlay Board Fitting

- General

  SHERA Shingle should be fixed on steel / timber purlin or underlay board. When shingle is to be fixed directly on purlin, screws or nail with thread length more than 20 mm. should be used. When shingle is to be fixed on underlay board, nails which have length at least $1^{1}/_{4}$ inch should be used. Please refer to page ??? for recommended fastener application, and page ??? for work instruction

- Layout

  SHERA Shingle should be fitted on the roof purlin or underlay board in staggered pattern as shown in figure 16. When purlin is to be used as batten, they must be installed at 150 mm. spacing. When underlay board is to be used as batten, spacing between each row of shingle installed should be 150 mm.

- Fitting

  Shingle should be fixed to purlin or underlay board with two fasteners per sheet. They should be located at more than 12 mm. form shingle edge. Please refer to figure 17 for details.

shingle fitting

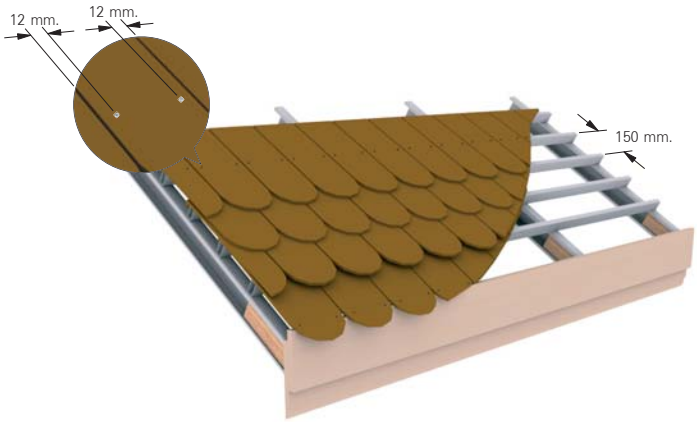


Figure 16 : Shingle Fitting (1)

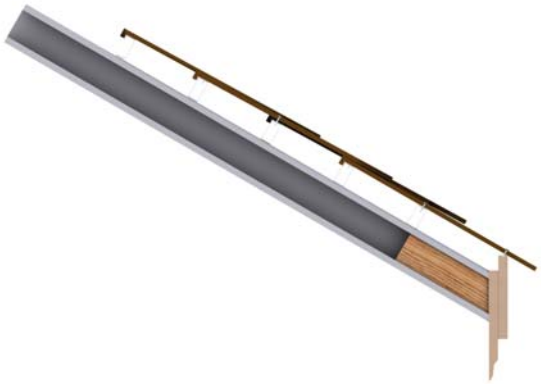


Figure 17 : Shingle Fitting (2)

special installation details

- Moisture Management

  All SHERA Roofing products must be primed with a color coat on both surfaces before installing the products in place. For high wind load or high moisture area, appropriate moisture management for SHERA Shingle should be applied. Roofing felts complied with BS 747 standard specification is recommended. Please contact your local manufacturer of felts or other water proof underlayment for more information.

- Surface Finishing

  SHERA roofing collection can only be furnished with 100% acrylic water based paint to ensure the maximum durability of color. Please contact your finishing material manufacturers for more details about application recommendation.

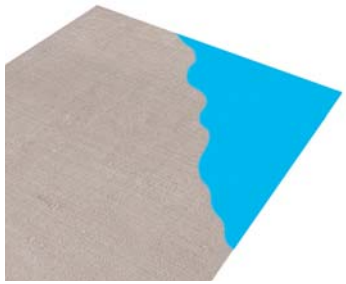


Figure 18 : Surface Finishing

Product Feature

Sound Insulation

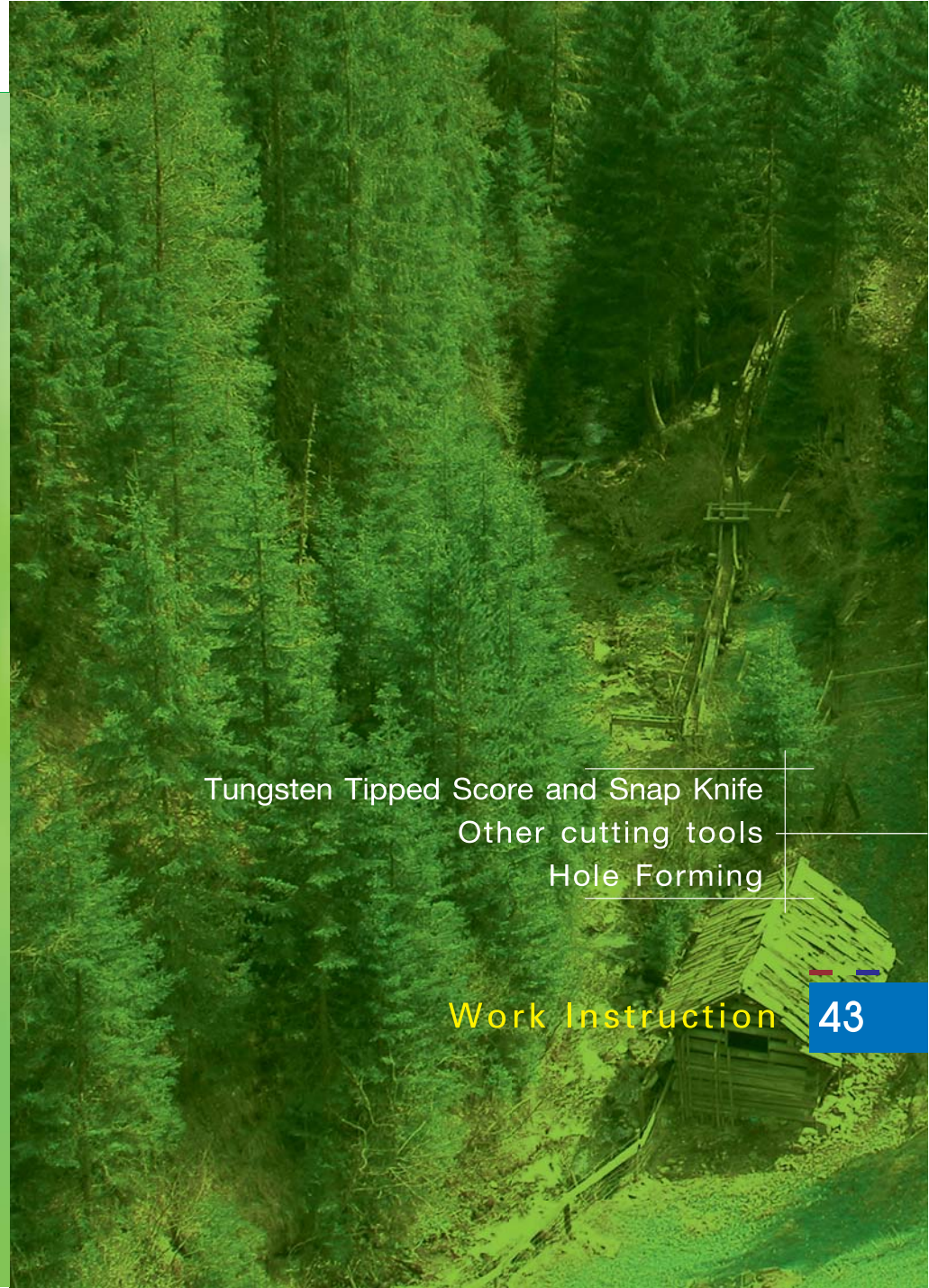
SHERA board has been tested for sound insulation properties according to ASTM E90-99 standard. Optimum STC value obtained by SHERA ensures the satisfactory level of sound prevention in SHERA Board cladded wall & ceiling systems.

Termite Resistance

SHERA products are unaffected by termites and insects.

Low Shrinkage

SHERA's Autoclave's Technology has enhanced product's dimensional stability. This property makes SHERA products suitable for a wide range of applications including exteriors , underlayment , and etc.



Tungsten Tipped Score and Snap Knife
Other cutting tools
Hole Forming

Work Instruction

tungsten tipped score and snap knife

- General

  SHERA sheets can be easily cut and prepare on site by using proper tools and methods.

- Tungsten Tipped Score and Snap Knife

  Score surface of sheet against straight edge for approximately 4 – 5 times to obtain the depth around 1/3 of sheet thickness. Support the scored edge with straight edge and snap the sheet upward to break.

Figure 19 : Score and Snap Cut

other cutting tools

Hand Saw

Figure 20 : Hand Saw

Hand Guillotine

Figure 21 : Hand Guillotine

Power Saw

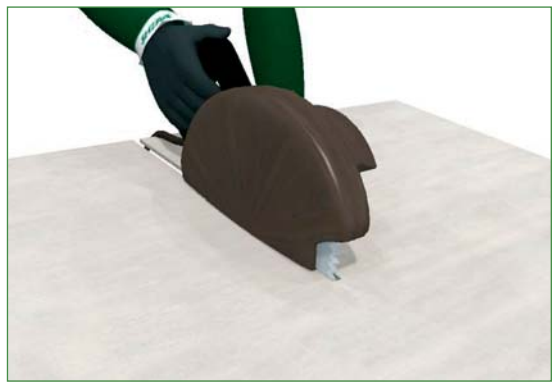


Figure 22 : Power Saw

Fiber Cut

Figure 23 : Fiber Cut

hole forming

- Pre-drill series of small hole around the perimeter of the hole, then using the hammer to tap out the circle piece from the sheet

- For a large hole opening, open small hole around the center and then saw-cut from that hole towards corners of the opening. Score and snap away the rest of desired opening area.

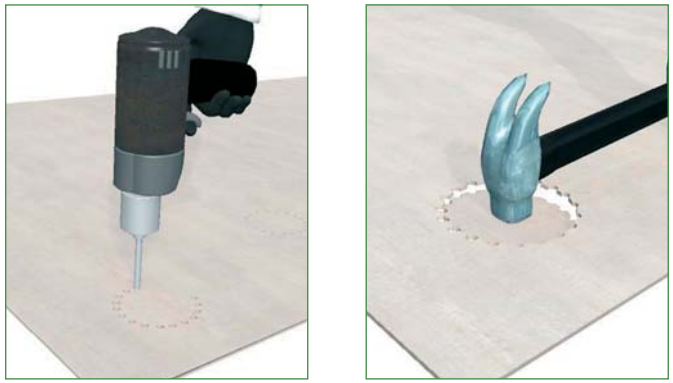


Figure 24 : Small Hole Forming

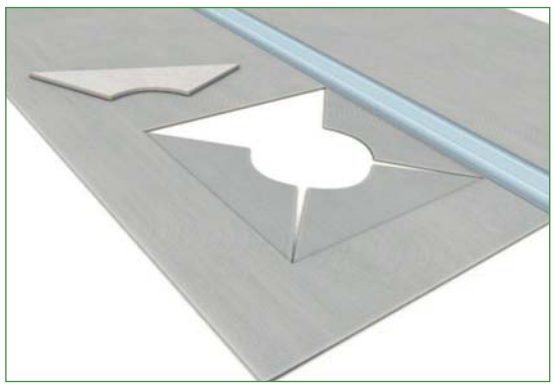


Figure 25 : Large Hole Forming

Handling and Storage
Technical Data Sheet

handling and storage

- SHERA production should be handled at both ends, at around 50 cm. from the ends. They should always be lifted by letting the width of products perpendicular to the floor.

Figure 26 : board Handling

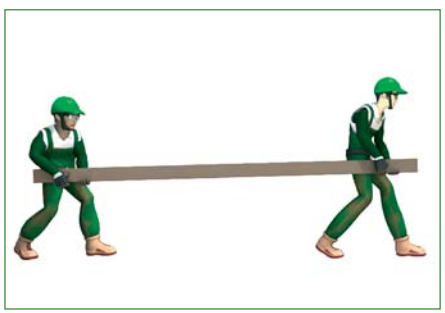


Figure 27 : Plank Handling

- SHERA should be handled and stacked carefully to avoid damages to the edges and corners. The maximum height of stack should not be higher than 1 meter and it should be supported by timber bearers at 50 cm. spacing.
- SHERA Roofing should be stacked on dry and leveled ground. It is always recommended to store SHERA under cover in order to ensure that thay will be in equilibrium moisture content condition prior to fixing and finishing. Installing SHERA when they are in wet or saturated condition may result in shrinkage or crack at joint or fitting.

Figure 28 : Board Storage

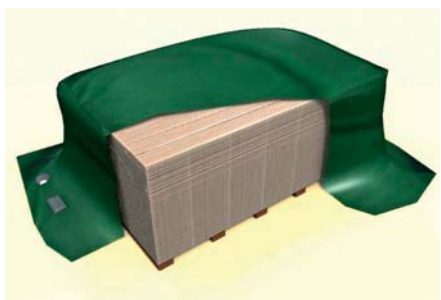


Figure 29 : Eave Storage

Table 4

Technical Data Sheet

	Standard	Unit	SHERA Eave	SHERA Eave Lace	SHERA Eave Drop	SHERA Shingle	SHERA Underlay Board
Physical Information							
Thickness Tolerance		mm.	± 0.8	± 0.5	± 0.5	± 0.5	± 0.5
Density	ASTM C 1185	kg. / m.^{3}	1300 ± 50	1300 ± 50	1300 ± 50	1300 ± 50	1250 ± 50
MOR	ASTM C 1185	MPa	> 10.00 (EMC)	> 19.77 (EMC)	> 19.77 (EMC)	> 19.77 (EMC)	> 10.00 (EMC)
MOE	ASTM C 1185	MPa	±	7100 ± 500 (EMC)	7100 ± 500 (EMC)	7100 ± 500 (EMC)	6500 ± 500 (EMC)
Water Absorbtion	ASTM C 1185	%	≤ 32 %	≤35 %	≤35 %	≤35 %	≤35 %
Moisture Content	ASTM C 1185	%	≤ 12 %	≤12 %	≤12 %	≤12 %	≤12 %
Water Tightness	ASTM C 1185		Pass	Pass	Pass	Pass	Pass
PH Value			13	7 - 8	7 - 8	7 - 8	7 - 8
Thermal Conductivity	ASTM C 177	W/m.^{o}k					
Acoustic Insulation	ASTM E 80	dB					
		dB					
Fire Resistance Properties							
Ignitibility	BS 476 Part 5		P	P	P	P	P
Fire Propagation Index	BS 476 Part 6		I = 0	I = 0	I = 0	I = 0	I = 0
Surface Spread of Flame	BS 476 Part 7		Class 1	Class 1	Class 1	Class 1	Class 1
Durability Properties							
Freeze / Thaw Resistance	ASTM C 1185		Pass	Pass	Pass	Pass	Pass
Warm Water Resistance	ASTM C 1185		Pass	Pass	Pass	Pass	Pass
Heat / Rain Resistance	ASTM C 1185		Pass	Pass	Pass	Pass	Pass
Soak / Dry Resistance	ISO : 8336 Part (E)		Pass	Pass	Pass	Pass	Pass

SHERA

Green Spirit

Green Fiber-Cement Product & Technology for Green Living

Our R&D team's dedicated work on the quest of New GREEN Products from GREEN Technology for GREEN Living has resulted into unprecedented & fabulous range of environmental friendly products. We, MAHAPHANT Group, are proud to present SHERA as a demonstration of human respect for nature.

SHERA Product Collection, articulated from green concept, is offered from insightful understanding about our consumer requirement.

SHERA offers the best substitution to natural wood with a contemporary range of green products suitable for all modern & classical constructions.

SHERA's embedded beauty with added resistance against fire, termite, and moisture makes it an apt material for various applications in flooring, siding, ceiling and roofing.

Green Products

- Non asbestos products.
- Waterbased (Oil-free) color.
- Use recycled fibres as raw material.
- Farm shrubs (non-forest) used as raw material

Green Living

- Reduce waste from construction.
- Promote clean & speedy construction.
- Energy saving residence.
- Non-toxic material.
- Substitute to wood- saves nature.

Green Technology

- Reduce production energy consumption.
- Reduce production waste.
- Use recycled energy in production.

SHERA NON ASBESTOS

www.mahaphant.com

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