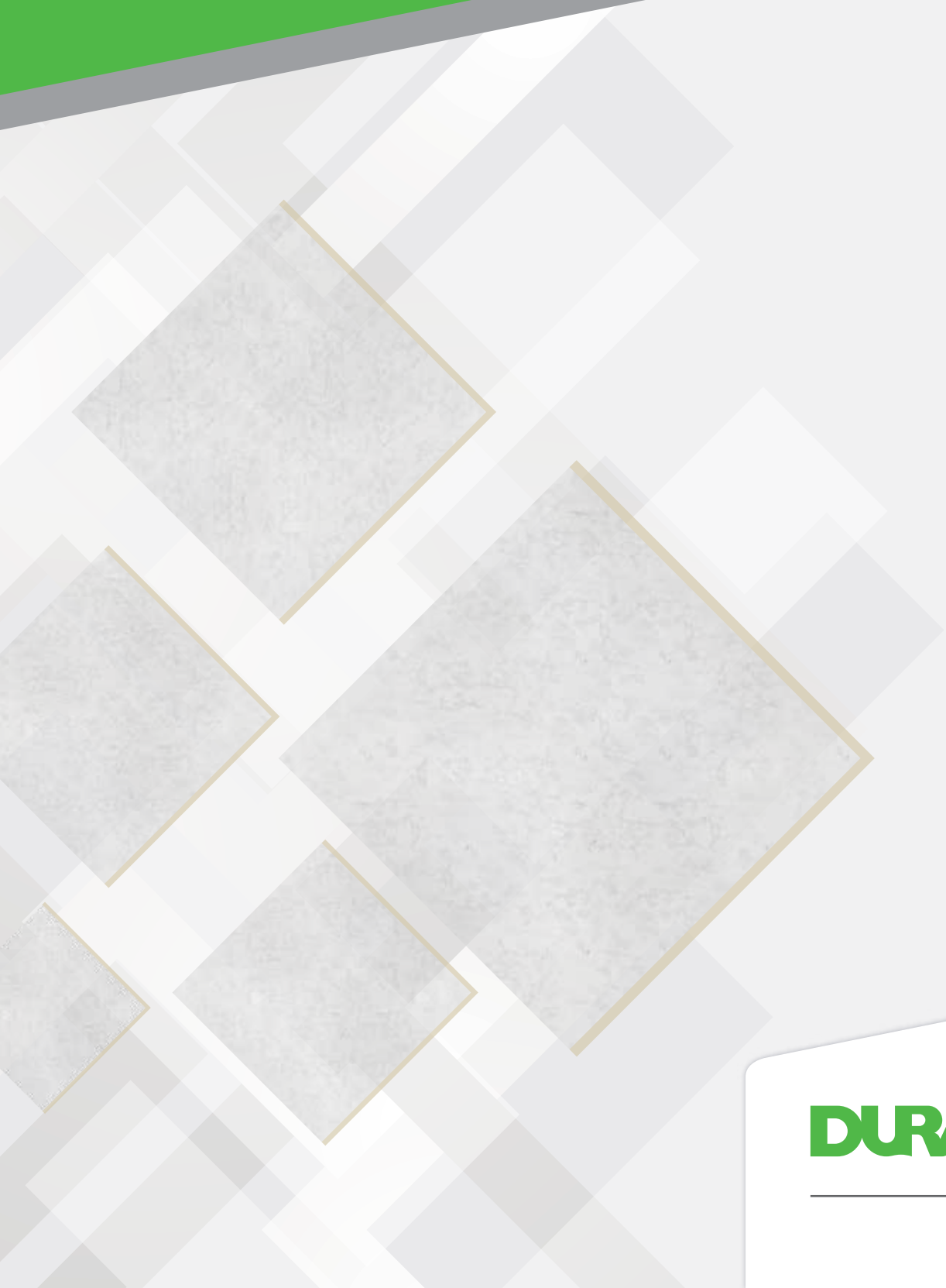


DURAflex[®] Fiber Cement Board

Technical Data Sheet



DURAflex
SAINT-GOBAIN

CONTENTS

	Page
CHAPTER 1 : INTRODUCTION	4
CHAPTER 2 : PRODUCT STANDARDS	7
CHAPTER 3 : BOARD PERFORMANCE	7
CHAPTER 4 : INSTALLATION	8
PRODUCT IDENTITY	9

INTRODUCTION OF **SAINT-GOBAIN GROUP**

Industrial presence in **67 countries**

170.000
employees

2018 **Net sales**

€41.774M

SAINT-GOBAIN VIETNAM FGM

Belonging to Saint-Gobain Group, Saint-Gobain Vietnam is the market leader in Viet Nam offering a wide range of products and services for construction material business.

Our key brands include: **VINH TUONG®**, **VINH TUONG-Gyproc** providing innovative drywall and ceiling solutions.

DURAFlex® fiber cement board offering good solution for wet areas.

We also have **Weber** brand to provide solution for tile adhesives, sealants and waterproofing products.

Our mission is to develop innovative products and services that help customers build better spaces to live, work and play.

Sustainable quality products of Saint-Gobain.

- Wide range of products and solutions.
- Large supply capacity with 2 metal plants, 2 gypsum plants, 1 fiber cement plant, capacity is over 30 million m²/year/1 factory.
- An extensive sales system with more than 1.500 distributors and shops nationwide.
- Warranty & technical support.

CHAPTER 1: INTRODUCTION

DURAflex®/DURAflex®2X

Characteristic

DURAflex®/DURAflex®2X - fiber cement board is a green material, 100% non-asbestos, made out of Portland cement, quicklime, sand, cellulose fibers, and additives. **DURAflex®/DURAflex®2X** are formed with high pressure and accelerated cure to establish unique characteristics such as superior durability, rigidity and moisture resistant.

Main application

DURAflex®/DURAflex®2X is used as partition, concealed & T-bar ceiling, internal cladding and floor. Due to its beautiful appearance, **DURAflex®/DURAflex®2X** is a beneficial option for interior designers and contractors. **DURAflex®/DURAflex®2X** is durable and moisture tolerance, so it is perfect to use as a base of wet and severe duty areas.

Board color

■ Light grey color or custom-made.

Board printing

Reverse: Product name, standard, size, date of manufacture, lot number (for board with thickness ≤ 10mm).

Note: the board with size of 3.5 x 605 x 1210mm does not include the size on board.

Edge: Product name, standard, size, date of manufacture, lot number (for board with thickness ≥ 12mm).

Board range

Thickness (mm)	Width x Length (mm x mm)	Edge type	Surface Density (Kg/m ²)	Weight per board (Kg)
3.5	605 x 1210	SE	5.50	4.01
4	1220 x 2440	SE	6.00	17.86
4.5	1220 x 2440	SE	6.70	19.87
6.0	1220 x 2440	SE RE	9.10	27.03
8.0	1220 x 2440	SE RE	12.20	36.60
9.0	1220 x 2440	SE RE	13.90	41.28
10.0	1220 x 2440	SE RE	15.30	45.58
12.0	1220 x 2440	SE	18.50	55.05
14.0	1000 x 2000	SE	21.00	42.05
15.0	1000 x 2000	SE	22.40	44.73
15.0	1220 x 2440	SE	23.20	69.13
16.0	1220 x 2440	SE	25.40	75.52
18.0	1220 x 2440	SE	27.90	83.01
20.0	1220 x 2440	SE	30.70	91.42
22.0	1220 x 2440	SE	34.20	101.66
24.0	1220 x 2440	SE	37.30	110.89
25.0	1220 x 2440	SE	38.80	115.51
Others thickness	Custom-made	Custom-made	-	-

RE = Recessed Edge; SE = Square Edge

Note: All weights are approximate.

DURAwOOD®

Characteristic

DURAwOOD® - is a wood substitute material using modern technology in order to create wood textures as real and beautiful as real wood but more durable, and specialized in outdoor areas under severe weather conditions. The product quality is strictly controlled by the European Group - Saint-Gobain.

Main application

DURAwOOD® has color and texture like natural wood, but it can withstand high humidity, no shrinkage, anti-termite, so **DURAwOOD®** suits both interior and exterior applications such as ceiling, wall, floor, garden, skirting, stairs...

Board pattern

DURAwOOD® patterns facsimile the famous wood pattern such as Pine, Oak to create the same appearance with the wood planks, but more durable, and flexible in varying application such as floor or cladding.

Board range

Thickness (mm)	Width x Length (mm x mm)	Edge type	Surface Density (Kg/m ²)	Weight per board (Kg)
4	605 x 1210	SE	6.00	4.39
6	100 x 2440	SE RE	9.10	2.22
	150 x 2440	SE RE	9.10	3.32
	200 x 2440	SE RE	9.10	4.43
8	75 x 2440	SE RE	12.30	2.25
	100 x 2440	SE RE	12.30	3.00
	150 x 2440	SE RE	12.30	4.50
	200 x 2440	SE RE	12.30	6.00
10	75 x 2440	SE RE	15.30	2.80
	100 x 2440	SE RE	15.30	3.74
	200 x 2440	SE RE	15.30	7.47
12	75 x 2440	SE RE	18.50	3.39
	100 x 2440	SE RE	18.50	4.51
	200 x 2440	SE RE	18.50	9.03
16	75 x 2440	SE RE	25.40	4.64
	100 x 2440	SE RE	25.40	6.19
	200 x 2440	SE RE	25.40	12.38
18	100 x 2440	SE RE	27.90	6.81
	200 x 2440	SE RE	27.90	13.61
20	100 x 2440	SE RE	30.70	7.50
	200 x 2440	SE RE	30.70	14.99
Others thickness	Custom-made	Custom-made	-	-

RE = Recessed Edge; SE = Square Edge

Note: All weights are approximate.

DURAFlex® FIBER CEMENT BOARD

TECHNICAL DATA SHEET



VINH TUONG deco®/deco®Plus CEILING TILE

Characteristics

VINH TUONG deco®/deco®Plus - is a ceiling tile which background is DURAFlex® 3.5mm. Inherited from DURAFlex® characteristics, **VINH TUONG deco®/deco®Plus** is durable, strong, and anti-sagging. Moreover, **VINH TUONG deco®/deco®Plus** is designed with varying patterns and colors to create the numerous options for end-users and designers. The pattern is suitable for modern houses.

Main application

VINH TUONG deco®/deco®Plus - is mostly used in T-Bar ceiling.

Board pattern

VINH TUONG deco®/deco®Plus ceiling tile is based on DURAFlex® with thickness of 3.5mm, and decorative faces are painted pattern, laminated, or serigraph painted with a huge range of pattern.

Board printing

Reverse: Product name, date of manufacture, lot number

Board range

Thickness (mm)	Width x Length (mm)	Edge type	Surface Density (Kg/m ²)	Weight per board (Kg)
3.5	605x605	SE	5.50	1.98
	610x610	SE	5.50	2.05
	605x1210	SE	5.50	4.026

SE = Square Edge

Note: All weights are approximate.

DURAFlex® Firestop

Characteristics

DURAFlex® Firestop - is a carefully engineered fiber cement board, consists of cement, fiber, perlite, aluminum powder, mica and vermiculite, which helps to enhance the fire resistant performance of system constructed while retaining its durability and dimensional stability features throughout the working life span of material.

Main application

DURAFlex® Firestop board is suitably used in many protection applications i.e. partition, concealed ceiling, ductwork, M&E enclosures etc. **DURAFlex® Firestop** board is beneficial option for interior designer and contractor, especially in the area where requires the high performance of fire rating system.

Board color

■ Light grey color.

Board printing

Reverse: Product name, standard, size, date of manufacture, lot number (for board with thickness ≤10mm).

Edge: Product name, standard, size, date of manufacture, lot number (for board with thickness ≥ 12mm).

Board range

Thickness (mm)	Width x Length (mm)	Edge type	Surface Density (Kg/m ²)	Weight per board (Kg)
8	1220 x 2440	SE RE	8.90	26.50
10	1220 x 2440	SE RE	11.10	33.00
12	1220 x 2440	SE RE	13.40	40.00
Others thickness	Custom-made	Custom-made	-	-

RE = Recessed Edge; SE = Square Edge

Note: All weights are approximate.

CHAPTER 2: PRODUCT STANDARDS

DURAflex®/DURAflex®2X/DURAwOOD®/VINH TUONG deco®/deco®Plus:

ASTM C1186 - Standard specification for flat fiber cement sheets. Type B- Grade II
TCVN 8258:2009 – Fiber Cement flat sheets – Specification. Type Internal Use-Grade 2

DURAflex®Firestop:

ASTM C1186 - Standard specification for flat fiber cement sheets. Type B- Grade I
TCVN 8258:2009 – Fiber Cement flat sheets – Specification. Type Internal Use-Grade 1

CHAPTER 3: BOARD PERFORMANCE

DURAflex®/DURAflex®2X/DURAwOOD®/ VINH TUONG deco®/deco®Plus

DURAflex®Firestop

Characteristic	Performance	Characteristic	Performance
Flexural Strength	≥10 Mpa	Flexural Strength	≥4 Mpa
Moisture Movement	≤0.07%	Moisture Movement	≤0.05%
Water absorption	≤40%	Water absorption	≤60%
Moisture content	≤15%	Moisture content	≤15%

Thermal conductivity (λ)

DURAflex®/DURAflex®2X/VINH TUONG deco®/deco®Plus/DURAwOOD® board: $\lambda = 0.0163\text{W/m.K}$

DURAflex®Firestop: $\lambda = 0.163\text{W/m.K}$

Reaction to fire test performance

Standard	Classification
Reaction to fire following QCVN 06	Non-combustible (tested according to ISO 1182)

ASTM C1325 test report

Characteristic	Test method	MCL (1)	Test result
7.1 Dimension			
· Length	mm	ASTM C473 - 19	Ldn ± 3 2441
· Width	mm	ASTM C473 - 19	Wdn ± 3 1220
· Thickness	mm	ASTM C473 - 19	- 8,9
· Edge Straightness of length	mm/m	"ASTM C1185-08 (2016)"	≤ 2,6 0,33
· Edge Straightness of width	mm/m	"ASTM C1185-08 (2016)"	≤ 2,6 0,25
· Squareness	mm/m	ASTM C473 - 19	≤ 2,6 0,55
7.2 Density	g/cm ³	"ASTM C1185-08 (2016)"	- 1,33
7.3 Flexural ultimate strength	MPa	"ASTM C947 - 03 (2016)"	≥ 5,17 13,8
· In equilibrium condition			8,9
· In wet condition			
7.4 Modulus of Elasticity	GPa	"ASTM C947 - 03 (2016)"	- 7,70
· In equilibrium condition			5,53
· In wet condition			

Emission rate

Clause	Test Parameter	Test Method	Unit	Result	SGBC Criteria	Justification
A5	Avoidance of Hazardous Substances:					
1	Cadmium (Cd)	IEC 62321-5	mg/kg	Not detected	<100	Pass
2	Lead (Pb)		mg/kg	Not detected	<1000	Pass
3	Mercury (Hg)	IEC 62321-4	mg/kg	Not detected	<1000	Pass
4	Hexavalent Chromium (Cr 6+)	IEC 62321-7-2	mg/kg	Not detected	<1000	Pass
B1	Emission Analysis (after 7 days)					
1	TVOC Emission	ISO 16000-9	mg/m ³	0.03	<0.1	Pass
2	Fomaldehyde Emission		mg/m ³	Not detected	<0.01	Pass

CHAPTER 4: INSTALLATION

General

It is important to observe appropriate health and safety legislation when working on site i.e. personal protective clothing and equipment, etc. The following notes are intended as general guidance only. In practice, consideration must be given to design criteria requiring specific project solutions.

DURAflex®/DURAflex®2X/DURAwOOD®/DURAflex®Firestop/VINH TUONG deco®/deco®Plus board should be stored on a firm, flat and level surface. If the boards are temporarily stored outside, they should be kept clear of the ground and securely covered with an anchored polythene sheet or tarpaulin to protect from dampness and inclement weather.

Handling

The boards should always be handled by two people and be carried on their edge. When lifting a board, the long edge should be kept in contact with the stack. The boards shall not be lifted while its flat face is parallel with the ground. Consider board weight while handling, and recommend to work in pair.

Cutting

For the board with thickness under 10mm, it is easy to cut using the fiber cement scoring knife and snapping the board over a straight edge. It is recommended to use the right knife in the installation book.

For those board with higher thickness, it is not easy to score and snap with a fiber cement scoring knife. Best practice is to use a hand held circular saw with suitable dust extraction or a snapper shear tool. Always use a suitable dust collection system. Always follow the manufacturer's guidance when using electrical tools.

For complex details (i.e. doors and socket details), it is recommended to use a jigsaw.

Fixing

DURAflex®/DURAflex®2X/DURAwOOD®/DURAflex®Firestop board should be placed on the appropriate **VINH TUONG®** metal framing structure with the printed face pointing inward, then secure to the metal framing with **DURAVIS®** screw at minimum 12mm distance from the edges and ends of the board. For partition and wall applications, insert screws at maximum 300mm centres at all frame positions. For wall/partition and ceiling with fiber cement board, it is recommended to arrange a visible joint with gap 4-5mm width at every 4m length or every 3 boards' joints, fill this gap with a specialized sealant. For normal joint between boards, it is recommended a gap of 2-3mm.

Repair

Cut out the affected area back to the nearest framing member then replace by the same type of the board and fix it by the suitable screws. After that, fill joints with **DURAFILLER®** jointing compound and finishes in the recommended way. When it is dry, decoration including decorator's preparatory work should follow.

Finishing

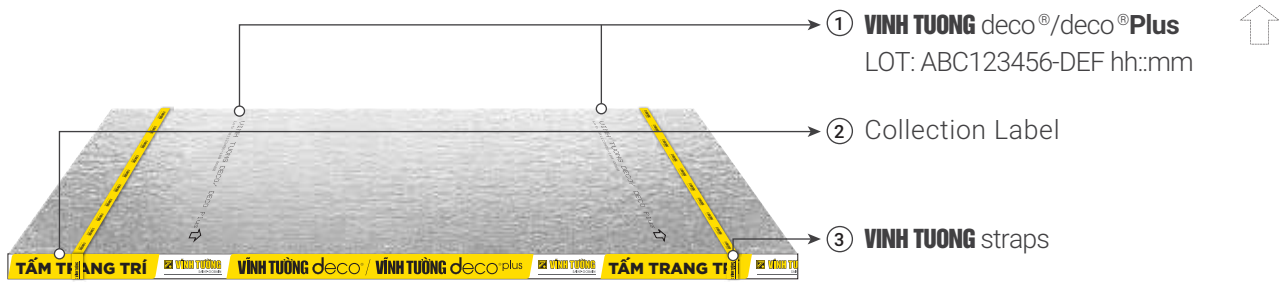
- **Tiling** - The board is suitable for direct tiling. It is recommended to apply waterproofing membrane onto **DURAflex®** surface before tiling. The tiles should be installed using the appropriate water resistant grout and tile adhesive, following the manufacturer's guidance. The maximum weight of tiles and tile adhesive are up to 50kg/m². It is recommended to use a type C adhesive (in accordance with TCVN 7899-1:2008/ISO 13007-1:2004).

- **Jointing** - **DURAFILLER®** Jointing Compound together with VT Fiber Glass Mesh Tape, produce a durable joint reinforcement and a smooth, continuous, crack-free surface ready for priming and final decoration.

- **Painting** - Joint the boards using a specialist jointing compound. After the joint treatment has dried, decoration including any decorator's preparatory work should follow with the minimum delay.

PRODUCT IDENTITY

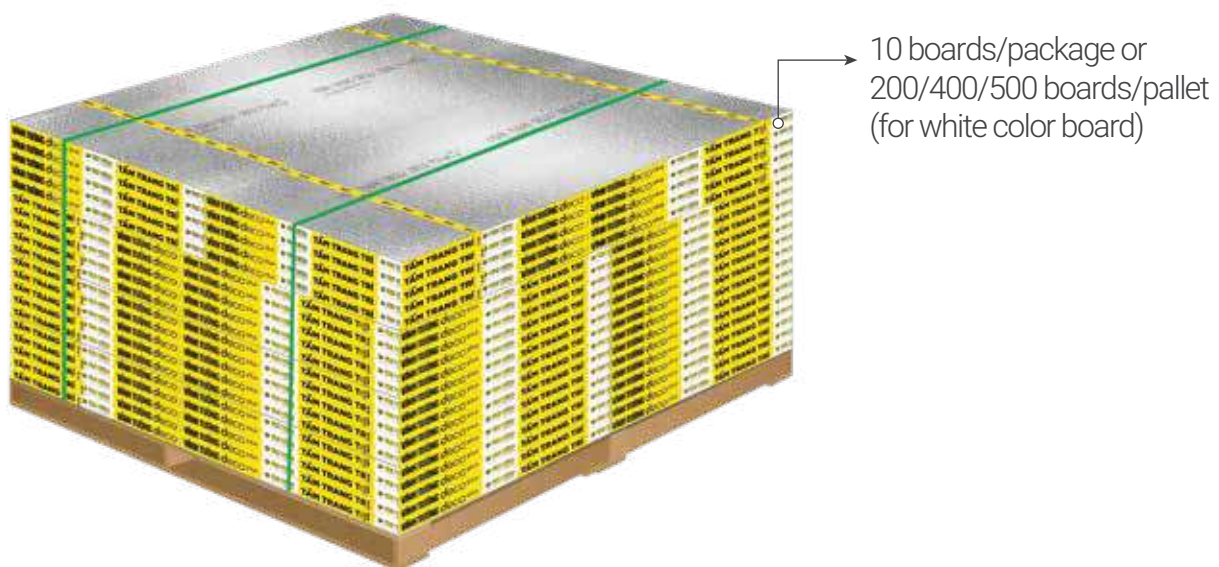
Inkjet printing on VINH TUONG deco®/deco®Plus ceiling board



Thickness



Packaging



DURAflex® FIBER CEMENT BOARD

TECHNICAL DATA SHEET



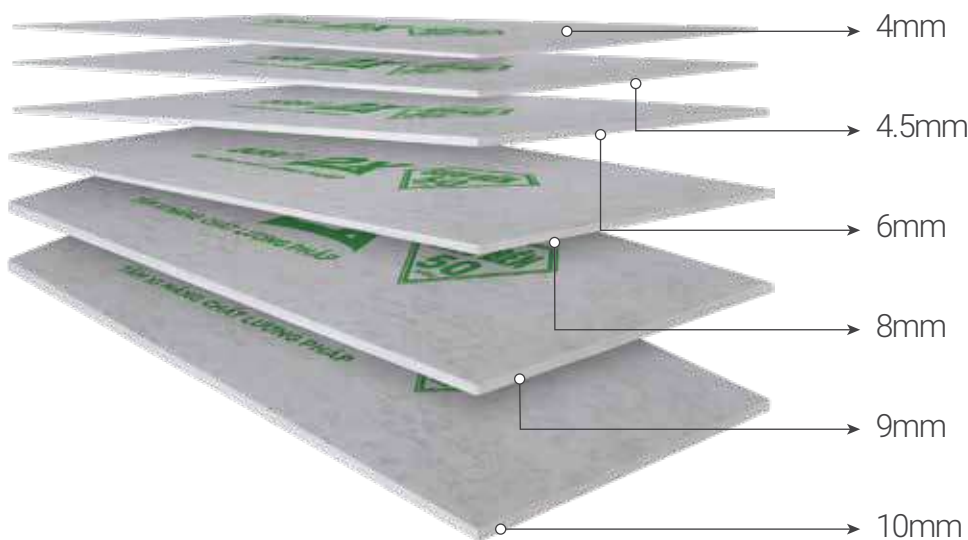
PRODUCT IDENTITY

Inkjet printing on DurAflex®2X board (4 - 10mm)



→ **DURAflex® 2X** STD ASTM C1186
TCVN 8258 00x0000x0000
AA BB CC DDMMYY LOT F 000

Thickness



Packaging



→ Green straps

→ PE cover

PRODUCT IDENTITY

Inkjet printing on Duraflex®2X board (≥12mm)



DURaflex® 2X STD ASTM C1186
TCVN 8258 00x0000x0000
AA BB CC DDDMMYY LOT F 000

Thickness



- 12mm
- 14mm
- 15mm
- 16mm
- 18mm
- 20mm
- 22mm
- 24mm
- 25mm

Packaging



Green straps

PE cover

PRODUCT IDENTITY

5 different textures of DURAWood®



**STONE
TEXTURE**



**PINE
TEXTURE**



**OAK
TEXTURE**



**ASH
TEXTURE**

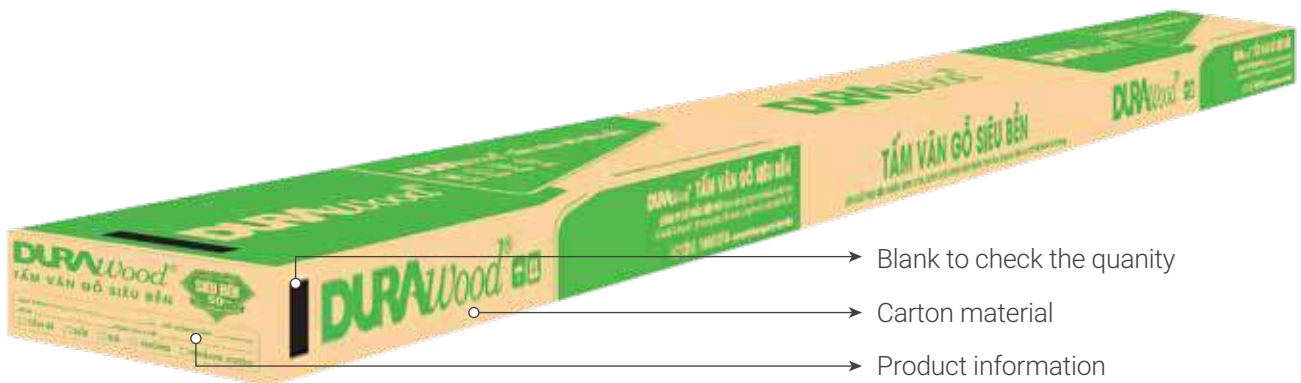


**FLAT SCRATCHED
TEXTURE**

The width and the thickness



Packaging



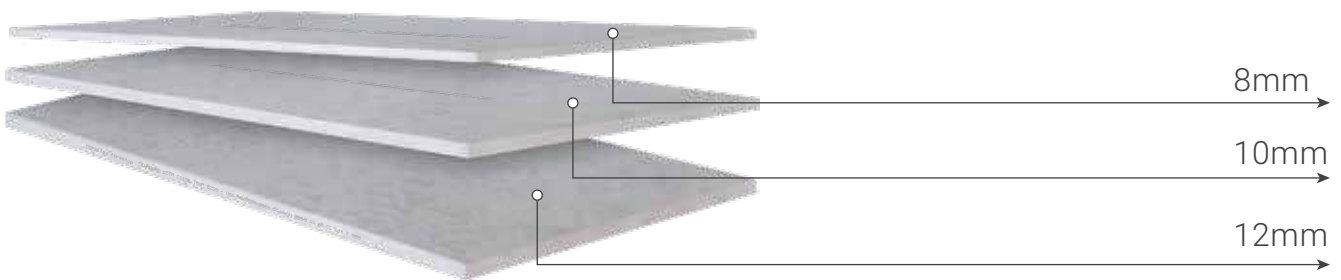
PRODUCT IDENTITY

Inkjet printing on DURAflex® Firestop board

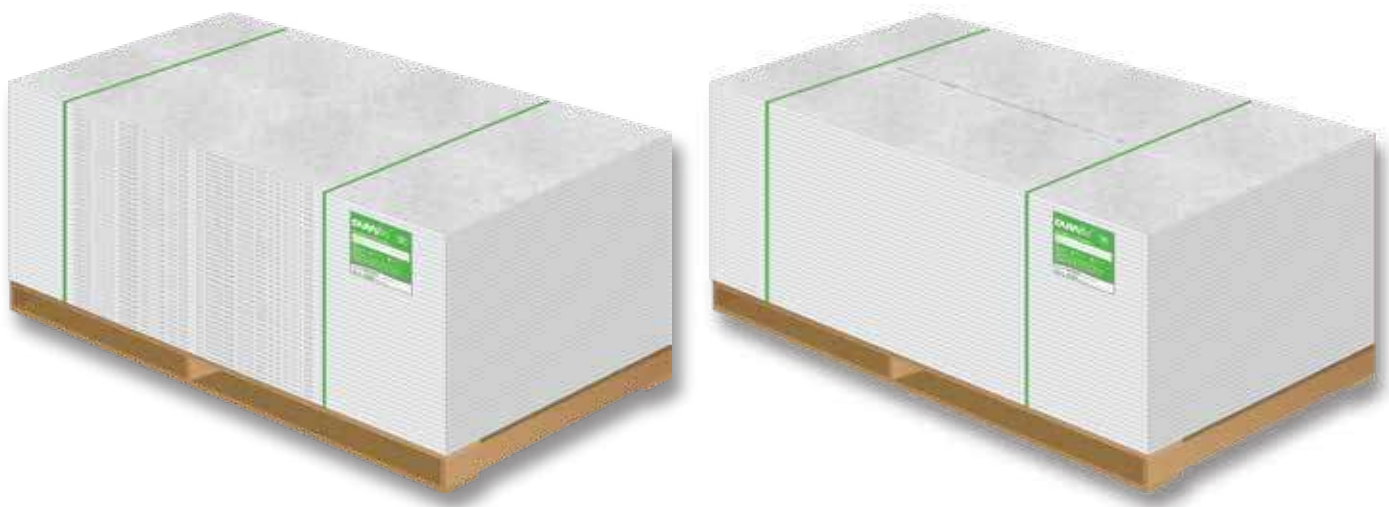


DURAflex firestop
 STANDARD ASTM C1186 TCVN 8258
 USA 00x0000x0000
 dd.mm.yy 000.0 AA BB CC Lot F 000

Thickness



Packaging



DURAflex® FIBER CEMENT BOARD

TECHNICAL DATA SHEET



APPLICATION



ROOF STRUCTURE



CIVIL HOUSE



HOMESTAY



BUSINESS, RETAIL



OTHERS



**Saint-Gobain Vietnam Limited
Vinh Tuong Industrial Corporation**

Floor 8, Sofic Tower, 10 Mai Chi Tho Street,
Ward Thu Thiem, Thu Duc city, Ho Chi Minh City

**Viet Nam North Vinh Tuong
Industrial Limited Company**

Floor 17, Capital Place Tower, 29 Lieu Giai Street,
Ngoc Khanh Ward, Ba Dinh District, Ha Noi City

This document is officially effective from 15.12.2019 and automatically replaced the previously released documents.

The content is subject to change without notice, for further information, please visit:
www.gyproc.vn - www.vinhtuong.com - www.trannhadep.com

