TPI PLANK

INSTALLATION MANUAL

TPI PLANK

Size (mm.) (Thickness x Width x Length)	Weight (kg)	Unit Weight (kg/m)	Profiling & Texture	Color	Using Quantity (pcs/sq.m.)
8x150x3,000	5.40	1.80	Teak Texture/ Square cut edge	Natural/ Yellow Classic Golden Teak/ Blue/ Mahogany/ Golden Teak/ Timeless Gold Teak/ Red Maple/ Walnut	2.67
8x200x3,000	7.20	2.40			1.90
8x150x4,000	7.20	1.80			2.00
8x200x4,000	9.60	2.40			1.43
8x150x800	1.40	1.75			10.00
8x200x800	1.90	2.38	Smooth Texture/ Square cut edge	**Wood Series** Beech/ Maple/ Walnut/ Pine	7.14
8x150x1,200	2.20	1.80			6.67
8x200x1,200	2.90	2.42			4.76
8x150x1,800	3.20	1.78			4.44
8x200x1,800	4.30	2.38			3.17

TPI PLANK

1. TECHNICAL DATA

Standard Properties	Unit		Standard Reference
Physical Properties			
Thickness Tolerance	%	± 6	ASTM C 1185
Density	Kg/m^3	1,300 ± 50	ASTM C 1185
Modulus of Rupture (Machine Direction At EMC*)	MPa	≥ 15	ASTM C 1185
Modulus of Elasticity(Machine Direction At EMC*)	MPa	≥ 5,000	ASTM C 1185
Moisture Content	%	≤ 15	ASTM C 1185
Water Absorption	%	≤ 35	ASTM C 1185
pH Value	pH	7-8	ISO 10390 : 2005
Water Tightness		Pass	ASTM C 1185
Fire Resistance Properties			
Ignitibility		P	BS476 Part 5
Fire Propagation Index		I=0.2	BS476 Part 6
Surface Spread of Flame		Class one	BS476 Part 7
Fire Resistance		15	ASTM E84-00a
Smoke Developed Index		0	ASTM E84-00a
Durability			

Standard Properties	Unit		Standard Reference
Freeze/ Thaw Resistance		Pass	ASTM C 1185
Warm Water Resistance		Pass	ASTM C 1185
Heat/ Rain Resistance		Pass	ASTM C 1185
Soak/ Dry Resistance		Pass	BS EN 12467: 2000

Remark: * EMC – Equilibrium Moisture Content

2. PRODUCT USAGE

Wall Type	Application	Profiling & Texture	Installation
Exterior Wall	New Wall	Teak Texture Square Cut Edge	Overlapping
	Renovated Wall		
Interior Wall	New Wall		
	Renovated Wall		
	Bathroom Wall		
Impact Load[1] (J.)	N/A		
Lateral Load[1] (kg./m^2)	21.00		
Hanging Load[2] (kg.)	N/A		
Wall System[3] (kg./m^2)	15.00		

Remark: 1. Vertical frame spacing is 600 mm. and install paneling board parallel to vertical frame.

2. Install with plastic anchor PT-13 and vertical frame.

3. Overlapping Wall included drywall frame.

3. TOOLS & ACCESSORIES

3.1 Measuring & Leveling Tools

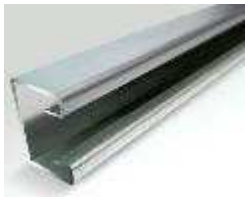
Measuring Tape	Leveling	Plumb & Chord	Guide Lining

Cordless Driver Drill 0-3,200 rpm 230 Watts	Cordless Drill 0-3,000 rpm 450 Watts	Portable Cut-Off 4,600 rpm 1,650 Watts	Angle Grinder Size 100 mm. 710 Watts 11,000 rpm

3.2 Installation Accessories

Self-Drilling Screw Size 25 mm. (Steel Frame)	Self-Drilling Screw Size 25 mm. (Drywall Frame)	Self-Drilling Screw Size 25 mm. (Timber Frame)	Hammer/ Black Nail	Fiber Cement Cutter

3.3 Structural Frame

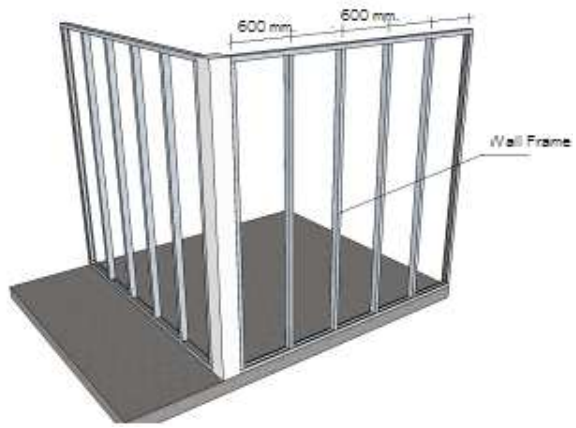
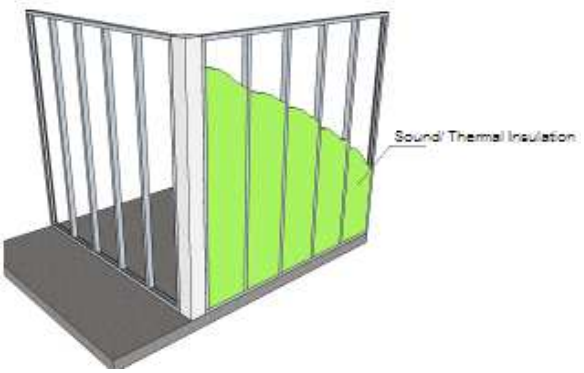
		
Timber Frame Size 1½"x3" (Recommended)	Steel Frame C75x45x15x2.3 (Recommended)	Galvanized Steel Frame Size C74, U76 and 0.55 mm.THK

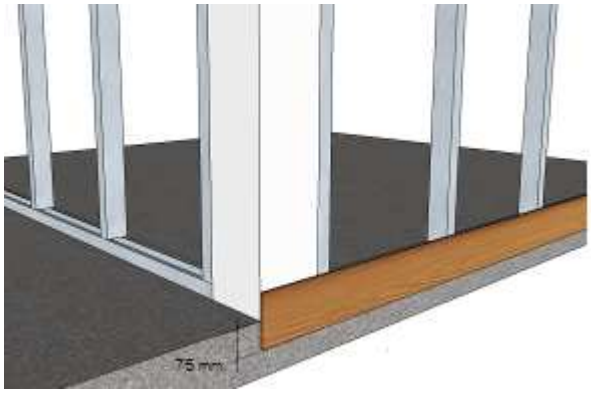
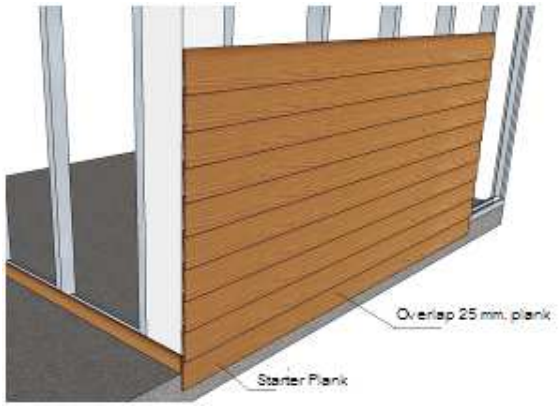
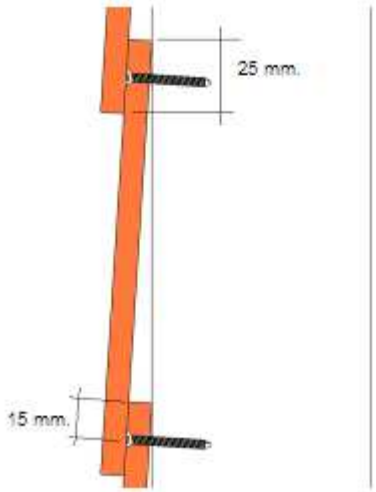
3.4 Finishing & Painting Tools

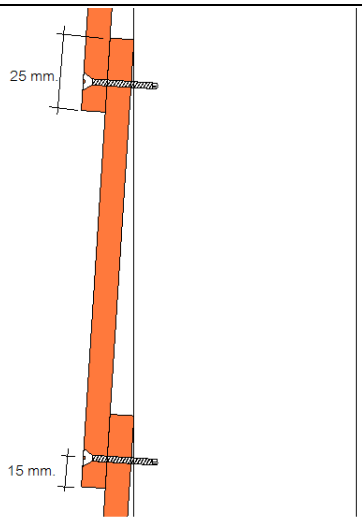
Polyurethane Jointing	Acrylic Putty (TPI M660 Recommended)	Caulking Gun

4. INSTALLATION

4.1 TPI Plank on wall frame

<table>
<tr><td colspan="2">Tools & Accessories
TPI Plank Size 8x150x3,000 mm./ 8x200x3,000 mm.
Frame: Steel Frame C75x45x15x2.3 mm.
Drywall C74 and U76
Timber 1½”x3”
Fixing: Self-Drilling Screw (with wings) Size 25 mm. (Steel Frame)
Self-Drilling Screw Size 50 mm. (Timber Frame)
Concrete Nail (Black) 1” (Timber Frame)
Jointing Compound/ TPI M660 (Recommended)
Polyurethane Jointing</td></tr>
<tr><td> 
</td><td>Install vertical wall frame spacing not over 600 mm.ส่วน horizontal frame is depend on designer.
Recommend
Steel Frame: C75x45x15x2.3 มม.
Drywall: C74, U76
Timber: 1½”x3”
Caution:
Caution:
- Vertical frame must be install vertically and perpendicularly to floor.
- Fix wall frame on floor and concrete column with steel anchor in each 600 mm.
- Install electric wiring or pipes when finish framing.</td></tr>
<tr><td> 
</td><td>Thermal or sound insulation can install when finish framing.</td></tr>
</table>

	Install TPI plank on vertical wall frame. For exterior wall, use TPI plank to start 75 mm. under existing floor.
	Install TPI plank with overlap 25 mm., fix with screw or nail on wall frame - Self-drilling screw with wing 25 mm. (Steel Frame) - Self-drilling screw 25 mm. (Drywall) - Concrete nail 1” or self-drilling screw 1” (Timber) Remark: Check leveling every piece of planks.
 Type 1	Typical overlapping and screw Type 1 Hidden screw head Type 2 Show screw head



Type 2

4.2 TPI Plank on brick wall

Tools & Accessories

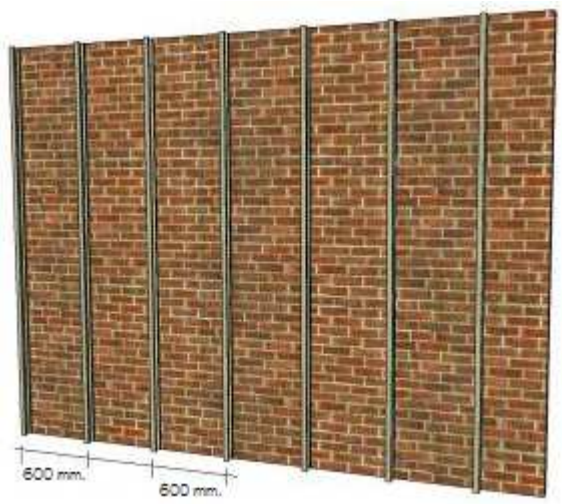
TPI Plank Size 8x150x3,000 mm./ 8x200x3,000 mm.

Frame: Drywall C74 and U76

Fixing: Self-Drilling Screw Size 50 mm. (Timber Frame)

Jointing Compound/ TPI M660 (Recommended)

Polyurethane Jointing

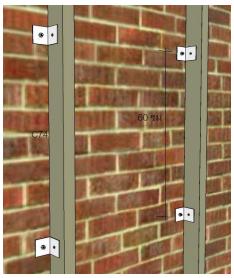


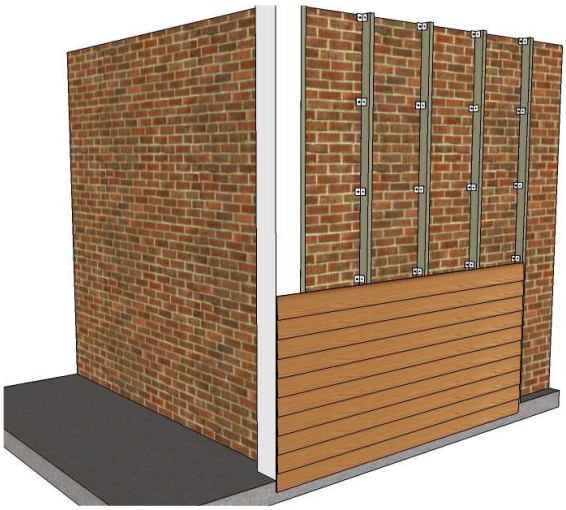
Remark: Check level and line of brick wall before install.

Specify line of vertical frame and paneling board.

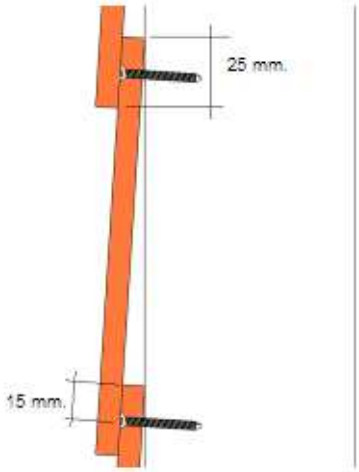
Fix vertical frame to wall with bracket by using steel anchor in every 600 mm.

Install drywall C74 on bracket spacing 600 mm.





TPI Plank Installation



Remark: Check leveling every piece of planks.

Remark: Use TPI Plank to be exterior wall must consider wind load and lateral load factors by allowable load and frame spacing as table below.

Building Height (m.	TPI Plank Size and Frame Spacing			
	8x150x3,000		8x200x3,000	
< 10 m.	C75x45x15x2.3	600 mm.	C75x45x15x2.3	600 mm.
10-20 m.	SQ75x38x3.2	600 mm.	SQ75x38x3.2	600 mm.
20-40 m.	SQ75x45x3.2	500 mm.	SQ75x45x3.2	500 mm.
> 40 m.	SQ75x45x3.2	350 mm.	SQ75x45x3.2	350 mm.

Remark: All data calculated from install plank perpendicularly to steel wall frame and no horizontal frame.

4.3 TPI Plank: Outer Corner without corner pieces

Tools & Accessories

TPI Plank Size 8x150x3,000 mm./ 8x200x3,000 mm.

Frame: Steel Frame C75x45x15x2.3 mm.

Drywall C74 and U76

Timber 1½"x3"

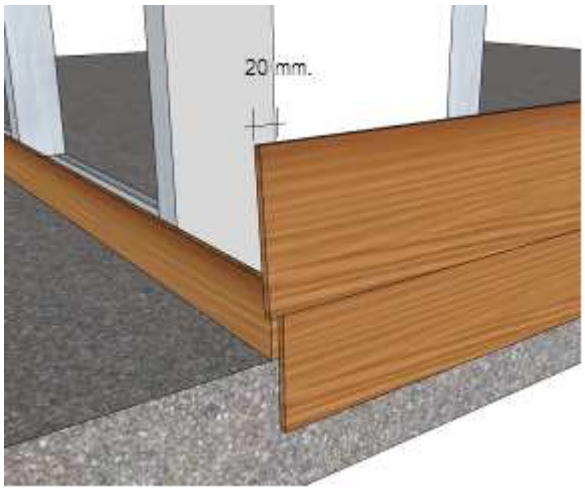
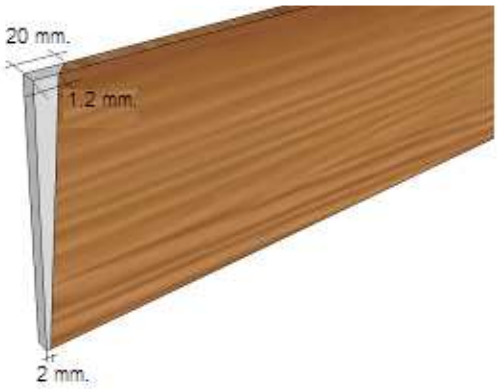
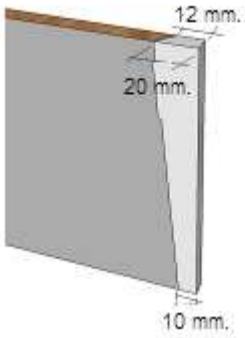
Fixing: Self-Drilling Screw (with wings) Size 25 mm. (Steel Frame)

Self-Drilling Screw Size 50 mm. (Timber Frame)

Concrete Nail (Black) 1" (Timber Frame)

Jointing Compound/ TPI M660 (Recommended)

Polyurethane Jointing

	Leave end of plank frame corner 20 mm. for cutting and tailing 45 degree.
 Front	Measure end of plank and cut with diamond blade to 45 degree.  Back
	Exterior wall corner without corner pieces.

4.4 TPI Plank: Outer Corner with corner pieces

<table>
<tr><td colspan="2">Tools & Accessories
TPI Plank Size 8x150x3,000 mm./ 8x200x3,000 mm.
Frame: Steel Frame C75x45x15x2.3 mm.
Drywall C74 and U76
Timber 1½”x3”
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Concrete Nail (Black) 1” (Timber Frame)
Jointing Compound/ TPI M660 (Recommended)
Polyurethane Jointing</td></tr>
<tr><td> </td><td>End of planks must enclose to wall corner.</td></tr>
<tr><td>
</td><td>Use corner pieces, TPI strip to enclose wall corner as picture shown. Fix with self-drilling screw 32 mm. in every 600 mm.</td></tr>
</table>

	Seal joint with polyurethane along corner pieces.

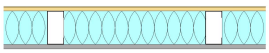
4.5 TPI Plank: Inner Corner with corner pieces

Tools & Accessories TPI Plank Size 8x150x3,000 mm./ 8x200x3,000 mm. Frame: Steel Frame C75x45x15x2.3 mm. Drywall C74 and U76 Timber 1½"x3" Fixing: Self-Drilling Screw (with wings) Size 25 mm. (Steel Frame) Self-Drilling Screw Size 50 mm. (Timber Frame) Concrete Nail (Black) 1" (Timber Frame) Jointing Compound/ TPI M660 (Recommended) Polyurethane Jointing

	End of planks must enclose to wall corner.

	Use corner pieces, TPI strip to enclose wall corner as picture shown. Fix with self-drilling screw 32 mm. in every 600 mm.
	Seal joint with polyurethane along corner pieces.

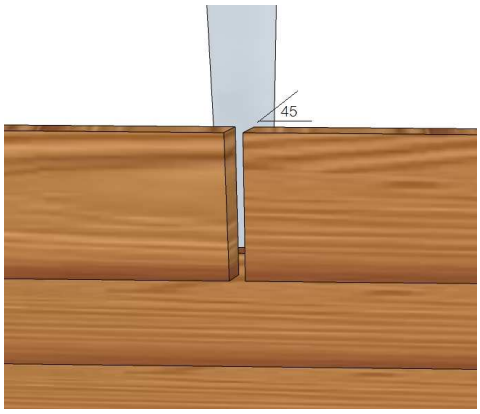
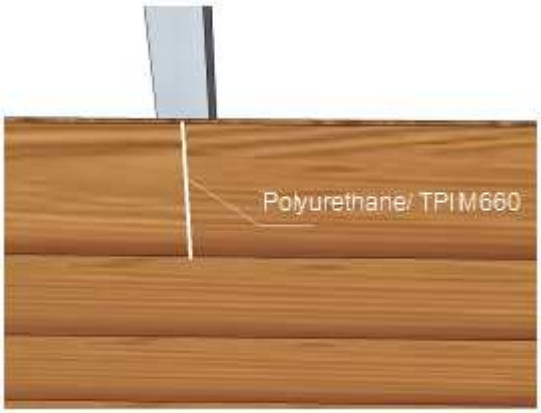
5. Paneling Board System

Paneling System	Detail	Thermal Proofing		Sound Transmission Class	Fire Rating (mins)
		R_T (m^2K/W)	U (W/m^2K)		
W1	- 8 mm. TPI plank overlapping - 8 mm. TPI paneling board - Drywall Frame C74, U76	0.508	1.967	42	-
W2 	- 8 mm. TPI plank overlapping - 8 mm. TPI paneling board - Drywall Frame C74, U76 - Acoustic Insulation	1.869	0.535	50	-

Remark:

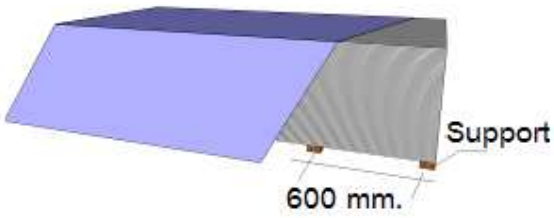
- RT and U factors are calculated according to 'Building Evaluation Procedures for Energy Conservation' of the Ministry of Science and Technology.
- STC factor is from the testing method of ASTM E90-97.
- Fire Rating factor is from the Fire Resistant Material Testing Institute of Chulalongkorn University.

6. PAINTING

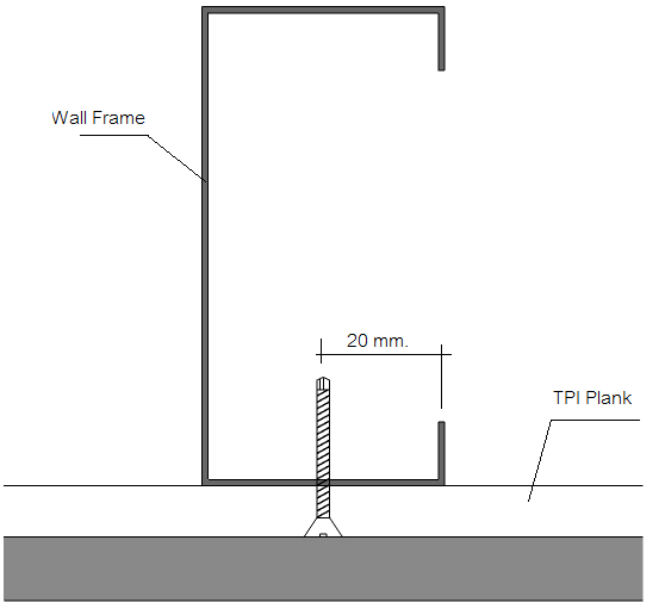
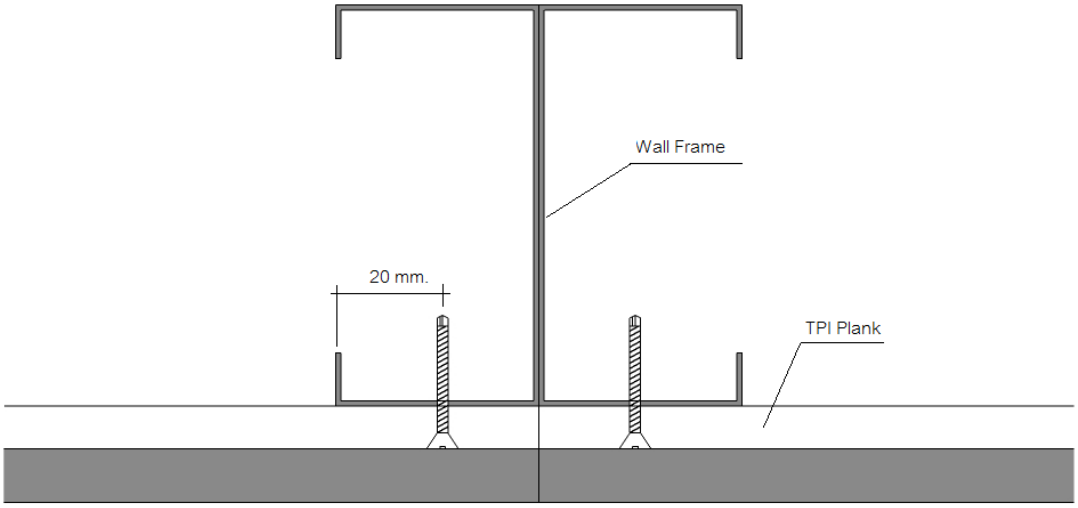
Primer Paint Top Coat Paint Jointing Compound/ TPI M660 (Recommended) Brush	
	Cut 45 degree at plank end when jointing.
	Use polyurethane or TPI M660 to seal plank joint. Use M660 to plaster screw head, sand with sandpaper. Clean out from dust.

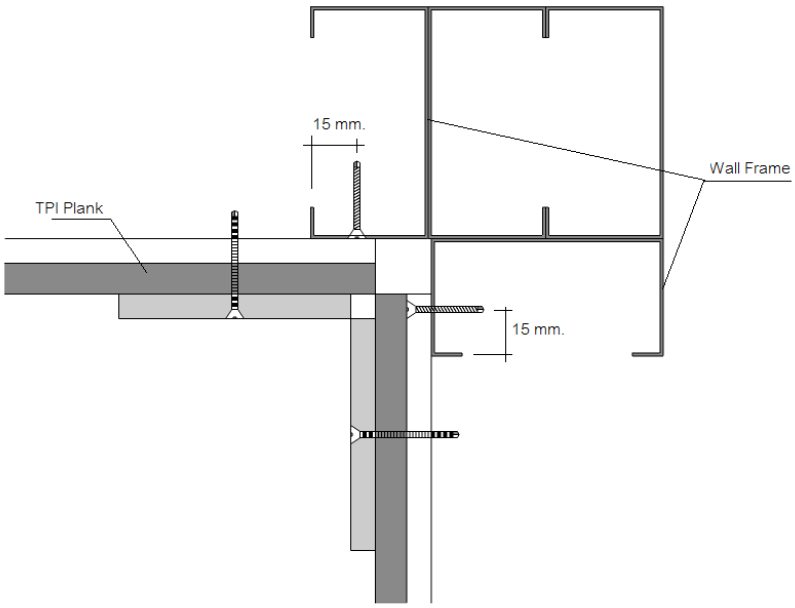
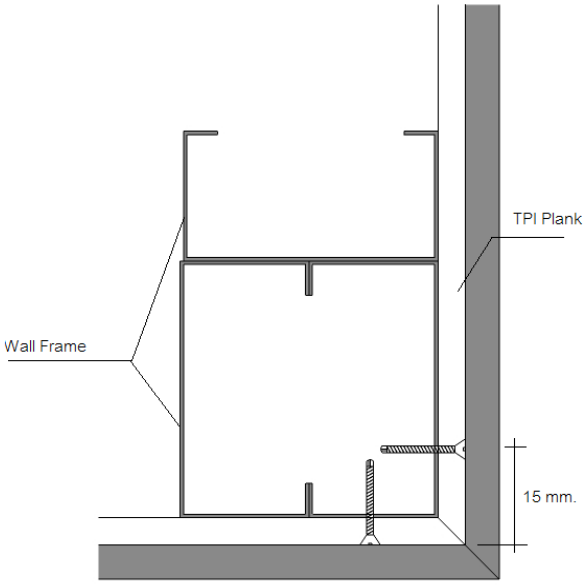
	Coat with primer on first layer, leave to dry 1 hour. For wood strain paint, coat with primer and leave to dry 4-6 hours.
	Coat with acrylic paint in 2nd and 3rd layer in same direction. Leave 1-2 hours. For wood strain paint, coat with thin wood strain in same direction 1-3 layers as required.

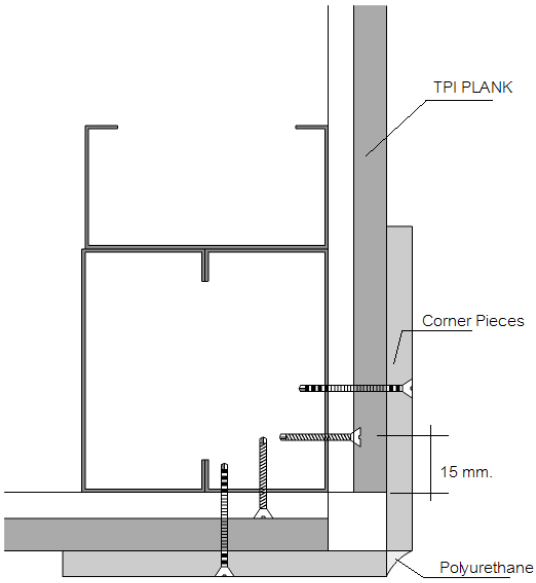
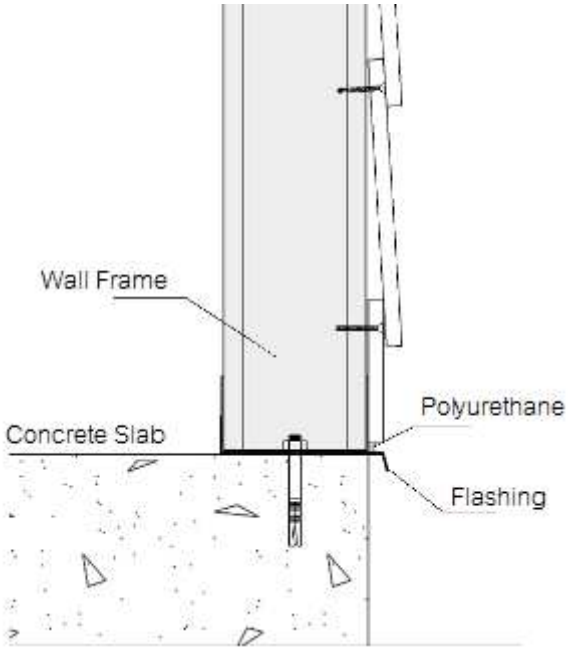
6. HANDLING & STORAGE

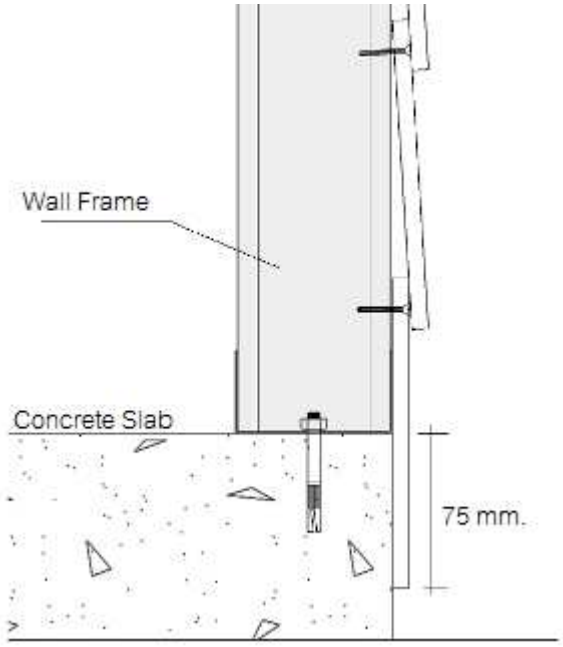
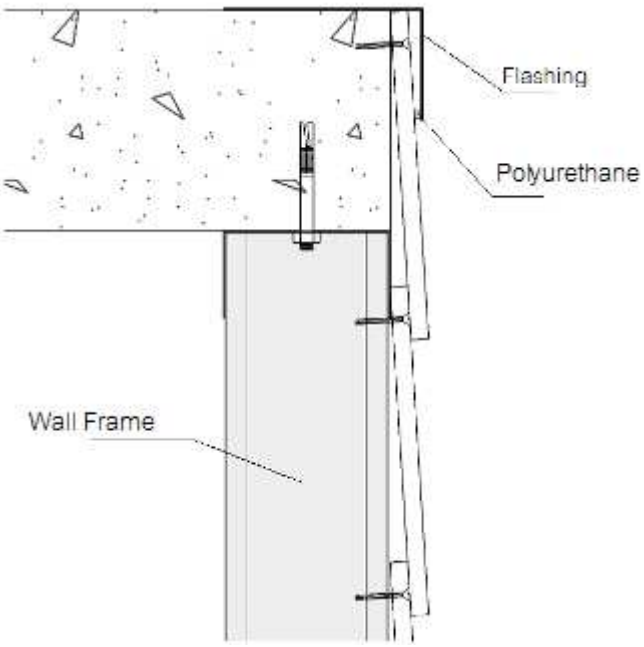
	Storage - Store in dry area and cover with canvas, use timber size 1½"x3" to support in 600 mm. spacing.
	Handing - Hold at 300 mm. from end in vertical direction as shown in picture

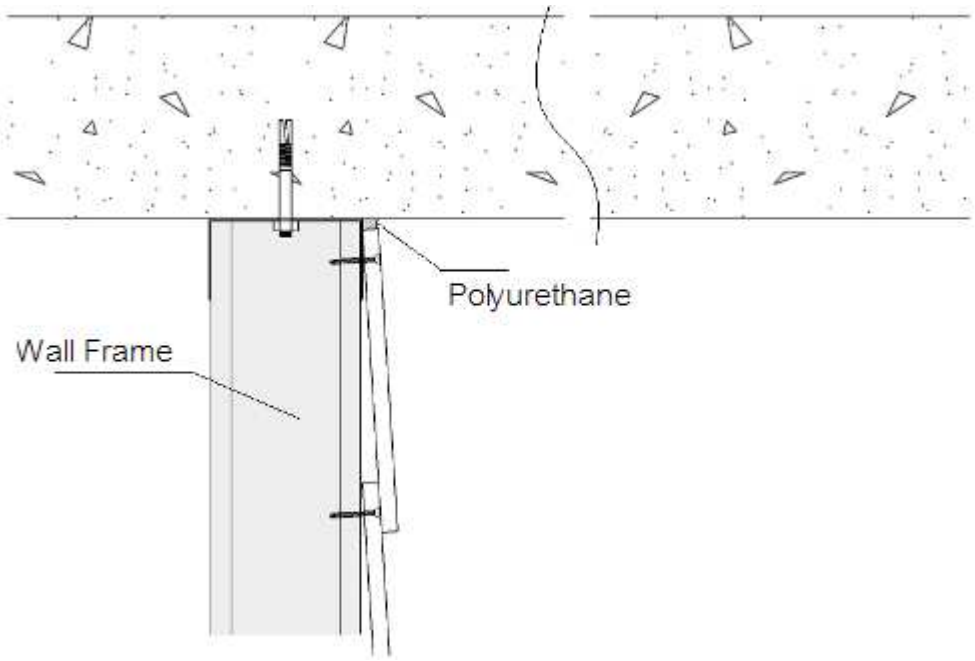
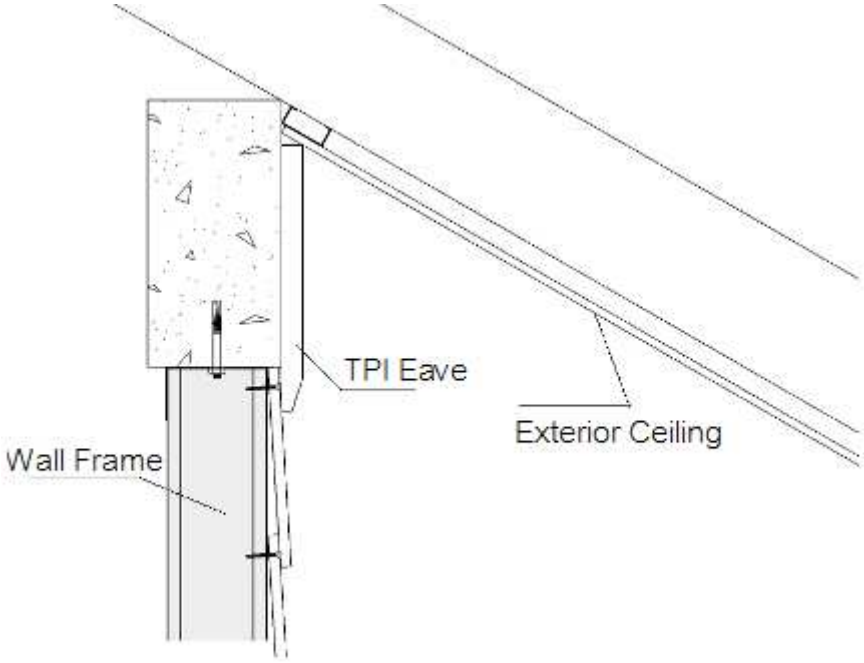
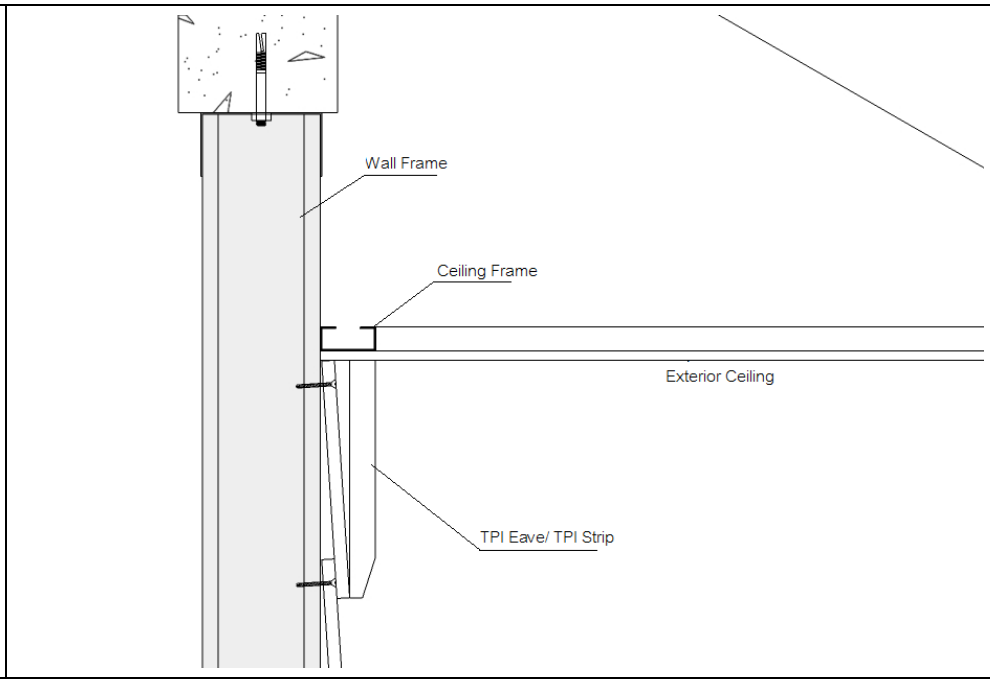
8. INSTALLATION DRAWING

Overlapping Plank Installation	
Overlapping Plank Joint	

Plank Installation: Inner Corner	
Plank Installation: Outer Corner (45 degree edge)	

Plank Installation: Outer Corner (Corner Pieces)	
Exterior Plank Installation (Normal)	

Exterior Plank Installation (Moisture Prevention)	
Exterior Plank Installation (Top Concrete Slab)	

Exterior Plank Installation (Concrete Canopy)	
Wall Plank – Roof Beam	

Wall Plank – Ceiling