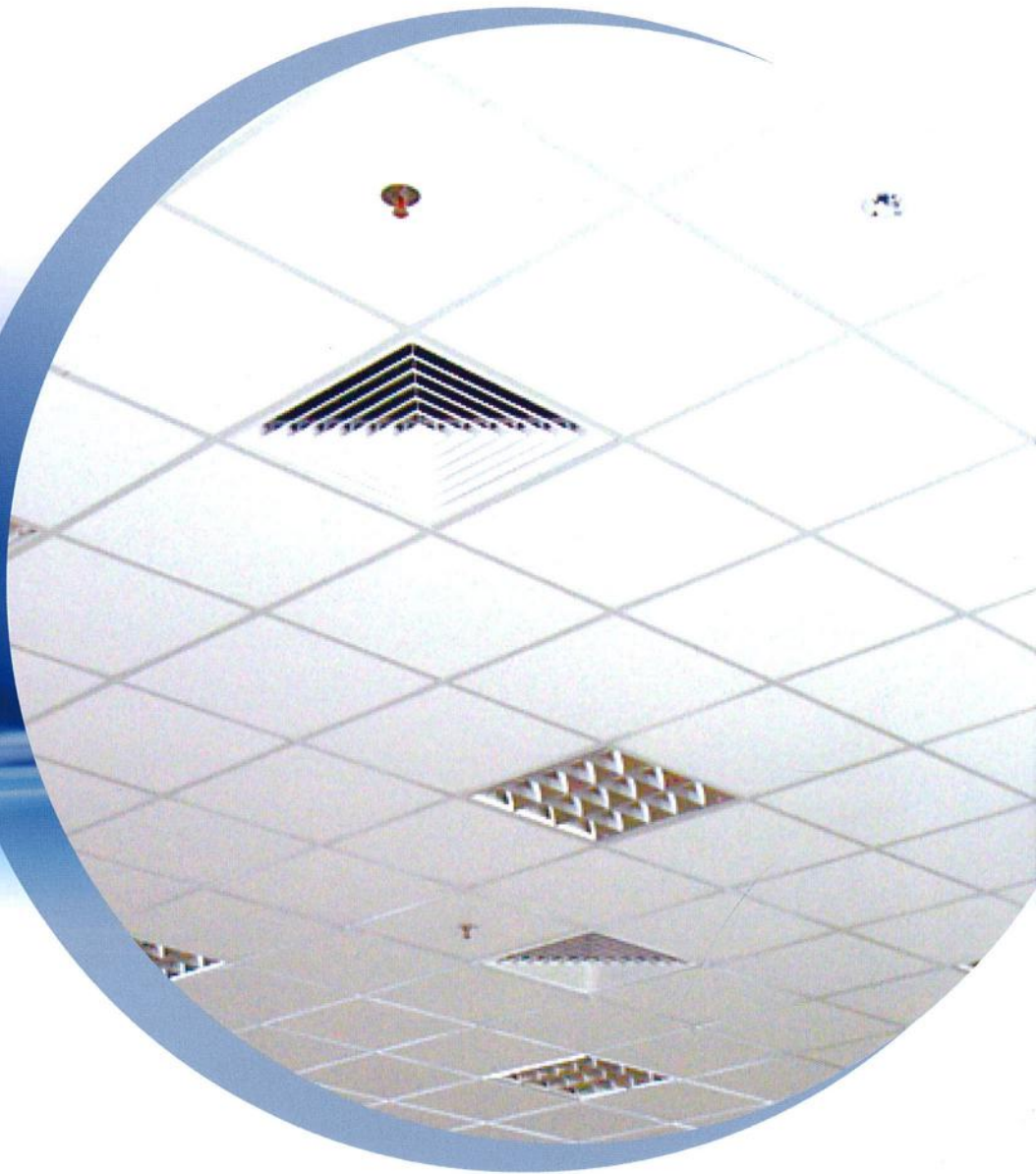


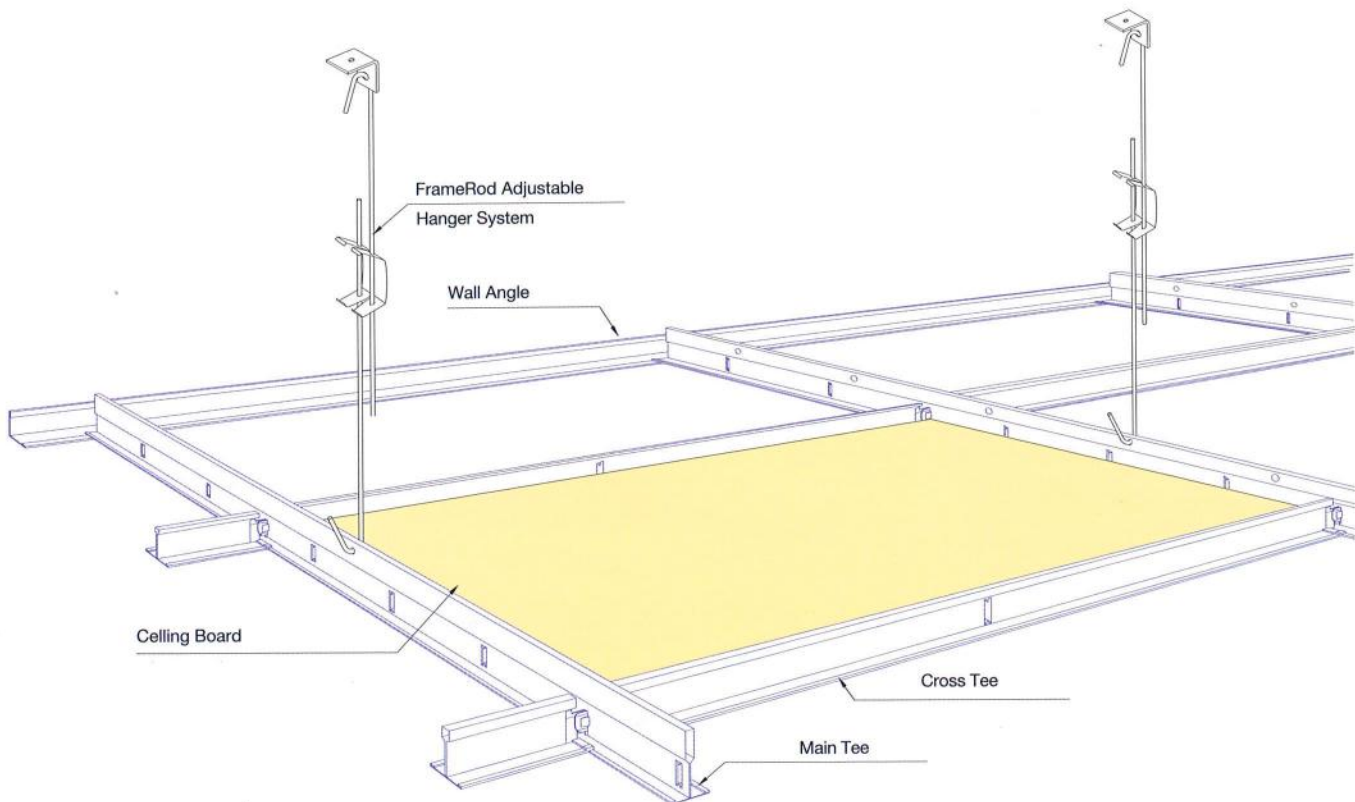
MasterFrame

MLD Metric Module, ASTM Light Duty



MasterFrame MLD Metric Module is a 24mm flange exposed ceiling grid system for 600mm x 1200mm or 600mm x 600mm modules designed for light duty application according to the ASTM C-635 classification.

Tested with a ceiling load of 14.5kg/m without the mid-span deflection exceeding 3.33mm (L/360 on 1200mm hanger spacing), the system is suitable for all types of ceiling board made by established companies all over the world.



Production Process

All components of the system are roll-formed, perforated, press formed and cut to length on a continuous CNC production line to BS 2994 Standard. This manufacturing process produces a precise and balanced grid profile to achieve stronger and more accurate modules.

Physical Properties

The components are manufactured from Prime Quality Hot Dipped Galvanised Steel Coil based on BS 2989 and JIS G3302 Standards. The exposed flange is capped with pre-coated metal strip with factory applied polyester coating.

Fire Protection

MasterFrame MLD Grid System is non-combustible according to BS 476 Part 20. When used with an approved ceiling panel, the system is capable of providing effective protection to structural steel beams supporting a fire resistant floor for a period of 60 minutes according to BS 476 Part 23 (1987).

Standard Color

MasterFrame MLD Grid System is produced in standard FW White Color. Other colors can be custom-made according to the supplied color samples subject to an agreed order quantity.

Warranty

All components of MasterFrame MLD Grid System are warranted for dimensional accuracy and against corrosion according to Framework's standard warranty policy.

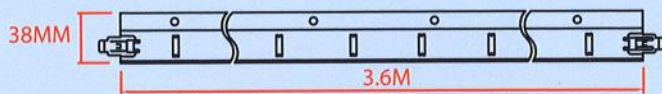


Structural Performance

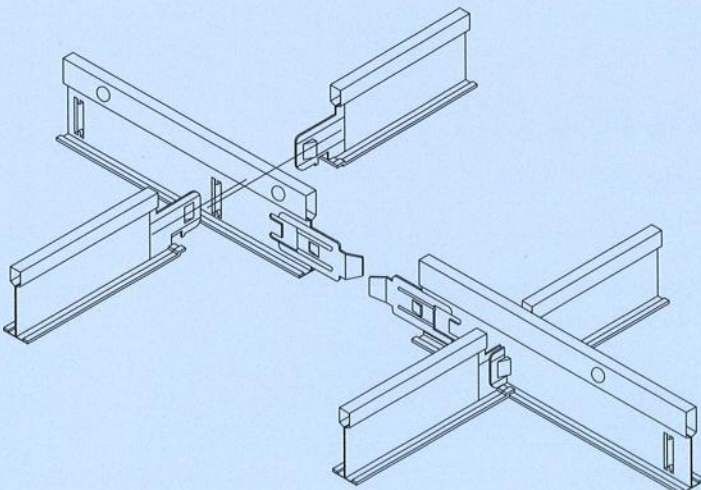
Load Test Data Per ASTM C-635:1995 based on 1200mm hanger spacing. PSB Test Report is available upon request

Component	Simple Span Concentrated Load at Center (kg/m)	Uniform Load ASTM C-635 (kg/m)	ASTM Class
Main Tee	8.6	14.5	Light Duty
Cross Tee	6.4	8.6	-
Cross Tee	10.8	20.8	-

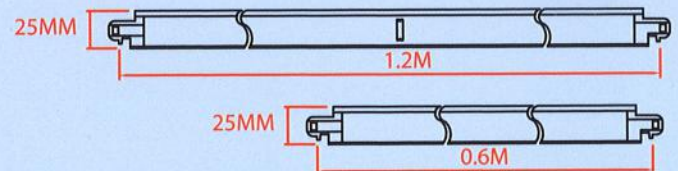
Main Tee is a double web section of 38 mm high, made in standard length of 3.6m with integral push lock splices at both ends for easy interconnection. The end splices have been tested to sustain a pulling force of 68kgf before separation. The bulb is pre-punched with 6mm hanger holes and the body is pre-punched with "H" slots at 75mm from ends and 150mm in between to receive cross tees.



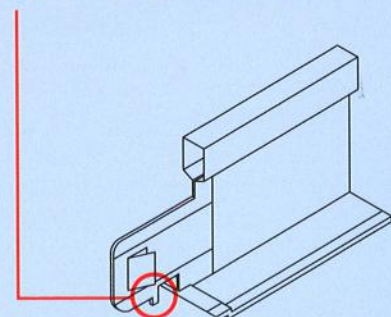
Connection between Main and Cross Tees



Cross Tee is a 25mm high double web section with joggled flange at both ends. It has integral splices at both ends for straight entry to the main tee for interlocking connections. The precision of the joggle ensure minimum "floating effect" of ceiling boards. Each end splice has a built-in fire nib which will be broken as a result of linear expansion of the grid during a fire, allowing movement of the cross tees to maintain the structural integrity of the ceiling system. Cross tees are available in the standard 1.2m and 0.6m per length.



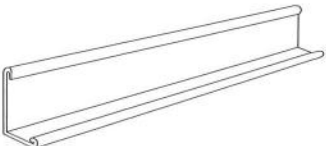
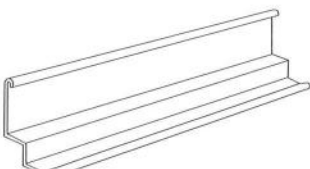
Cross Tee Fire Nib



Component Specification

Component	Section Height (mm)	Length (m)	Quantity Per Carton (Pieces)	Approx Weight Per Ctn (kg)
Main Tee	38	3.6	20	24
Cross Tee	25	1.2	60	19
Cross Tee	25	0.6	60	10

Wall Angles and Mouldings

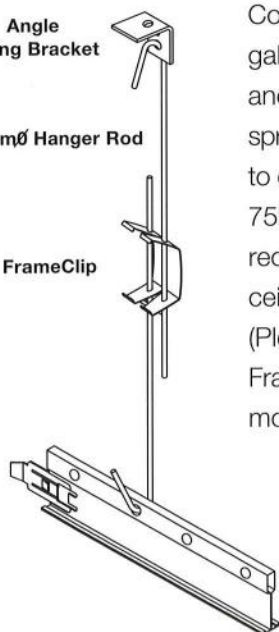
Component	Section Height (mm)	Length (m)	Quantity Per Carton (Pieces)	Approx Weight Per Ctn (kg)
 Painted Steel Wall Angle	19 x 19 22 x 22 24 x 14 24 x 19 24 x 24	3.05	40	20
 Shadow Wall Angle	19 x 14	3.05	40	24

FrameRod Adjustable Hanger System

Angle Fixing Bracket

4mmØ Hanger Rod

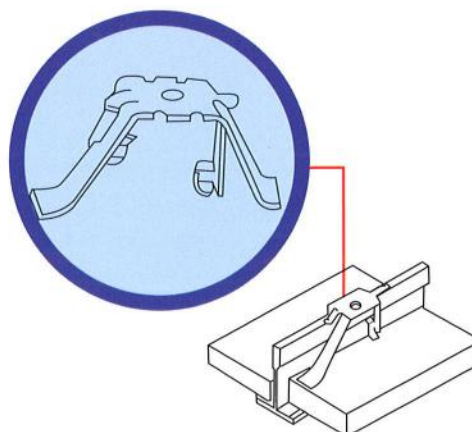
FrameClip



Comprised of 4mmØ galvanized steel rods and heat tempered spring clip. It is designed to carry a ceiling load of 75kg/point and is recommended for all ceiling installations. (Please refer to FrameRod brochure for more details.)

Hold Down Clip

Made from heat tempered spring steel with anti-corrosion coating. It is recommended for fire rated installations and in areas where prevention of the lifting of ceiling boards are required, due to the presence of positive pressure differentials.



Project References

- Changi Airport Terminal 2
- Citibank Changi
- Dapenso Building
- Downtown East
- F1 Singapore Grand Prix Viewing Gallery & Office Building
- General Electric Office Building
- GMC Building
- ICON@IBP Jurong
- IM Flash Singapore
- Jurong Point
- Marvell Regional Headquarter
- Merrill Lynch HarbourFront
- Straits Trading Building
- UMCi Building



Guide Specification

The ceiling suspension system shall be MasterFrame MLD exposed grid system manufactured by Framework Building Products Pte Ltd.

The system shall be roll-formed, perforated, press formed and cut to length on a continuous CNC production line according to BS 2994 Standard. It shall comply with ASTM C-635:1995 as Light Duty System capable of carrying a load not less than 14.5kg/m (12.08kg/m²) on 1200mm hanger spacing without the mid-span deflection exceeding L/360.

Sufficient evidence of the compliance to the standards must be submitted to the Architect for approval before materials are used at the site.

The grid system shall be made from Hot Dipped Galvanised Steel conforming to BS 2989 and JIS G3302 Standards. It shall be warranted against corrosion according to the manufacturer's warranty policy.

The exposed flange of the grid system shall be 24mm width and capped with pre-coated metal strip with a factory applied polyester coating.

Main Tees shall be 38mm high and of a double web construction similar to MasterFrame FML type. Both ends of the main tee shall have integral splices which can be joined firmly and shall not be separated with a pulling force of not exceeding 68kgf. Hanger holes shall be round and not smaller than 6mm diameter punched on the bulb of the main tee.

Cross Tees shall be 25mm high and of a double web construction similar to MasterFrame FCL type. The end splices shall be an integral part of the tee section and of the push lock type. The cross tee splice shall equip with a fire nib at the bottom to provide a relief for expansion during fire.

All accessories for the grid system such as wall angle, hanger rod, hold down clip etc. shall be supplied and installed according to the manufacturer's recommendation.

OTHER RANGE OF SUSPENSION CEILING SYSTEMS

MasterFrame

MasterFrame MID Module – 24mm Intermediate Duty Exposed Grid System
MasterFrame MHD Module – 24mm Heavy Duty Exposed Grid System

MicroFrame

MicroFrame MID Module – 14mm Intermediate Duty Exposed Grid System
MicroFrame MHD Module – 14mm Heavy Duty Exposed Grid System

MitreFrame

MitreFrame 815 Alusteel Featured Grid System
MitreFrame 1615 Alusteel Featured Grid System

MegaFrame

MegaFrame Variable Module Metal Furring System

Metal Battens

in 32mm, 36mm, 40mm & 50mm Width with Variable Length,
One Piece Metal Stud for Concealed Ceiling & Box-Up Application

Hanger Rod

FrameRod 3 Adjustable Rod Hanger System
FrameRod 4 Adjustable Rod Hanger System



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