

# MasterFrame

ASTM Heavy Duty

## MASTERFRAME MHD MODULE

A 24mm flange exposed ceiling grid system designed for heavy duty applications according to the ASTM C-635 classification.

This ceiling grid system has been tested to achieve a ceiling load of 24.1 kg/m without mid-span deflection exceeding 3.33mm (L/360 on 1.2m hanger spacing). It is recommended for large commercial, industrial and institutional projects having large ceiling spans.

## PRODUCTION PROCESS

All components of the system are roll formed, perforated, press formed and cut to length on a continuous CNC production line. This manufacturing process produces a balanced grid profile with precision and accuracy to achieve a rigid and accurate ceiling module.

## PHYSICAL PROPERTIES

All components are manufactured from Hot Dipped Galvanized Steel complying to BS 2989 and JIS G3302 Standards with Z18 Zinc Coating (180g/m<sup>2</sup>). The exposed flanges are capped with pre-coated metal strips with polyester coating of 15 microns dry film thickness.

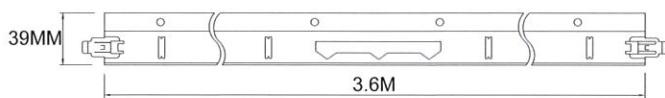
## COMPONENT FEATURES

### Main Tee

- Double web section of 39mm height
- Manufactured in standard 3600mm lengths
- Integral push lock splices at both ends of the Main Tee for easy interconnection
- End splices able to sustain a pulling force of 100kg before separation
- 6mm pre-punched holes located at 75mm intervals along Main Tee bulb
- H slots along Main Tee stalk at 150mm intervals and 75mm from each end
- Fire expansion slot punched onto the web at 435mm from one end

### Cross Tee

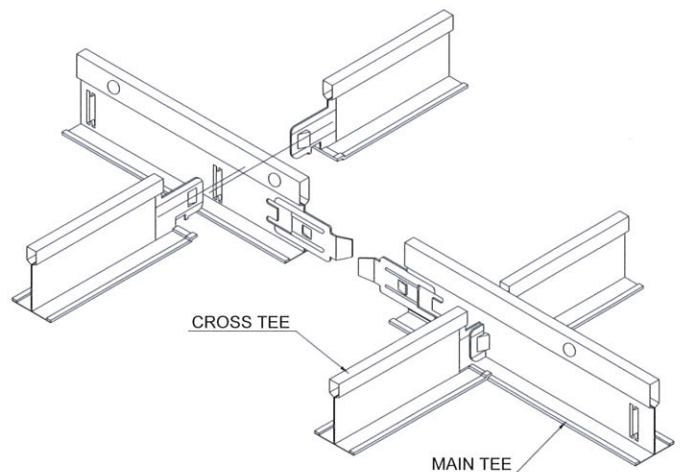
- 38mm high double web section with joggled flanges at both ends
- Integral splices at both ends facilitates straight entry to the main tee for interlocking
- Precise accuracy of the joggles minimizes "floating effect" of ceiling boards



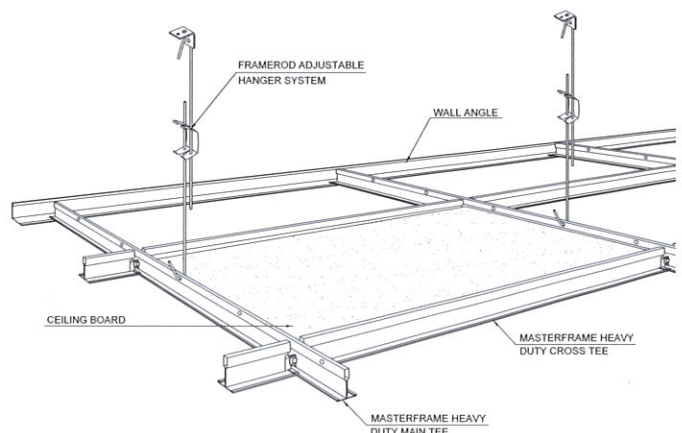
MASTERFRAME MHD MAIN TEE



MASTERFRAME MHD CROSS TEE



- Built-in fire nib at each end splice will break due to linear expansion of the grid during a fire. This allows movement of the cross tees to maintain overall structural integrity of the ceiling system
- Available in standard lengths of 1200mm and 600mm



## COMPONENT SPECIFICATION

| Component | Product Code | Section Height (mm) | Length (m) | Quantity Per Ctn (Pieces) | Approx Weight Per Ctn (kg) |
|-----------|--------------|---------------------|------------|---------------------------|----------------------------|
| Main Tee  | FMH 36       | 39                  | 3.6        | 20                        | 35                         |
| Cross Tee | FCH 12       | 38                  | 1.2        | 60                        | 23                         |
| Cross Tee | FCH 06       | 38                  | 0.6        | 60                        | 12                         |

\*Imperial and other sizes available upon request

## STRUCTURAL PERFORMANCE

Load Test Data Per ASTM C-635:1995 based on 1.2m hanger spacing.

| Component | Product Code | Simple Span Concentrated Load at Center kg/m | Uniform Load ASTM C-635 kg/m | ASTM Class |
|-----------|--------------|--|------------------------------|------------|
| Main Tee  | FMH 36       | 18.6   | 24.1                         | Heavy Duty |
| Cross Tee | FCH 12       | 16.4   | 22.0                         | -          |
| Cross Tee | FCH 06       | 28.2   | 41.8                         | -          |

## STANDARD COLOUR : WHITE

Other colours can be custom made subject to a minimum order quantity.

## FIRE PROTECTION

MasterFrame MHD Module is non-combustible according to BS 476 Part 20.

With the proprietary fire expansion slot on the main tees and fire nibs on the cross tees, the system is designed to provide expansion relief during fires and maintain the structural integrity of the complete ceiling module. This feature helps to prevent acceleration of fire through the ceiling plenum and prevent injury due to falling objects during the process of evacuation.

## WARRANTY

All components of MasterFrame MHD Module are guaranteed for dimensional accuracy and against corrosion according to Framework's standard warranty policy.

## ACCESSORIES

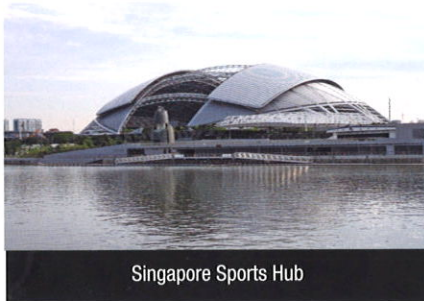
| Component                 | Product Code | Size (mm) | Length (m) | Quantity Per Ctn (Pieces) | Approx Weight Per Ctn (kg) |
|---------------------------|--------------|-----------|------------|---------------------------|----------------------------|
| Painted Steel Wall Angles | FAS 2414     | 24 x 14   | 3.05       | 40                        | 16                         |
|                           | FAS 2222     | 22 x 22   | 3.05       | 40                        | 18                         |
| Shadow Wall Angles        | FAW 1914     | 19 x 14   | 3.05       | 40                        | 24                         |

FrameRod Adjustable Hanger System

Comprises of 4mm Ø galvanized steel rods and heat tempered spring clip. It is designed to carry a ceiling load of 75kg/point and is recommended for heavy and intermediate duty installations.

## PROJECT REFERENCES - SINGAPORE

- Agilent Technologies
- People's Association Headquarters
- National University of Singapore – S3, SDE 3, E3A
- Takasago International
- Seagate, The Shugart
- SMRT Kranji Depot
- Singapore Sports Hub
- Hotel Grand Central
- Meiban Industrial Building



## OTHER FRAMEWORK PRODUCTS

### MasterFrame

MasterFrame MID Module – 24mm Intermediate Duty System  
MasterFrame MLD Module – 24mm Light Duty System

### Microframe

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

### MitreFrame

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

### MegaFrame

MegaFrame Variable Module Metal Furring System

### FrameRod

FrameRod 4 Adjustable Hanger System

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