

# ASTECH Cleanrooms Construction

## TECHNICAL SPECIFICATIONS

### Cleanroom Panels

### House in House



# ASTECH

#### CONTACTS

Please contact Asia technology Corporation (ASTECH). for any questions related to order

Admin. Office : Tel++ 84 8 54102755, Fax++ 84 8 54101845

Email: [admin@astech-vn.com](mailto:admin@astech-vn.com)

# **TABLE OF CONTENTS**

1. GENERAL
  - 1.1. Company profile
2. PHARMA WALL SYSTEM
  - 2.1. GENERAL
  - 2.2. TECHNICALSPECIFICATIONS
    - 2.2.1. Standard PHARMA floor profile
    - 2.2.2. alternative profile
      - 2.2.2.1. U – Floor profile lacquer steel
      - 2.2.2.2. U – Floor profile extruded PVC
      - 2.2.2.3. U – Floor profile and PVC grey Skirting
      - 2.2.2.4. U – Floor profile and PVC skirting with invisible fixations
    - 2.2.3. PHARMA panel system
      - 2.2.3.1. PUR PHARMA panel
      - 2.2.3.2. ROCKWOOL PHARMA panel
    - 2.2.4. PHARMA Semi Flush glazed
      - 2.2.4.1. Technical specifications
    - 2.2.5. PHARMA semi – door with aluminium U-frame
      - 2.2.5.1. General
      - 2.2.5.2. Technical specifications “single leaf door”
      - 2.2.5.3. Technical specifications “double leaf door”
      - 2.2.5.4. Technical specifications “Sliding door”
3. PHARMA ceiling system
  - 3.1. GENERAL
  - 3.2. PHARMA ceiling panels
4. REFER COPY

## 1. GENERAL

ASTECH is a Vietnam Corporation. We are specialized in designing and building Cleanrooms, Coldstorage. We have been successful in the service of Turn-Key projects for many industrial Construction in the Vietnam

Our engineers have many years experience and knowledge in cleanrooms. Our company is committed that you will be satisfied with the results from us.

Our Markets:

- Pharmacutrical Clean room, Hospital Clean room
- Food processing asea building
- Construction of insulated for Wall, Partition, Ceiling, Roof

### 1.1. Company profile

ASTECH are major leading contracting company specialising in the supply & installation of Panels system & door to Cleanroom construction

We provides its comprehensive specialized in design and construction to niche markets including cold storage operators, distribution centers, meat manufactures, fish producers, dairy companies, fruit and vegetables, Pharmacutrical Clean room, Hospital Clean room

In recent years, ASTECH has developed into an international manufacturer of industrial sandwich panels for all kind of markets worldwide. Our product range has been expanded with a range of simple wall and roof cladding, doors, mineral wool panels, cleanroom constructions, Low cost housing and a range of accessories for the food industry.

### Drawing team

ASTECH has the finest engineers in the industry. Many of our engineers have served on committees, striving to better the refrigeration industry, Cold storage project, clean room project. We can turn your system ideas into a reality that will be cost effective and dependable. Years of experience, expert load calculations, as well as equipment requirements are all combined to ensure the system will work to its specifications.

Using the latest in AtoCAD technology. Our drawing team can provided to clients with detaied construction and as-Build drawing

### Construction Team

Our on site construction teams are industry experienced and can provided you with a no fuss well managed, safe and on time project completion. Try us and see for yourself

### Maintenance & service

Our maintenance and service team can provided scheduled routine maintenance and servicing for all your insulated panels bulding, doors or orther products. This maintenance can be schedule to work around your busy day to day business eliminating any down time to you

## 2. PHARMA WALL SYSTEM

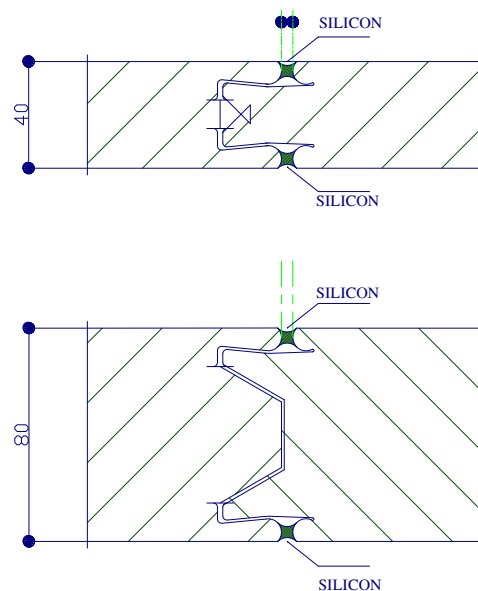
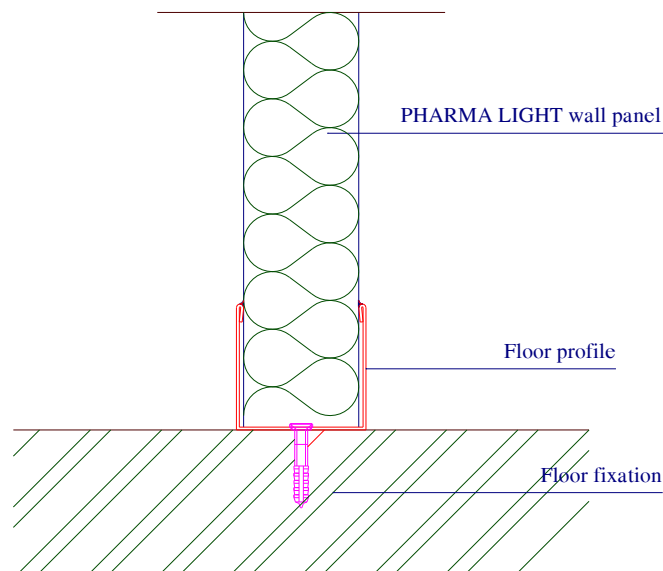
### 2.1. GENERAL

ASTECH has been for years in the construction of Cleanrooms, for whatever purpose a Cleanrooms is needed, ASTECH will have suitable solution, from design to execution of turn key project.

Installation of cleanrooms is usually done in two distinct phase: The construction phase and the final finish phase.

During the construction phase wall & ceiling are assembled, windows placed and the required openings and ducts made for light equipment, filters, air-condition, heating system. Etc.

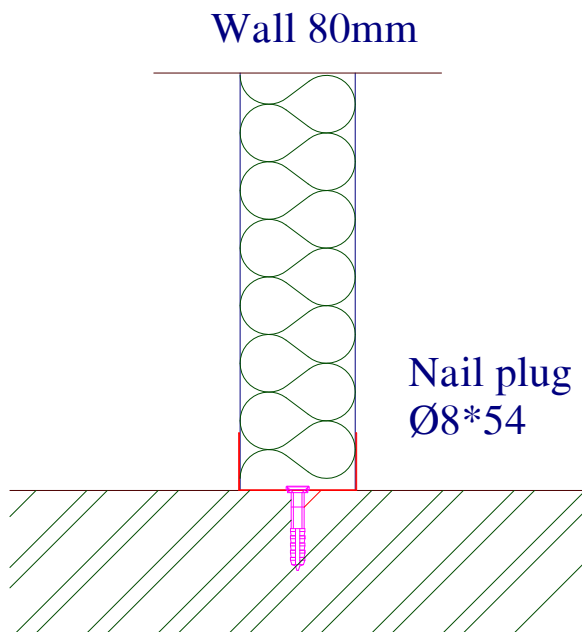
The finish of the clenrooms start only after all technical equipments has been install then the doors will placed, joints, sealed, covered corners install and finally the protected film remove from the panles.



## TECHNICAL SPECIFICATIONS

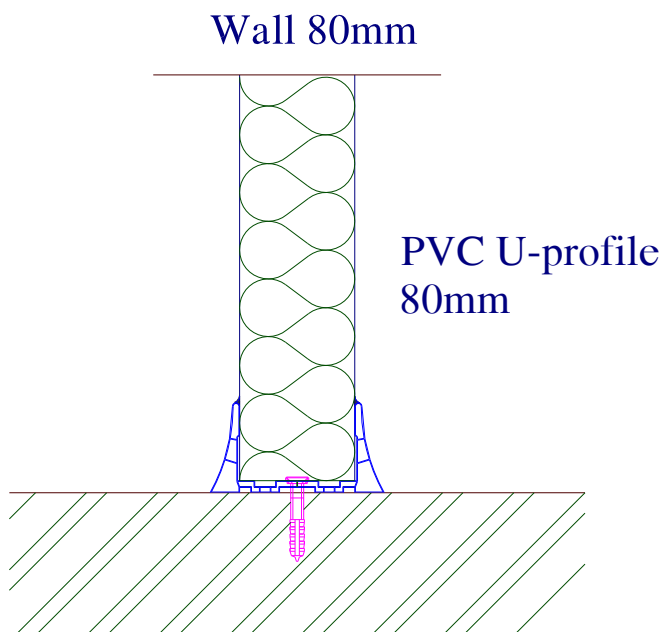
### 2.1.1. Standard PHARMA floor profile

#### Detail Bottom profile



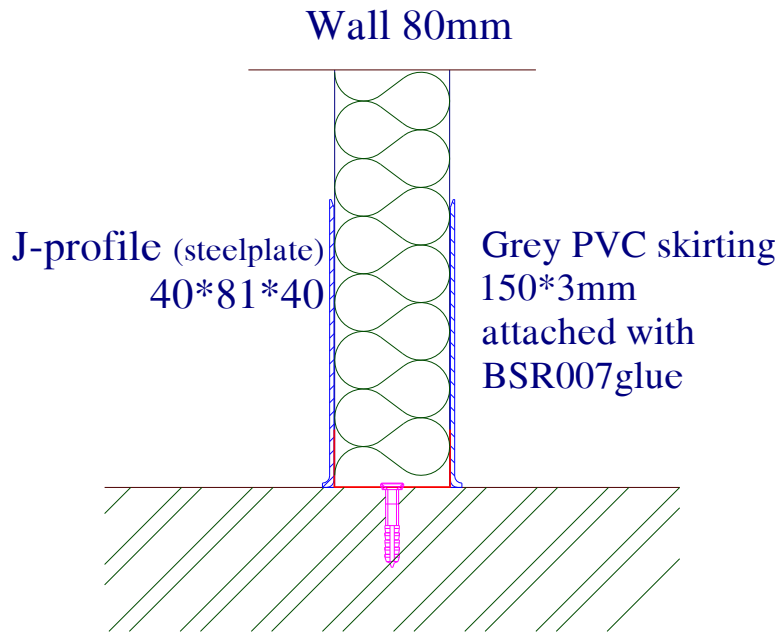
### 2.1.2. Alternative profile

#### 2.1.2.1. U – Floor profile extruded PVC



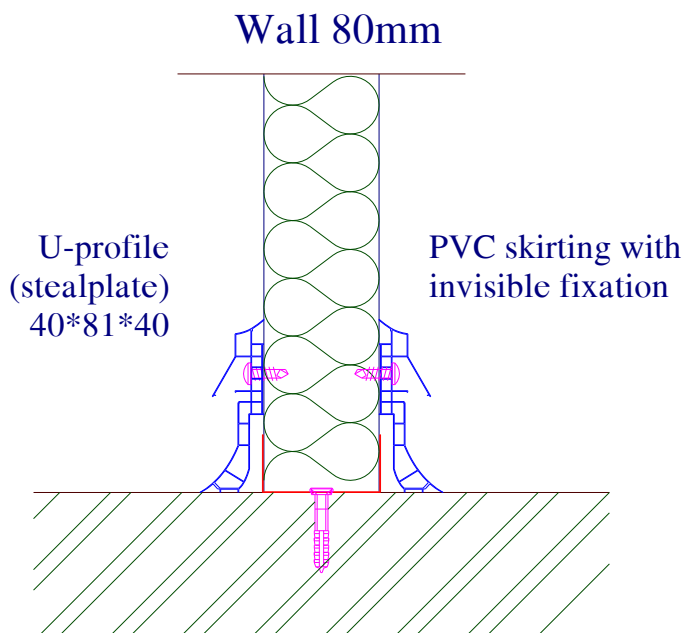
2.1.2.2. U – Floor profile and PVC grey Skirting

Detail  
Bottom profile



2.1.2.3.U – Floor profile and PVC skirting with invisible fixations

Detail  
Bottom profile



### 2.1.3. PHARMA panel system

#### 2.1.3.1. PUR PHARMA panel

The ASTECH Cleanroom wall panel are produced in continuous line. The panel have standard features of polyurethane core. Both side covered by 0.6 mm thickness Pre Painted Galvanized Steel sheet, colour RAL 9010, with protection film.

Thickness: 60mm/80mm/100mm/120mm  
Module: Usefull width=1130mm and 1120mm  
Min.length=200mm, max.length=11500mm  
Insulated: Rigid polyurethane foam (PUR)  
Density=40kg/m<sup>3</sup>  
Thermal conductivity = 0.023 W/mK  
Classification fire reaction:  
- Euroclass according EN13501-1

Thermal transmission factor is  
- 60mm panel = 0.355 W/m<sup>2</sup>K  
- 80mm panel = 0.265 W/m<sup>2</sup>K  
- 100mm panel = 0.212 W/m<sup>2</sup>K

Panel facing  
Standard - both sides covering by 0.6mm thick of Pre Painted galvanized steel with remove film protected  
Painted - polyester coated 20µm + primer coated 5µm  
Colour - RAL 9002, 9010

Surface finish panel With Smooth surface (or Micro-ribbed surface), RAL colour 9010

### ROCKWOOL PHARMA panels

The ASTECH Cleanroom wall panel are produced in continuous line. The panel have standard features of polyurethane core. Both side covered by 0.6 mm thickness Pre-Painted Galvanized Steel sheet, colour RAL 9010, with protection film

Thickness: 80mm/100mm/120mm  
Module: Usefull width=1000mm  
Min.length=200mm, max.length=11500mm  
Insulated: Rockwool core  
Density=100kg/m<sup>3</sup>  
Thermal conductivity at 10°C: λm = 0.040 W/mK  
Classification fire reaction:  
- Euroclass according EN13501-1  
- Core fire class A1 according DIN 14509

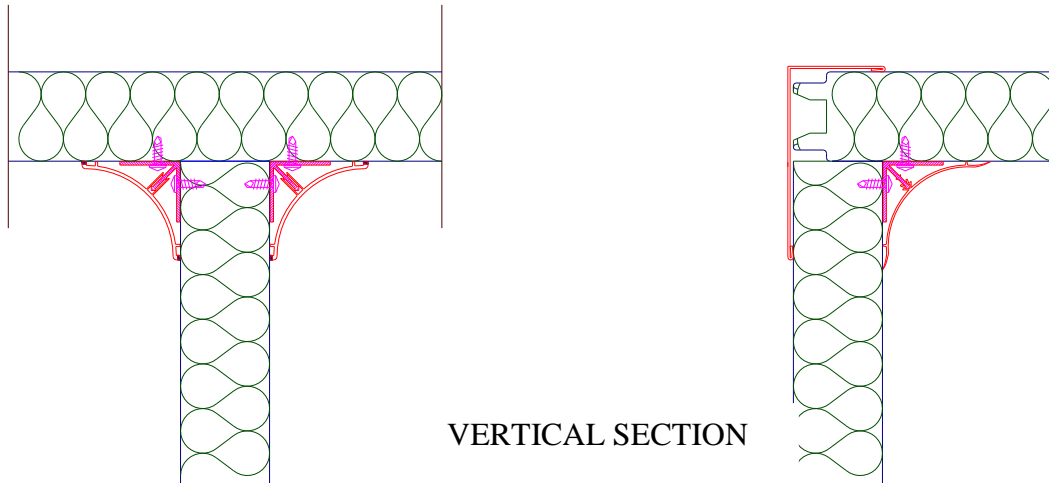
Thermal transmission factor is  
- 60mm panel = 0.750 W/m<sup>2</sup>K  
- 80mm panel = 0.50 W/m<sup>2</sup>K  
- 100mm panel = 0.40 W/m<sup>2</sup>K  
- 120mm panel = 0.33 W/m<sup>2</sup>K

Panel facing

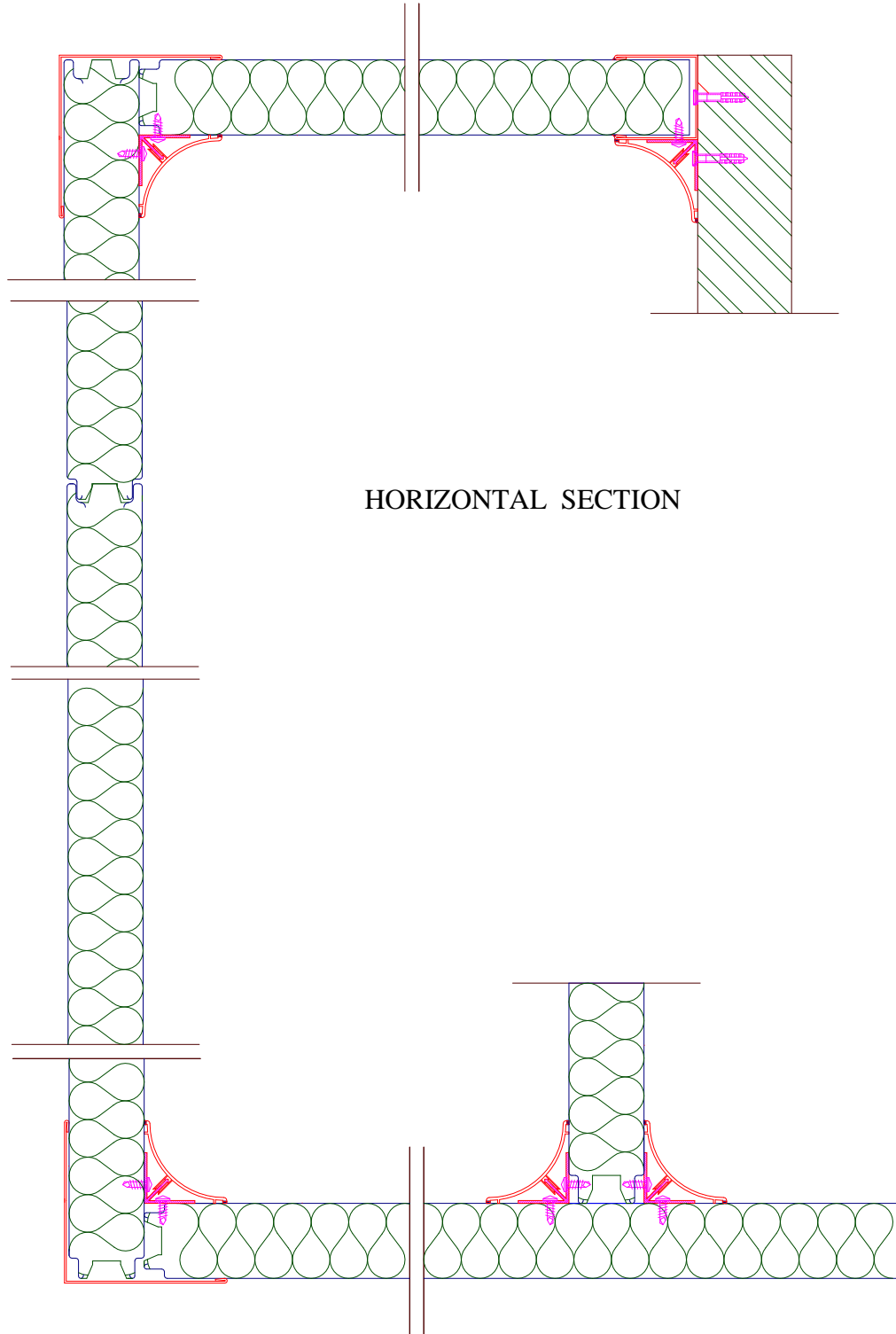
Standard	- both sides covering by 0.6mm thick of Pre Painted galvanized steel with remove film protected
Painted Colour	- polyester coated 20µ + primer coated 5µ - RAL 9002, 9010

Surface finish panel With Smooth surface (or Micro-ribbed surface), RAL colour 9010

Standard corner finish: Outside corner: Painted steel profile – Inside corner: Aluminium Coved profile or PVC Coved profiles







HORIZONTAL SECTION

## 2.1.4. PHARMA Semi Flush glazed

“Cleanrooms windows” are designed as semi-flush mounted glazed chassis for panel system of difference panels thick

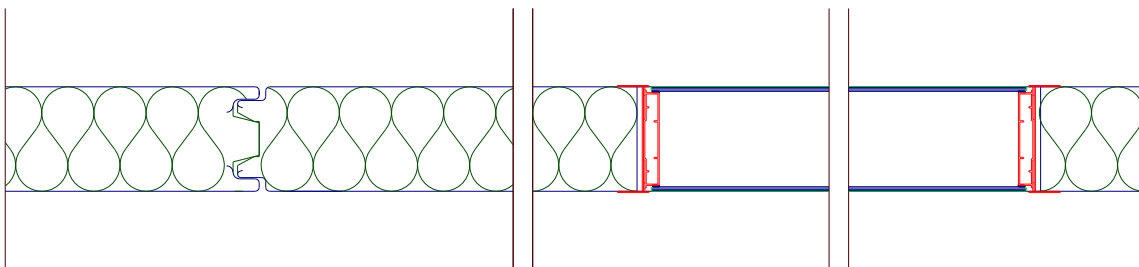
They are consisting of a lacquered (RAL 9010) aluminium clips frame on which is glued on both side a 6mm thick laminated glass. The bottom of alu. frame is provided with moisture absorbing silicagel granules in order to keep the cavity in between both glazing moisture free

### Range of system viewing windows

- Flush double glazed / Semi-Flush double glazed
- Laminated or toughened safety glass
- Available in various sizes up to 2400 mm high
- Silicone sealed including gel moisture absorption system to eliminate fogging

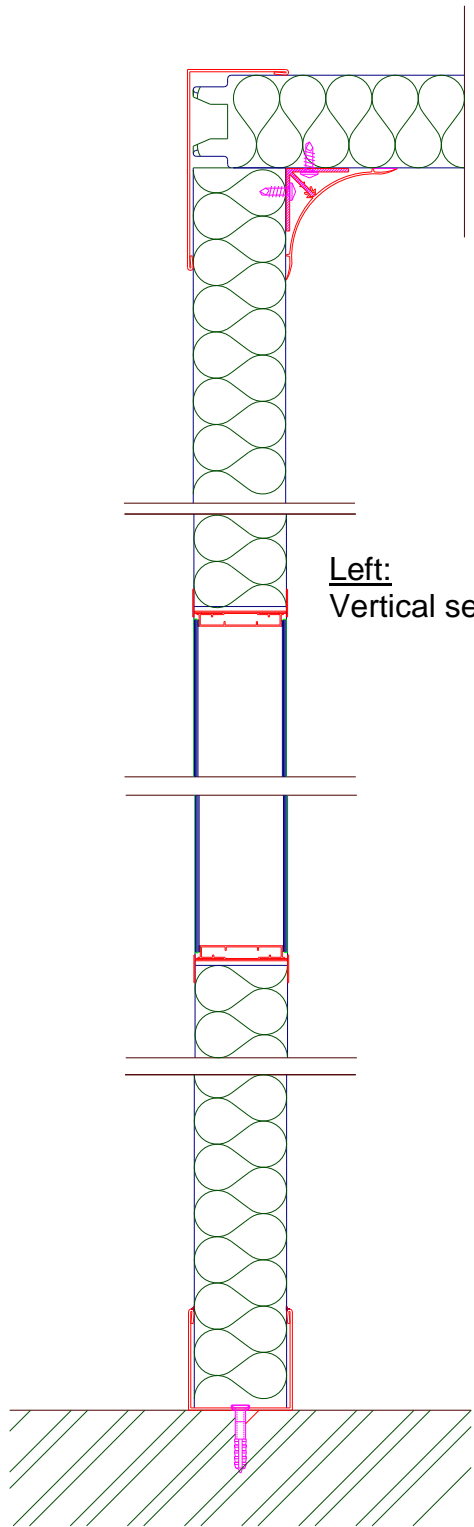
### 2.1.4.1. Technical specifications

<u>Type:</u>	Modular in steps of 300mm
	Height=900-1200
	Width=600-900-1200-1800-2400
<u>Thickness:</u>	80mm
<u>Application:</u>	inside only
<u>Option:</u>	Filter film (yellow)
	Crash panels



Above:

Horizontal section of window PHARMA assembly



Left:  
Vertical section of window PHARMA assembly

## 2.1.5. PHARMA semi – door with aluminium U-frame

### 2.1.5.1. General

CLEANROOMS semi-flush door panel are designed in such way that install they are flush one side of panels.

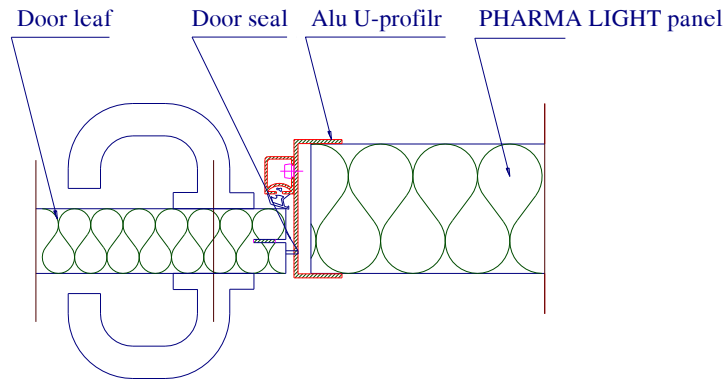
The door frame is made from an extrude and lacquer and fitted with rubber gasket, called U-frame wish fits over the panels ISO. The bottom of the door is equipped with a device called 'drop-seal' which lowers automaticall when the door id close and thus ensure the air seal at the bottom level of the door.

Semi-Flush door panels are available as “single leaf “ as well as “double leaf doors”

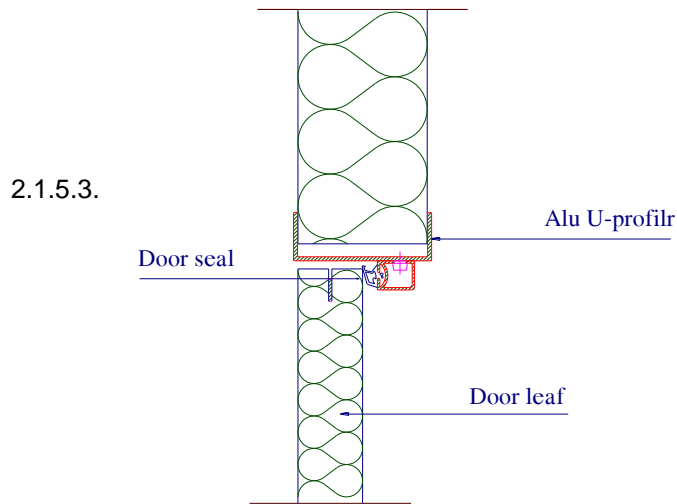
All door-post and door frame profiles are round and easy to clean type so to permit periodical cleaning according to FDA/GMP procedures.

### 2.1.5.2. Technical specifications “single leaf door” – semi flush

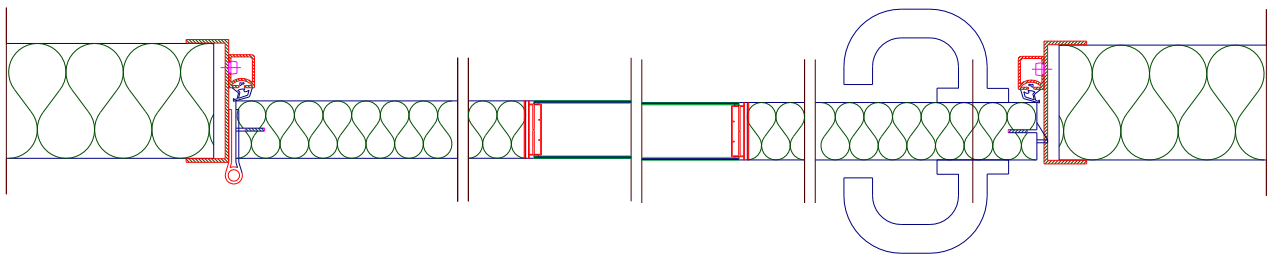
Type:	Door assembly
Thickness:	80mm for flush system 40mm for semi-flush system
Insulated core:	-Polyurethane -Stone wool
Dimension:	Height: 2200mm Width: 1067mm, panel width 1200
Application:	For inside use only
Door Hardware:	- Stainlss steel hinged - Stainless steel handle - Door lock with key
Standard colours:	RAL 1015- 5008 – 5010 – 7032 – 9002 - 9010
Options:	- Flush windows 400 (w) x 700(h) - Build in electromagnetic lock (2V) - Stainless steel push-plate - Emergency door with panic bar - Door stop - interlock system



DETAILS HORIZONTAL SECTION



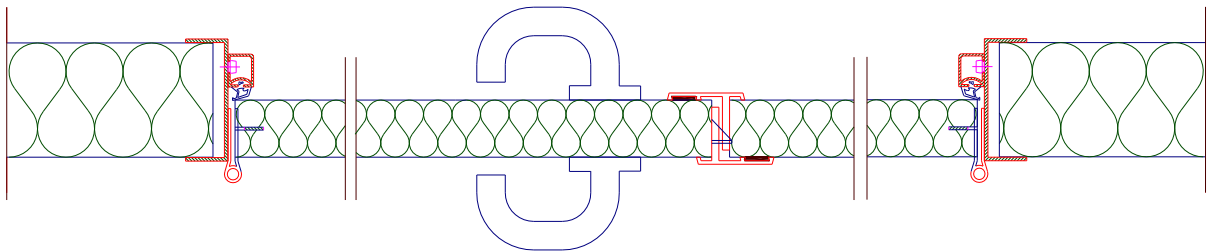
DETAILS VERTICAL SECTION



HORIZONTAL DOOR LEAF

#### 2.1.5.4. Technical specifications “double leaf door”

Type:	Door assembly, flush on both sides of the panels system
Thickness:	80mm for flush system 40mm for semi-flush system
Insulated core:	Polyurethane Stone wool
Dimension:	Height: 2200mm width: 1067 + 300, panel width 1500 1076 + 600, panel width 1800 1067 + 900, panel width 2100
Application:	For inside use only
Door Hardware:	- Stainss steel hinged - Stainless steel handle - Door lock with key
Standard colours:	RAL 1015- 5008 – 5010 – 7032 – 9002 – 9010
Options:	- Flush windows 400 (w) x 700(h) - Build in electromagnetic lock (2V) - Stainless steel push-plate - Emergency door with panic bar - Door stop - interlock system



HORIZONTAL DOUBLE DOOR LEAF

### 2.1.5.5. Technical specifications “Hermetical Seal Sliding Doors”

Description : An isolated door leaf of 60mm thickness with a core of polyurethane foam or stone wool finish coving by formica 0.9mm, HPL on 5,1 medeboard both sides

- The doorframe is finished with flat edges
- PVC sliding guides at the underside of doorframe.
- The door leaf has standard a build-in and build-out handle.
- Coving cap in aluminium, white painted RAL 9002

Insulated core: Polyurethane foam  
Stone wool  
Double Glass

AIR-TIGHT sliding door (Hermetical seal)

Track of Hermetically seal sliding doors

Patented with special indentation, angled at 45 degrees, allowing the door to fall down and in, creating a better than 99% airtight

Standard dimension

- usable dimesion width 1200 hight 2300mm
- orther request

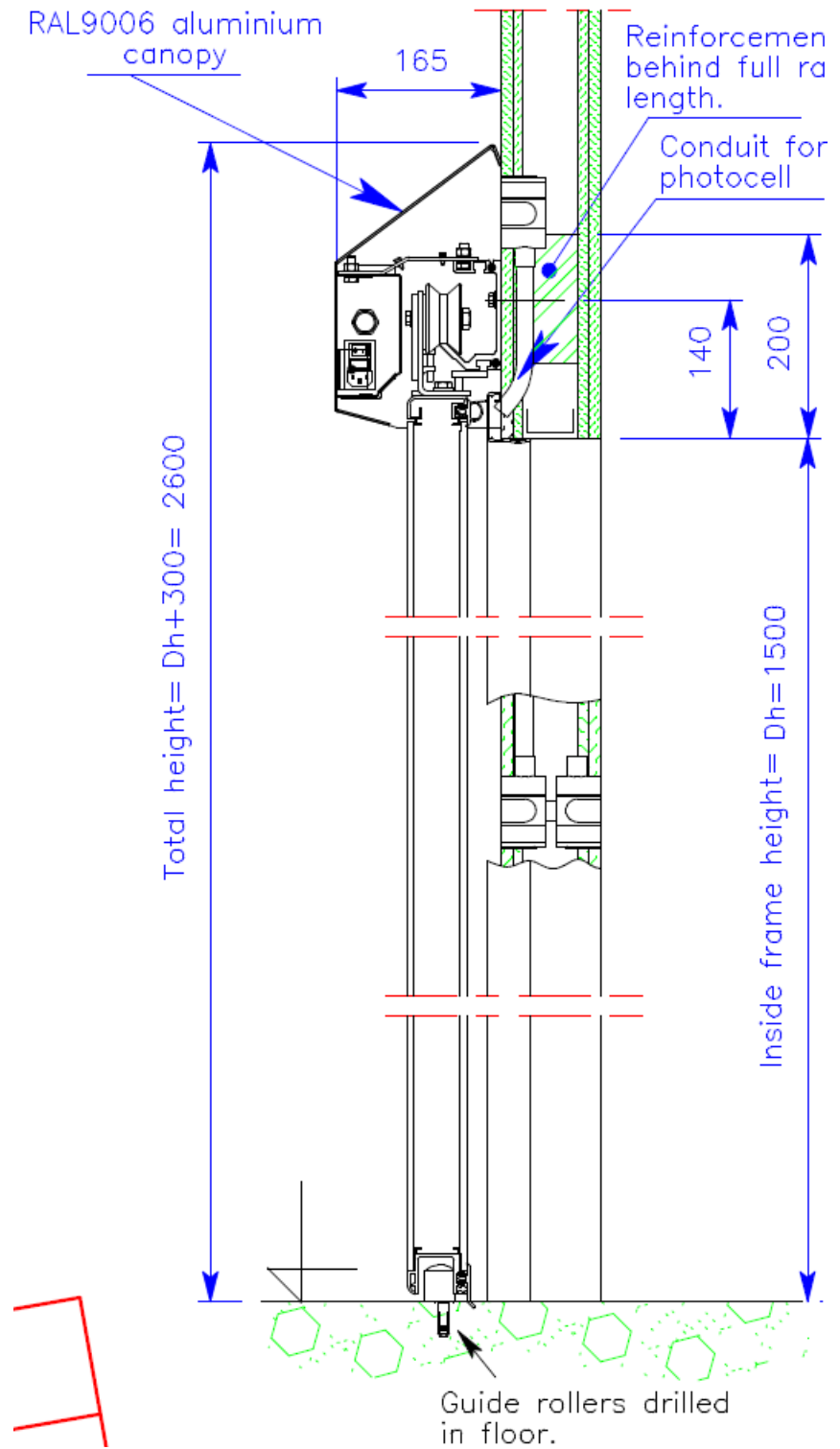
Possible option:

- Door windows:
- in a rubber profile 400 x 700mm
- in an aluminium profile, same execution as the clean room window

Automatic operator:

automation on sliding doors is provided with all necessary devices, opening through push button or proximity switch, and as well safety system for accidental door closure. The automation system may be interface to your alarm/fire alarm system so to open door in case of emergency (at electrical specialists care).

Interlocks: we have quoted separately the interlocks for doors, so you may see the different options. We have available standard system for 2, 3 and 4 doors which can be used either for leaf door and sliding doors (only when we specified to our sub supplier of these small devices, there are some minor details to select). Interlocks include as well small visual panels green/red on doorpost frame to be fed with electrical cables from top of the walls through adequate concealed conduits (at wall suppliers care and charge).





### 2.1.5.6. Technical specifications “High speed doors”

Description :

Metallic structure in self bearing galvanized steel, with 2 U bent vertical, top horizontal with bar shaft and gears inside.  
HP 1 engine, self-breaking, reduce 140 rpm  
Steel bar are horizontal insert in PVC canvas approx. each 1000mm  
Curtain with Class 2 self -extinguishing double coated PVC canvas, weigh 900 gr/sqm,  
Colour ; yellow, green, white, grey and cream

**Opening/closing speed:** approx. 1 m/sec.

**Standard supply:**

No. 1 security photo cells couple (UNI 8612) – No .1 row of window/s h 750, width and quantity in function requested door width depending on general dimensions of door (and line vision transparant sector height mm 600 x width depending on general dimensions). No. 1 control panel with open/close/stop functions – no . 1 yellow aerial blinking light. Aerial device for manual opening in case of current failure.

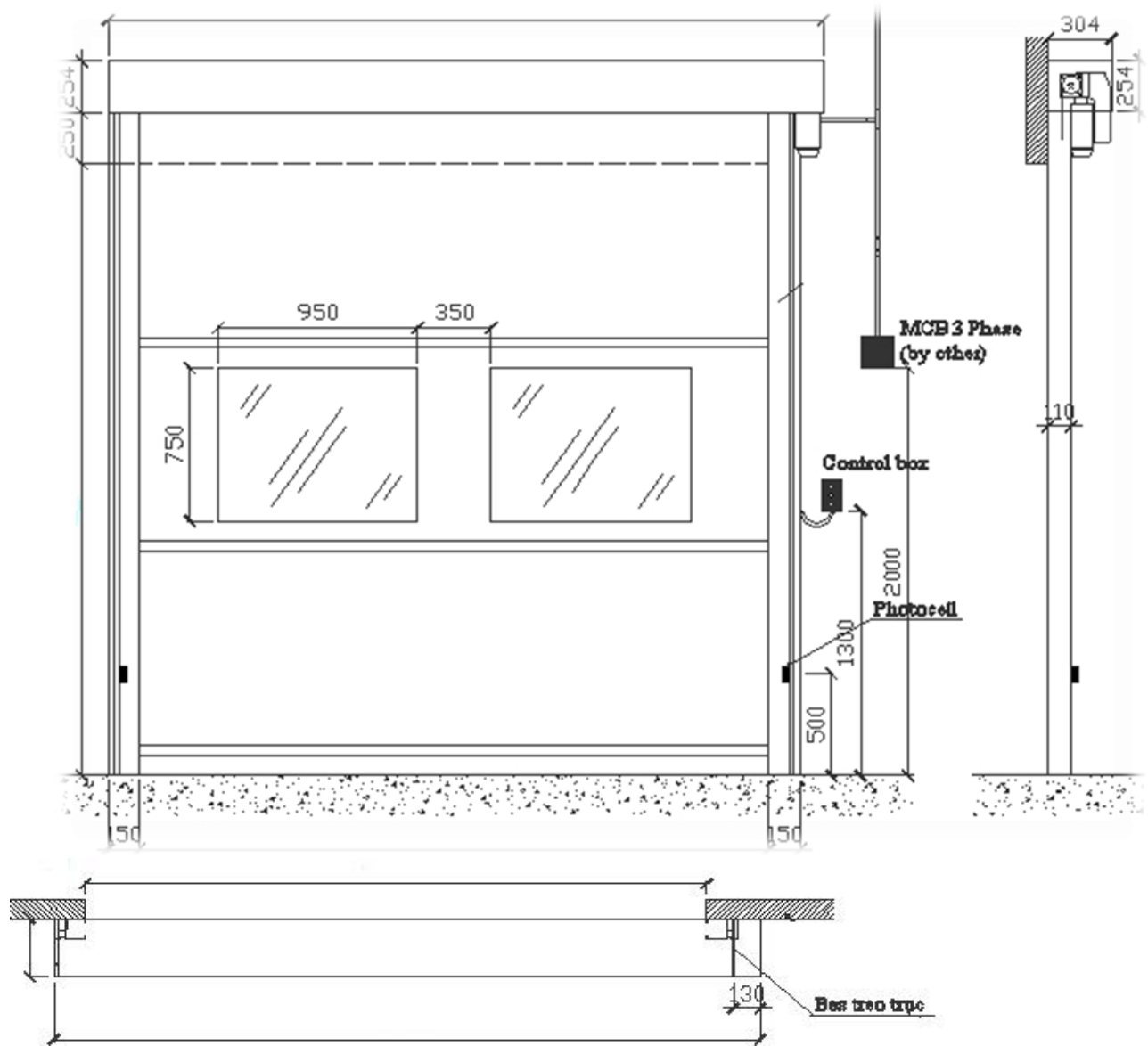
Standard dimension

- usable dimesion width 4000 – 4000
- orther request

Possible option:

- Door windows:
- interlock system
- Radar open
- Receiver for remote controls
- Two channels remote control
- Pull cord switch
- Key switch
- Frame in stainless steel

Interlocks: we have quoted separately the interlocks for doors, so you may see the different options. We have available standard system for 2, 3 and 4 doors which can be used either for leaf door and sliding doors (only when we specified to our sub supplier of these small devices, there are some minor details to select). Interlocks include as well small visual panels green/red on doorpost frame to be fed with electrical cables from top of the walls through adequate concealed conduits (at wall suppliers care and charge).



## 1. PHARMA ceiling system

### 1.1. General

The ASTECH Cleanrooms Ceiling panel have Standard features of Mineral wool continuous panel for thickness 50 mm. Both side covered by 0.6 mm thickness Pre Painted Galvanized Steel sheet, colour RAL 9010, with protection film.

Total thickness panels, which are self-support is **50mm**

The core consist of mineral wool, which have been injected under high pressure, with minimum 100kg/m<sup>3</sup>

Each 3000mm panel weight is suspension by "Omega" bar – The 'Omega' bar to be suspension to direct beam of roof by rods M10

LIGHTINGS SYSTEM is not include in our scope of works - We will only cutting hole of panels according to command of M&E contractor

HEPA filter is not include in our scope of works – We will only cutting hole of panels according to command of M&E contractor

THE CEILING IS WALKABLE – Max. admissible mobile load 100kg – For maintenance of light Fixtures and other techniques.

Air ducts, Piping, cable ducts and other techniques MUST BE suspension to the existing roof construction.

#### ELECTRIC CABLE OPENINGS

Cut or recess openings in the wall or ceiling area of the insulation elements (according to instruction of the Owner) and fill with foam after installation of the electric cables. Cable openings to a diameter of 60 mm.

#### CEILING OPENING FOR ACCESS TO THE ROOF

Cut to form flap door openings in the ceiling area of the insulation elements (according to instruction of the Owner), create the supplement for and fill out with foam and seal with a coating in the colour shade of the insulation elements after the laying of installations.

Dimension: ca. 850mm x 850mm

### 1.2. PHARMA ceiling panels (PUR)

The ASTECH Cleanroom wall panel are produced in continuous line. The panel have standard features of polyurethane core. Both side covered by 0.6 mm thickness Pre-painted Galvanized Steel sheet, colour RAL 9010, with protection film.

<u>Thickness:</u>	60mm/80mm/100mm/120mm
<u>Module:</u>	Usefull width=1130mm and 1120mm Min.length=200mm, max.length=11500mm
<u>Insulated:</u>	Rigid polyurethane foam (PUR) Density=40kg/m <sup>3</sup> Thermal conductivity = 0.023 W/mK Classification fire reaction:

- Euroclass according EN13501-1
- Core fire class A1 according DIN 14509

Thermal transmission factor is:

- 60mm panel = 0.355 W/m<sup>2</sup>K
- 80mm panel = 0.265 W/m<sup>2</sup>K
- 100mm panel = 0.212 W/m<sup>2</sup>K

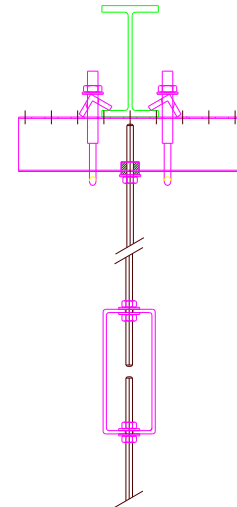
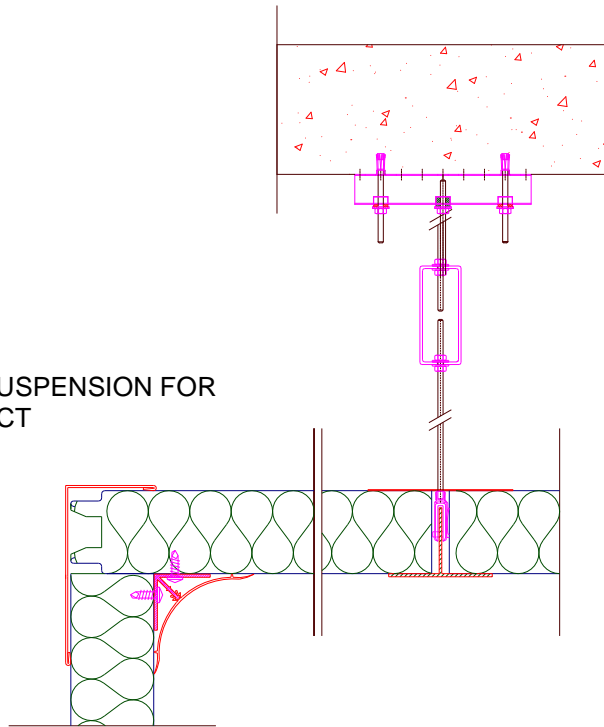
Panel facing

Standard - both sides covering by 0.6mm thick of pre-painted galvanized steel with remove film protected

Lacquer - polyester coated 20µ + primer coated 5µ  
 Colour - RAL 9002, 9010

Surface finish panel With Smooth surface (or Micro-ribbed surface), RAL colour 9010

CEILING SUSPENSION FOR CONSTRUCT



CEILING SUSPENSION FOR STEEL STRUCTURE



