



DRYWALL & CEILING PROFILES



www.unitech-ikk.com
www.sfsp-ikk.com
www.ikkgroup.com



UNITECH
For Building and Construction Materials

DRYWALL & CEILING PROFILES

PRODUCED BY



SPECIALIZED FACTORY FOR STEEL PRODUCTS
SIGMA FACTORY FOR STEEL PRODUCTS



Drywall & Ceiling Profiles

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**ABOUT
UNITECH**

Unitech Introduction

Unitech is a Saudi based Multinational Company providing building and construction solutions that is empowering the region's construction industry for the past 40+ years. We have been successfully providing solutions through mastering our main business activities: Design, Manufacture and Trade.

**Design:**

Provide Design & Engineering Solution to the construction sector, complying with international & local standards.

**Manufacture:**

Operating with Global Standards, we are widely recognized for our advanced light steel solutions and Hot-Dip Galvanization Facility.

**Trade:**

We are one of the region's largest Importer/Exporter of Building & Construction Materials.

Unitech is an **ISO QMS 9001:2015** certified company and is a member of the US Green Building Council. Our experienced teams and operations are present across the Middle-East North Africa regions (MENA) and Pakistan, giving us an extensive regional network that benefits our clients and partners. We are also present in Europe via our design and engineering office in Stuttgart.

For more information, please visit: www.unitech-ikk.com

Mission & Vision

Mission

UNITECH is committed to transforming the construction and building sector by equipping engineers with advanced solutions and expert support at every project stage. As a leading industry provider, we empower our team to deliver exceptional service that consistently exceeds expectations. By fostering a cohesive and forward-focused culture, we attract and retain top talent, driving our mission forward. Our innovative, customer-centric products set new industry benchmarks and pave the way for future progress.

Vision

To be the Customer's First Choice...

Our Strategy

Unitech's strategy continues to focus on accelerating its business throughout the region, to service the construction sector via superior products & solutions, backed up by a group of highly experienced people in the field. Unitech also aims to enhance its geographical presence in its areas of interest and where opportunities exist.

We combine a deep understanding of building and construction materials markets with a successful history of upgrading our products and developing our processes.

We have the qualified employees, the know-how and the products to service major construction projects, medium sized to mega projects taking in care our positive contribution to our societies.

We thrive towards excellence by acknowledging:



Customer Satisfaction



Partner and Supplier Relations



Employee Retention



Positive Influence on Society and Environment

Our Employees

We are a company that prides itself on its 'family' culture and we seek out high-caliber people. We are a company that has, at its core, a team philosophy that is clearly apparent each and every day - there is a real sense of being there for one another.

We believe in nurturing the skills of our team members and providing growing levels of responsibility. Our people bring unique skills, energy, expertise, experience and perspectives to our workforce.

Unitech's family of employees consists of experienced, well-motivated and dedicated team of engineers, technicians, sales executives and management staff. This team is committed to serve our customers, with the best solutions available in the market.

Our Journey

40+ Years of Excellence

Since 1979, having been set to become an independent company under the framework developed by Sheikh Isam Kabbani, Unitech started its journey of success with confidence and enthusiasm, hard work and care to detail and a commitment to become the best within its industry.

Its dedicated people could only imagine what the future could bring to this newly established entity. Unitech's journey of success has been marked with outstanding achievements and superior accomplishments. Year by year, Unitech has been acknowledged as the "First Choice for Building & Construction Material" by major construction consultants in the region, governmental authorities, well-known contracting and project development corporations.

We have obtained invaluable knowledge about the construction industry in general, providing specialized solutions to construction projects throughout MENA region. From a couple of outlets in Saudi Arabia, Unitech today is present all over the Kingdom and in several countries throughout the region providing its products and solution to various locations worldwide.



Est. 1979

THE BEGINNING

Unitech was established in the Western Region of KSA as a Sales Company selling basic construction material.

During the same year, another branch was established in the heart of the kingdoms capital, Riyadh.



1980 to 1989

AGE OF GREAT RISK

Unitech Dammam was open for business in the oil-rich eastern coast of Saudi Arabia.

Within these 10 years the idea of in-house manufacturing facility was born and Specialized Factory for Steel Products (SFSP) was established in Riyadh.



1990 to 1999

AGE OF GROWTH

Branches of Unitech were established in Makkah, Madina, Khamis Mushayt and Jubail.

The need to increase its range of products and the necessity to have production lines for mass production lead to the decision to move the SFSP Factory from Riyadh to Jeddah.

Pioneering Construction Since 1979

We are constantly evolving in order to become more flexible in our operations, more sustainable in our societies, and more innovative in conducting our business.

By delivering superior products tailored to the specific construction needs, ambitious solutions, and an outstanding customer service, we serve today's needs through developing tomorrow's markets.

Helping construction projects experience success is what fueled its days. Unitech is keen to continue offering superior products, a wide spectrum of solutions, governed by our top-notch management style.

Such aspirations require trust in our responsibilities. Our Responsibilities for the future and with this in mind we continue to target excellence with committed efforts.



2000 to 2015

AGE OF CONSTRUCTION BOOM

Qassim, Hofuf and Yanbu Branches were inaugurated in KSA and branches outside KSA were established in UAE, Egypt, Lebanon, Oman, Jordan and Germany in order to facilitate the construction boom in the Middle East.

During this period SFSP state of the art facilities were launched in DIC UAE and Unitech thrived, marking some of the best years in business.



2016 to 2019

AGE OF GREAT CHANGE

This period, marked the age of great change in order to align with the economic shift in the GCC and the world in general.

Company wide right sizing initiatives were taken especially in KSA to align with the kingdom's ambitious vision 2030 and during this period the upgraded SFSP state of the art facilities were launched in JIC 3 KSA.



2020 & Beyond

NEW FRONTIER

This period marks the expansion of Unitech into the South and Central Asian territories. We aim to cater these markets and play an active role in these countries development.

During 2020, Unitech Pakistan was officially inaugurated and marked the entrance of Unitech into Asian Market.

Our Manufacturing Arm

SFSP

SFSP is a leading manufacturer and fabricator of light steel construction products in the region, servicing the construction sector through its state of the art facilities which are spread all over the MENA region. Products of SFSP are manufactured from quality raw material according to the relevant international standards to meet all kinds of construction projects requirements, such as MEP, façade, blockwork & waste management systems.

Commitment to Quality

Our commitment to quality is clearly revealed in the way we do our business; our processes, our close interaction with our clients as well as the strict product inspection procedures. To achieve this, we have implemented quality systems & processes that are continually being improved to satisfy our customer's needs.

Product Development

Product development process is substantial to the success of our business. We leverage all resources to provide up-to-date reliable products, environmentally friendly, durable to withstand the toughest weather conditions. Our engineers are constantly testing the products, seeking to present a combination of performance and quality across all our product ranges.

For more information, please visit:
www.sfsp-ikk.com

Value Chain

Our value chain starts up with the quality of the raw materials and ends up in client satisfaction. Our business practices backed up by all technologically essential business elements are supported by an efficient logistics, warehousing and delivery system that maintains a valuable supply chain for products.

The value chain is integrated in our business module, giving us strength and preserving our good reputation gained through the past 4 decades.

Engineering Specialty

Our products development engineers integrate their vast knowledge to provide the perfect solution to projects within the required specifications and time-frame.

The products development department maintains highly skilled calibers with a dedication towards efficient and reliable solutions even in the most complicated cases where delicacy and skillful approaches are indispensable.

Design and Product Safety

Our design and engineering office in Stuttgart ensures our products comply with relevant European and international standards of fabrication, taking into attention the safety factors which govern the public safety of projects.

Sustainability and Responsibility

We are constantly working hard to reduce our environmental footprints while maintaining the high quality and safety standards. We have set our targets to become three times more efficient in the next 10 years. Our responsibility towards our stakeholders is valued through our positive contributions towards our colleagues, our business partners and our communities as well.

Our Design Office



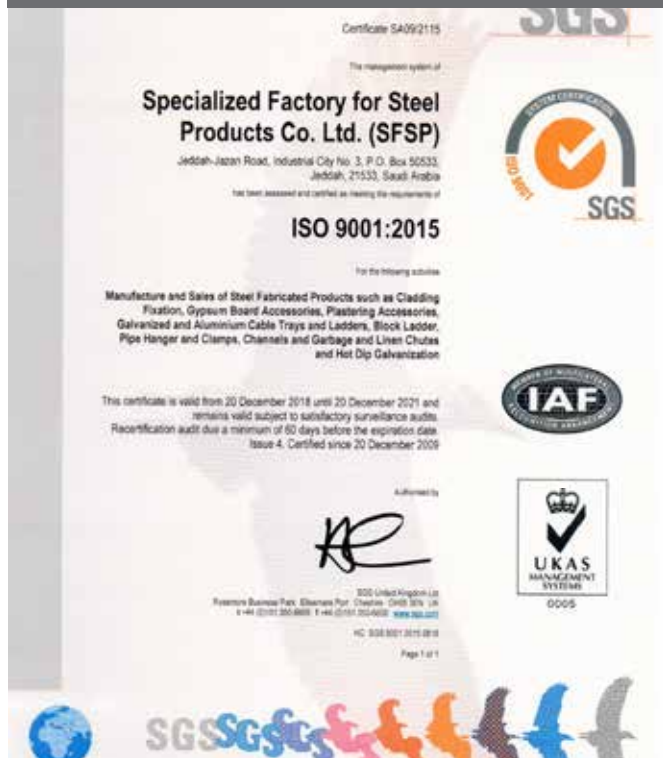
UNITECH DEUTSCHLAND is a "Design & Engineering" Office. Unitech Germany support Unitech & SFSP operations through well-informed cadre of engineers. They help our customers from conception to the completion by delivering design, engineering and project management services.

Thanks to our multidisciplinary team in Unitech Germany and their expertise, we assist you in your ambition to develop your innovation, your engineering and your organization. Our goal is to serve our clients through these elements:

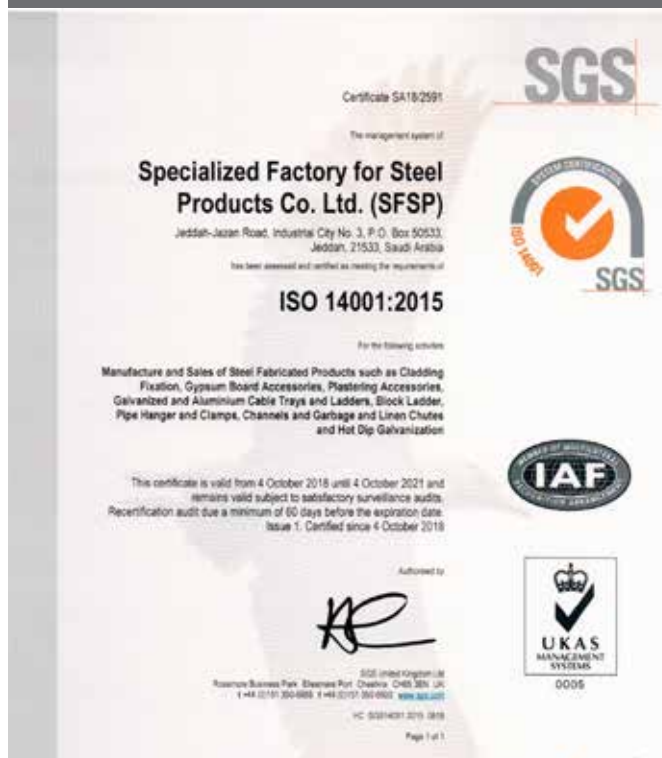
- Excellent in engineering ideas and solutions
- High quality in performance
- Firmness on meeting deadlines

SFSP Certifications

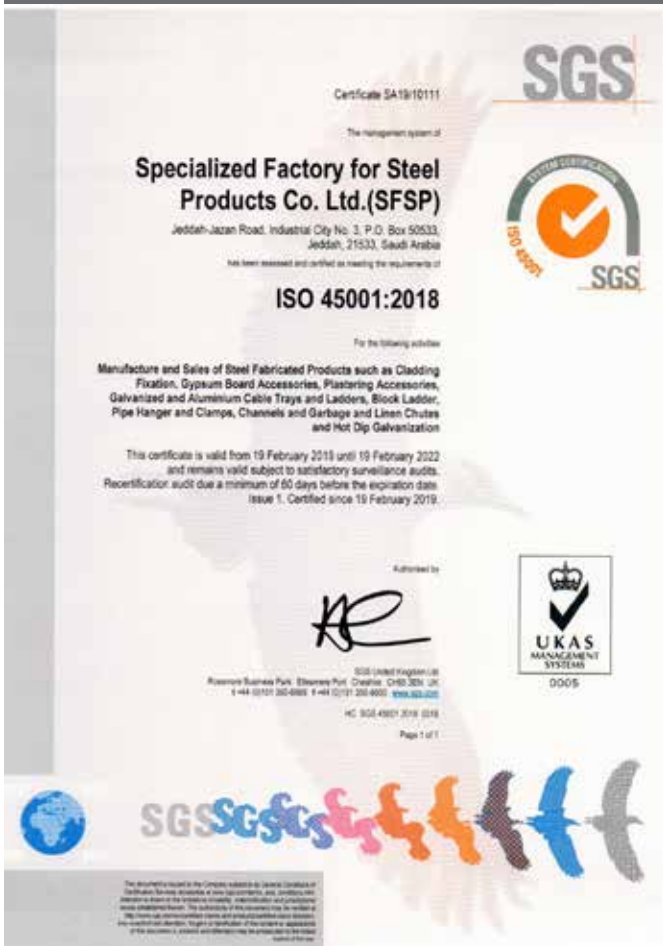
ISO 9001 : 2015 (Quality Management Systems)



14001 : 2015 (Environmental Management System)



ISO 45001 : 2018 (Occupational Health & Safety)



STD 096 (Q-Mark Certificate)



ISO 9001 : 2015
(Quality Management System)



Certificate of Registration

This is to certify that the Management System of:

Sigma Factory for Steel Products

P.O. Box 37991, Saih Suhaib - 3, 4 Round About, Dubai Industrial City, Dubai,
United Arab Emirates.

has been approved by Alcumus ISOQAR and is compliant with the requirements of:

ISO 9001:2015



Certificate Number: 22244-Q15-001
Initial Registration Date: 23 February 2015
Previous Expiry Date: 22 February 2024
Recertification Date: 14 November 2023
Re-issue Date: 30 November 2023
Current Expiry Date: 22 February 2027

Scope of Registration:

Trading and Manufacturing of all kinds of Steel Related Construction Materials.

Signed:
Alyn Franklin, Chief Executive Officer
(on behalf of Alcumus ISOQAR)

ISO 14001 : 2015
(Environmental Management System)



Certificate of Registration

This is to certify that the Management System of:

Sigma Factory for Steel Products

P.O. Box 37991, Saih Suhaib - 3, 4 Round About, Dubai Industrial City
Dubai, United Arab Emirates.

has been approved by Alcumus ISOQAR and is compliant with the requirements of:

ISO 14001:2015



Certificate Number: 22244-EMS-001
Initial Registration Date: 22 September 2015
Previous Expiry Date: 21 September 2024
Recertification Date: 04 June 2024
Re-issue Date: 04 July 2024
Current Expiry Date: 21 September 2027

Scope of Registration:

Trading and Manufacturing of all kinds of Steel Related Construction Materials.

Signed:
Alyn Franklin, Chief Executive Officer
(on behalf of Alcumus ISOQAR)

This certificate will remain current subject to the company maintaining its system to the required standard.
This will be monitored regularly by Alcumus ISOQAR. Further clarification regarding the scope of this certificate
and the applicability of the relevant standards' requirement may be obtained by consulting Alcumus ISOQAR.

OHSAS 45001 : 2018
(Health & Safety Management System)



Certificate of Registration

This is to certify that the Management System of:

Sigma Factory for Steel Products

P.O. Box 37991, Saih Suhaib - 3, 4 Round About, Dubai Industrial City
Dubai, United Arab Emirates.

has been approved by Alcumus ISOQAR and is compliant with the requirements of:

ISO 45001:2018



Certificate Number: 22244-OHS-001
Initial Registration Date: 22 September 2015
Previous Expiry Date: 21 September 2024
Recertification Date: 10 June 2024
Re-issue Date: 20 June 2024
Current Expiry Date: 21 September 2027

Scope of Registration:

Trading and Manufacturing of all kinds of Steel Related Construction Materials.

Signed:
Alyn Franklin, Chief Executive Officer
(on behalf of Alcumus ISOQAR)

This certificate will remain current subject to the company maintaining its system to the required standard.
This will be monitored regularly by Alcumus ISOQAR. Further clarification regarding the scope of this certificate
and the applicability of the relevant standards' requirement may be obtained by consulting Alcumus ISOQAR.

Registered in United Arab Emirates as BM TRADA VENTURES LLC (TRADING AS BMTV)
Unit 904, Business Avenue Building, PO Box 30945, Dubai, UAE

**BS EN 61537:2007 (KEMA - KEUR Certified For Cable
Management Products)**

CERTIFICATE

Issued to:
Applicant:
Isam Kabbani Trading Est. (Unitech)
Rashidiya
Dubai, United Arab Emirates

Manufacturer/Licensee:
Sigma Factory for Steel Products (SFSP)
Saih Suhaib 3, 4RA, Dubai Industrial City,
Dubai, United Arab Emirates

Product : Cable management system
Trade name : SFSP
Types : IE-CT-X-10, IE-CT-X-12, IE-CT-X-15, IE-CT-X-20

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard IEC 61537:2006 and EN 61537:2007
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2156954

DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR certification agreement and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on: 20 January, 2014 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 2156954.01

DEKRA Certification B.V.

Signature of G.J. Zoetbrood
G.J. Zoetbrood
Managing Director

Signature of H.R.M. Barends
H.R.M. Barends
Certification Manager

© Integral publication of this certificate is allowed

ACCREDITED BY THE
DUTCH ACCREDITATION
COUNCIL



DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Registered Arnhem 09085396

UL Certification* (Cable Trays)

CERTIFICATE OF COMPLIANCE

Certificate Number 20160816-E483358
Report Reference E483358-20160816
Issue Date 2016-AUGUST-16

Issued to: Sigma Factory for Steel Products
Saii Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai UNITED ARAB EMIRATES

This is to certify that representative samples of CABLE TRAYS
Steel Channel Cable Tray, Ventilated, Heavy Duty (HCT),
Very Heavy Duty (VCT) cable trays.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

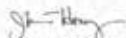
Standard(s) for Safety: ANSI/NFPA 70, "National Electrical Code" (NEC)
Additional Information: See the ULC Online Certification Directory at www.ulc.ca
for additional information

Only those products bearing the ULC Listing Mark should be considered as being covered by ULC's
Listing and Follow-Up Service.

The ULC Listing Mark generally includes the following elements: the symbol ULC in a circle, with
the word "LISTED", a control number (may be alphanumeric) assigned by ULC, and the product
category name (product identifier) as indicated in the appropriate ULC Directory.

To confirm the status, validate the above information via the online directory.

Look for the ULC Listing Mark on the product.


Joseph Henry, General Manager, Director of Sales - Canada
UNDERWRITERS LABORATORIES OF CANADA INC.

Any information and documentation involving ULC Mark services are provided on
behalf of ULC. For questions, please contact ULC's Customer Service Dept.

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UL Certification* (Chute Type Fire Doors)

CERTIFICATE OF COMPLIANCE

Certificate Number 20170811-R38825
Report Reference R38825-20170811
Issue Date 2017-AUGUST-11

Issued to: Sigma Factory for Steel Products
Saii Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai UNITED ARAB EMIRATES

This is to certify that representative samples of CHUTE-TYPE FIRE DOORS
Chute-type fire door and frame assembly of the insulated
type, rated up to and including 2 hr, 450°F Temperature
Rise Rating.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/UL 10B, Fire Tests of Door Assemblies
Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

UL Certification* (Fire Barrier)

CERTIFICATE OF COMPLIANCE

Certificate Number R40146
Report Reference R40146-20220524
Date 2022-May-25

Issued to: Sigma Factory for Steel Products
Saii Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai AE

This is to certify that representative samples of MECHANICAL JOINT ASSEMBLIES
The products covered by this Section are mechanical joint
assemblies designated Nexus Fire Barrier (NFB) for use in
various joint systems described in the Fire Resistance
Directory.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 2079, Tests for Fire Resistance of Building Joint
Systems

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up
Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's
Follow-Up Services.

Look for the UL Certification Mark on the product.


Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at ULCustomerService@ul.com



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SFSP Products

SFSP produces a variety of products ranging from cable management systems; cable trays, cable ladders, basket trays, trunkings and support systems, to mechanical cladding fixations, steel lintels and block work accessories, plasterers' beads, expanded metal and block work reinforcement, strut channel systems, pipe clamps & hangers, gypsum profiles as well as garbage and linen chutes. With the introduction of new machines and the enhancement of production methods, SFSP continues to develop its production methods systematically as well as thoroughly. Its design office in Stuttgart, Germany provides a comprehensive design and calculation case studies, enabling the factory to have the safety factors required for the usage of its products.



MEP Solutions

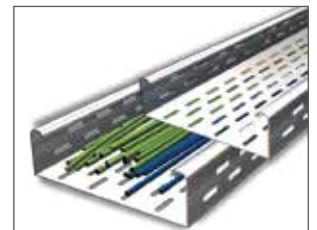
Cable Management Systems

Cable Management Systems are economical and designed to meet most requirements of cable and electrical wire installations and comply to international standards of fabrication and finishing.



Cable Trays & Accessories

Cable Trays are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrications and finishes.



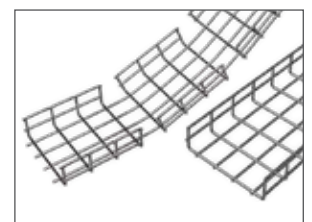
Cable Ladders (Welded & Swaged)

Cable Ladders of different side heights are available upon request.



Basket Trays & Accessories

SFSP's Basket Tray systems make connections fast and simple with limited need for tools. Its design allows for continuous airflow, and prevents heating up of cables. SFSP's Basket Tray comes in a full range of sizes and is made with high-strength welded steel wires.



Cable Trunkings

Cable Trunkings and Accessories are offered in a comprehensive range. Mill galvanized, hot-dip galvanized, and powder coated are the various finishes produced in our factories.



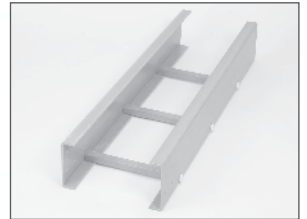
Underfloor Trunking

Underfloor Trunking Systems solutions incorporate a range of products for the distribution of power and data services, it is a coordinated set of containments that protect, segregate, contain, and route cables within a given environment.



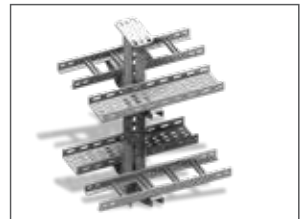
Fiberglass Reinforced Plastic (FRP) Cable Tray / Ladder

SFSP Fiberglass Reinforced Plastic (FRP) Cable Management Systems are designed, manufactured, and tested to be installed in most harsh environmental conditions of onshore and offshore facilities for several industries including Oil and Gas, Petrochemicals, Manufacturing, Mining and others.



Cable Management Support Systems

Cable Support Systems are well designed to provide necessary support for cable trays, cable ladders and trunkings. Cable supports are manufactured according to common standards from high quality raw materials.



C-Channel Strut Systems

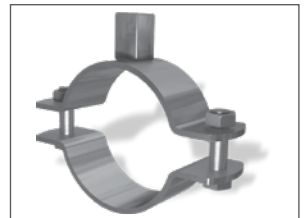
SFSP's Metal Framing Systems provide an economical solution for electrical, mechanical and industrial supports with a wide variety of applications in the construction industry.

Applications: - Pipe and Conduit Supports - Tunnel Pipe Stanchions - Racks and Shelvings - Wall Framings.



Pipe Clamps & Hangers

Pipe Clamps and Hangers from SFSP used in the support of pipes and equipments are manufactured according to the highest standards of fabrication. A diversified choice of Pipe Hangers, Pipe Clamps, EMT Straps, Omega Clamps, Beam Clamps, J and U-Bolts and Threaded Accessories.



Galvanized Threaded Rods and Accessories

Threaded rod, often referred to as a stud, is a rod of varying length that is threaded in a helical structure. Similar in appearance to a screw, the threading extends around and along the rod to cause rotational movements when in use.



Access Panels by FEROX

Ferox Access Panels provides complete solutions of several types of access panels including Hook Type, Pivot Type, Tiled Type as well as fire rated access panels and hygienic access panels. A variety of finishes are available including stainless steel of different grades, galvanized steel with powder coating.

Ferox Access Panels are manufactured from high quality material and assembled with stainless steel hardware.



Roof hatches by FEROX

Roof hatch provides safe and convenient access to commercial building roof areas using interior ladders and stairs for maintenance work. It can be installed on flat roofs with a maximum slope of 30°. Made of steel frames, doors and stainless steel hardware. Powder coated to provide corrosion resistance and outstanding exterior durability.





Architectural & Finishing Solutions

Mechanical Cladding Fixation (Stangle)

Stangle Cladding Fixation includes design, calculation and production of several types of mechanical fixings and accessories used for cladding purposes. Stainless and galvanized steel are among the various materials used in the fabrication.



Aluminium System for Stone Cladding

SFSP aluminum systems are designed and calculated to provide a practical & safe solutions of stone cladding. Wide range of aluminum profiles with different shapes to support different types of stone cladding.



Waste Management Sys. (Garbage & Linen Chutes)

Chutes from SFSP are very convenient, simple and low cost method of controlling and disposing of refuse and linen. Chutes meet the most stringent requirements of environmental health and safety.



Dry Wall & Ceiling Profiles

Gypsum Boards are considered among the most economic and ideal way for wall partitioning. Easy to install, saves time and money, gypsum boards can be used as a backing for wall treatments such as wall paper, fabric, tile and wood paneling or it can simply be painted.



Metal Ceiling Grid Systems

SFSP Ceiling Grid System is a practical, convenient ceiling system. It has a complete range of main c-channel sections and complementary parts so that you can adapt the modules to suit your design needs and load requirements.



Expansion Joint System by Nexus

Our variety of expansion joints includes profiles for walls and floors, profiles for seismic movements, watertight profiles. Our products suit pedestrian as well as heavy load traffic areas.



Entrance Matting System by Nexus

Nexus Entrance matting systems provides heavy duty entrance mats, composed of aluminium profiles with carpet, brushes or rubber inserts. For any design of any shape, being round, square, oval, or any other symmetrical or asymmetrical shape, Nexus offers a variety of entrance matting profiles



Profiles by Nexus

Nexus offer comprehensive solutions for the construction industry ranging from Expansion Joint Covers and Fire Barriers to Entrance Matting Systems, Wall and Floor Profiles, Tactile Solutions, etc... NEXUS range of products is manufactured according to most common international standards to meet the requirements of commercial, residential, governmental, transportation, healthcare and educational projects.



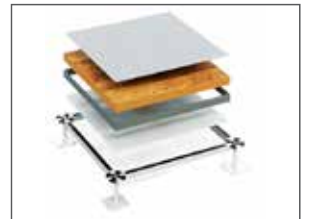
Phenolic Compartment by CUBIX

CUBIX phenolic compartment and partition systems are manufactured and customized to meet the precise needs of simple to complicated projects with its top-notch finish, quality of material and within a timely delivery. A complete solution with a wide selection of colors and textures are available.



Raised Access Flooring by PIXEL

PIXEL Raised Access Flooring offers comprehensive solutions of High Tech Raised Access Flooring Systems for the construction industry. PIXEL Raised Access Flooring are manufactured according to most common international standards to meet the requirements of commercial, residential, governmental, transportation, healthcare, and educational projects.



Metal Doors by FEROX

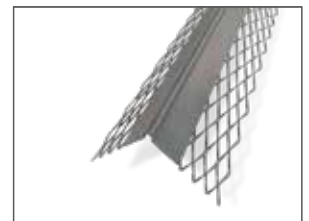
Ferox offers a wide variety of steel doors, manufactured according to international standards of fabrication and as per the legal requirement of commercial projects whether industrial environments, local authority buildings, leisure, hospitality, healthcare, transportation, education or retail offices, and shopping centers. Our range of steel doors includes fire rated steel doors, Insulated Doors, Acoustic Doors, Louvered Doors, Sliding Doors, Security Detonation Doors, Burglar Resistant Doors, Entry Gates and several other types to meet the requirements of all projects.



Civil Solutions

Expanded Metals, Plasterers' Beads

Expanded Metals help the formation of joints, protection of corners and resistance against cracks, chips and impact damage. SFSP manufactures in accordance with BS EN 13658 – 2, ASTM C847-18, BS EN 845-3:2003+A1:2008, ASTM A 951/A 951M - 2016 standards.



Block Ladder Reinforcement

SFSP ladder and truss types are used for the reinforcement of brick and block masonry to give improved tensile strength to walls subjected to lateral loading e.g. wind and seismic. SFSP Block reinforcements reduces the risk of cracking either at stress concentration around opening.



Steel Lintels & Block Work Accessories

Steel Lintels provide a combination of strength and light weight, resulting in efficient load bearing performance and increased productivity on site. They are characterized by their ease of installation in addition to time as well as money saving. SFSP manufactures Steel Lintel in accordance with BS EN 845-2:2013+A1:2016 and according to relevant standards BS 5977 Part 2:1983.



SFSP Products are solely distributed by UNITECH for Building and Construction Materials

All Products Manufactured by Sfsp are Solely Distributed by SFSP Sister Companies in the Following Countries

KSA

Isam Kabbani & Partners for Building and Construction
Materials Co., Ltd.

شركة عصام قباني وشركاه للمواد الإنشائية والتعمير المحدودة

BAHRAIN

Isam Kabbani Trading Est.

مؤسسة عصام قباني التجارية

UAE

Issam Kabbani Trading Company LL

شركة عصام قباني للتجارة

EGYPT

Unitech Egypt for Building Materials

شركة بونتك مصر لمواد البناء

OMAN

Isam Kabbani & Partners Trading Co.

شركة عصام قباني وشركاه للتجارة

QATAR

Unitech Qatar for Building & Construction Materials Ltd., W.L.L

شركة هونتك قطر لمواد الانشاء والتعمير المحدودة

KUWAIT

Hassan Kabbani for General Contracting Est.

مؤسسة حسان قباني للمقاولات العامة للمباني

LEBANON

Unitech ME s.a.r.l.

شركة بونتك مدل ایست ش.م.م

PAKISTAN

Unitech IKK Pakistan (PVT.) LTD.

شركة بونتك مدل، است ش.م.م

SFSP CUSTOMER SERVICE CALL CENTER

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SYSTEM OVERVIEW

DRY WALL & CEILING PARTITION

Gypsum Boards are considered among the most economic and ideal way for wall partitioning. Easy to install, saves time and money, gypsum boards can be used as a backing for wall treatments such as wall paper, fabric, tile and wood paneling or it can simply be painted.

SFSP provides a complete product range for drywall and ceiling constructions. Studs, Runners, Furring Channels, Ceiling Channels, and Wall Angles are among the range of products produced according to relevant international standards to service the dry wall installers.

MATERIALS

Pre-galvanized steel complying with:

- BS EN 10142:2000 instead of BS 2989
- ASTM C645 G90 (275 g/sqm) - G60 (180 g/sqm)
 - G40 (120 g/sqm) - G20 (60 g/sqm)
- ASTM C754 G90 (275 g/sqm) - G60 (180 g/sqm)
 - G40 (120 g/sqm) - G20 (60 g/sqm)
- DIN EN 10326:2004-09
- BS EN 10143:2006

References:

ASTM C1047 : Standard specification for Gypsum Wallboard and Gypsum Veneer Base Accessories.

PARTITION PROFILES

STUDS are vertical profiles inserted into the RUNNERS; bearing profiles of the partition; used for fixing of partition covering (Gypsum Boards).

RUNNERS are horizontal profiles to fix the partition to floor and ceiling.



DRYWALL STUD & FURRING SCREWS DRILLING TEST TO ASTM C645



THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS

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FINAL REPORT FOR DRYWALL STUD & FURRING SCREWS DRILLING TEST

(UNITECH) ISAM KABBANI TRADING EST.
PO BOX 37991 DUBAI, UAE
AS PER ASTM C-645-04A REQUIREMENT



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I. Introduction

This is the final report of a laboratory testing performed by this firm Thomas Bell-Wright International Consultants (TBWIC), on drilling screws into nonstructural stud and furring channel specimens supplied by Isam Kabbani Trading Est. The specimen in general was supplied with gypsum boards and screws used to construct an assembly for the test. The testing commenced on March 21, 2011, was carried out under the direction of the Senior Testing Engineer of TBWIC, observed and recorded the results of the test in accordance with the ASTM C 645 - 04a Standard. Test photographs are attached in the annex page of this report.

II. General Parameters

PROJECT NAME:	
TEST SEQUENCE	
Test 1	Screw Penetration Test
ASTM C 645-04a	
RELEVANT INFORMATION	
Type	Galvanized Studs and Furrings
Specimen Size	Studs: 152 mm X 44 mm X 0.9 mm thick
	Furring channel: 22 mm x 35 mm x 0.9 mm thick
	Gypsum Board: 150 mm x 150 mm x 16 mm thk FR
	Screws: Hilti 35 mm

evaluate the ability of the screw to be drilled below the
as than 2 seconds and without spin out.

	DATE & TIME	PASS / FAIL
Stud members	March 21, 2011 4:50 pm	PASSED

section was provided and tested in accordance with the
report.

re as follows:

Observation	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	
Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.	

Furring Channel members.	March 21, 2011 5:11 pm	PASSED
--------------------------	---------------------------	--------

channel section was provided and tested in accordance
the as follows:

Wall Stud Drill Test FR.



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Tabulated results and description are as follows:

Sample #	Drill Time	Observation
FS#1	1.89 seconds	Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.
FS#2	1.38 seconds	Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.
FS#3	1.42 seconds	Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.
FS#4	0.82 seconds	Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.
FS#5	0.94 seconds	Screw did not spin out, embedded below the gypsum board face in less than 2 seconds.

B. Description of Modifications or Adjustments

None was modified.

C. Compliance Statement

All of the Stud and Furring Channel sections referred to as members in this report was tested as described in this document and has successfully passed all the requirements conforming to the specification of the test standard.

This Final Report is respectfully submitted by:
Thomas Bell Wright International Consultants

Manufactured by: (SFS)
UNITECH DRYWA



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IV. Test and Performance Requirements

(For both Stud and Furring Channel members)

Test	Criteria	Reference
1. Screw Penetration test		ASTM C 645-04a
Dead Weight and applied force	30 lbf (13.6 Kg force)	
Permitted drill time with out spin	Less than 2 seconds	

Additional material on Curtain Wall testing can be found at www.bell-wright.com — Resources — Downloads — Aluminium and Glass Testing Techniques.pdf



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V. Specification Compliance

Testing was carried out under the direction of Engr. Clarence P. Facun in compliance with the requirements of the Standard.

VI. Test procedures

A. Screw Penetration Test, ASTM C 645-04a

a. Preparation

- From a randomly picked supplied stud samples, label the member along with the gypsum board to construct assembly.
- Clamp the labeled member into the jig and put above it the gypsum board together with the screw slightly rested in position for the drilling process.
- Secure the guided dead weight above the drilling tool, and ensure axial application to the assembly.

b. Test Procedure

- Assemble the member and the gypsum board on the rig together with the positioning of the screw and the electric drill with weight.
- Assure the time monitoring to start simultaneously with the process of driving the screw into the assembly until the head is slightly embedded below the surface of the gypsum board.
- Until the drilling stopped with the head of screw slightly driven below the gypsum board surface, record the lapsed time
- Record if a spin out occurred in the drilling process.
- Repeat the same procedures for the remaining stud members and the furring channel members.

VII. Testing Equipment

- Makita electric drill for the screw penetration.
- Calibrated stopwatch
- 30 lb steel weight (13.7 kg).

**STUDS &
RUNNERS**

Construction Overview Single Support Wall Sheet Thickness = 0,8 [mm]

							Allowable height in meter						
							Stud Distance* (mm) Mountering area A *			Stud Distance** (mm) Mountering area B**			Acoustic
							625	417	312	625	417	312	db
Wall type stud/wall thickness	Stud width (mm)	GK	Planking (mm) both sides	Isol. (mm)	Wall thickness (mm) +/-1	Fire- proof							
STD 048/72	47	GKB	2x12,5	45	72		2.75	3.25	3.75	/	2.75	3.25	45
STD 048/72	47	GKF	2x12,5	45	72	F30	2.75	3.25	3.75	/	2.75	3.25	45
STD 048/77	47	GKB	2x15.00	45	77		3.00	3.25	3.75	/	2.75	3.25	47
STD 048/77	47	GKF	2x15.00	45	77	F30	3.00	3.25	3.75	/	2.75	3.25	47
STD 075/99	74	GKB	2X12,5	50	99		3.75	4.5	5.25	3.25	4.00	4.75	47
STD 075/99	74	GKF	2x12,5	50	99	F30	3.75	4.5	5.25	3.25	4.00	4.75	47
STD 075/104	74	GKB	2x15.00	50	104		4.00	4.5	5.25	3.5	4.00	4.75	48
STD 075/104	74	GKF	2x15.00	50	104	F30	4.00	4.5	5.25	3.5	4.00	4.75	48
STD 100/124	99	GKB	2x12,5	50	124			5.5	6.5	4.00	5.00	6.00	50
STD 100/124	99	GKF	2x12,5	50	124	F30		5.5	6.5	4.00	5.00	6.00	50
STD 100/129	99	GKB	2x15.00	50	129		4.5	5.5	6.5	4.00	5.00	6.00	51
STD 100/129	99	GKF	2x15.00	50	129	F30	4.5	5.5	6.5	4.00	5.00	6.00	51
STD 048/97	47	GKB	4x12,5	50	97		3.25	3.75	4.25	2.75	3.25	3.75	51
STD 048/97	47	GKF	4x12,5	50	97	F90	2.25	3.75	4.25	2.75	3.25	3.75	51
STD 075/124	74	GKB	4x12,5	50	124		4.25	5.00	5.75	3.75	4.5	5.25	53
STD 075/124	74	GKF	4x12,5	50	124	F90	4.25	5.00	5.75	3.75	4.5	5.25	53
STD 100/149	99	GKB	4x12,5	50	149		5.00	6.00	7.00	4.5	5.5	6.5	55
STD 100/149	99	GKF	4x12,5	50	149	F90	5.00	6.00	7.00	4.5	5.5	6.5	55
STD 048/122	47	GKB	6x12,5	45	122		4.00	4.5	5.00	3.5	4.00	4.5	57
STD 100/122	47	GKF	6x12,5	45	122	F90	4.00	4.5	5.00	3.5	4.00	4.5	57
STD 075/149	74	GKB	6x12,5	50	149		5.00	5.75	6.5	4.5	5.25	6.00	58
STD 075/149	74	GKF	6x12,5	50	149	F180*	5.00	5.75	6.5	4.5	5.25	6.00	58
STD 100/174	99	GKB	6x12,5	60	174		6.00	7.00	8.00	5.5	6.5	7.5	61
STD 100/174	99	GKF	6x12,5	60	174	F180*	6.00	7.00	8.00	5.5	6.5	7.5	61

F180* =Rock wool 100kg/m³

Area A*:

Area of a large number of people

Area B**:

Area of a low number of people

GKB= Plasterboard

GKF= Plaster board Fire proof (fire rated)

Sheet Thickness & Tolerance according to EN 10143

Thickness Code	Thickness (mm)	Tolerance (mm)
04	0.4	0.34 - 0.46
05	0.5	0.44 - 0.56
06	0.6	0.53 - 0.67
07	0.7	0.63 - 0.77
10	1.0	0.91 - 1.09
12	1.2	1.11 - 1.29
16	1.6	1.48 - 1.72
20	2.0	1.86 - 2.14
25	2.5	2.34 - 2.66

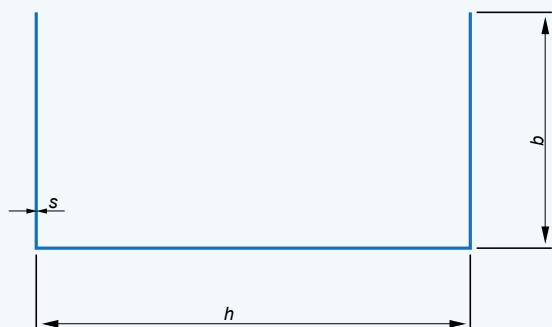
Sheet Thickness & Tolerance according to DIN 18182 part 1

Thickness Code	Thickness (mm)	Tolerance (mm)
04	0.4	0,40 - 0,46
05	0.5	0,46 - 0,55
06	0.6	0,56 - 0,64
07	0.7	0,66 - 0,74
10	1.0	0,91 - 1,09
20	2.0	1,86 - 2,14

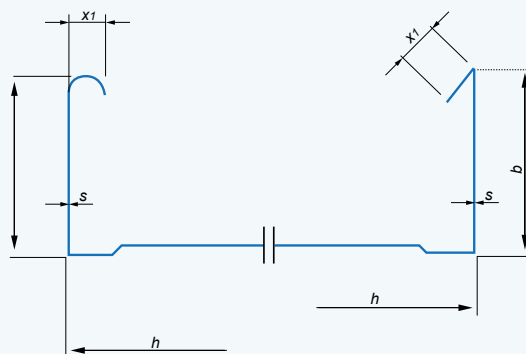
Soundproofing in dB

Description of wall system				Sound-proofing	
Planking with plasterboard	Planking in each side (mm)	Insulation (mm)	Wall Thickness (mm)	According to DIN 18180 (dB)	Planking plasterboard (dB)
Stud STD 048 / 72	1 x 12,5	45	72	40-43	41-46
Stud STD 075 / 99	1 x 12,5	50	99	40-44	44-49
Stud STD 075 / 99	1 x 12,5	60	99	41-44	47-52
Stud STD 100/ 124	1 x 12,5	45	124	42-45	46-49
Stud STD 100 / 124	1 x 12,5	80	124	42-48	49-53
Stud STD 048 / 97	2 x 12,5	45	97	47-52	51-54
Stud STD 075 / 124	2 x 12,5	45	124	48-52	51-57
Stud STD 075 / 124	2 x 12,5	60	124	49-53	56-57
Stud STD 100 / 124	2 x 12,5	45	124	48-55	52-57
Stud STD 100 / 124	2 x 12,5	80	124	50-56	56-58
Double stud STD 048 + 048 / 150	2 x 12,5	2 x 45	150	59-60	62-64
Double stud STD 075 + 075 / 203	2 x 12,5	60	203	57-58	64
Double stud STD 075 + 075 / 203	2 x 12,5	2 x 60	203	58-60	64-66
Double stud STD 100 + 100 / 253	2 x 12,5	80	253	58-60	65
Double stud STD 100 + 100 / 253	2 x 12,5	2 x 80	253	60-63	67

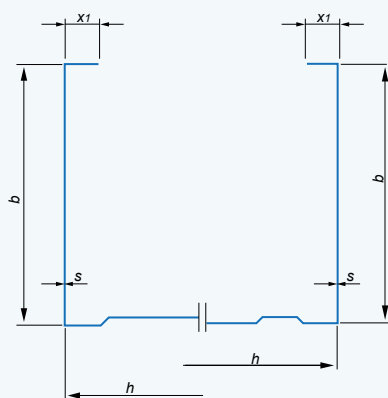
$X1 = 6\text{mm}$, $X2 = 3\text{mm}$



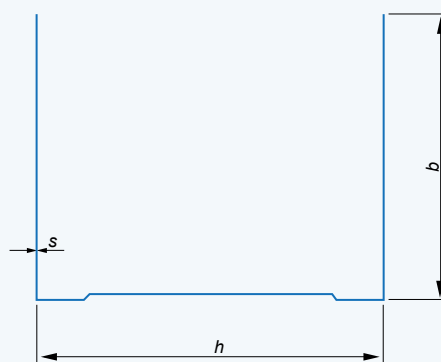
U-Stiffener profile (UA)



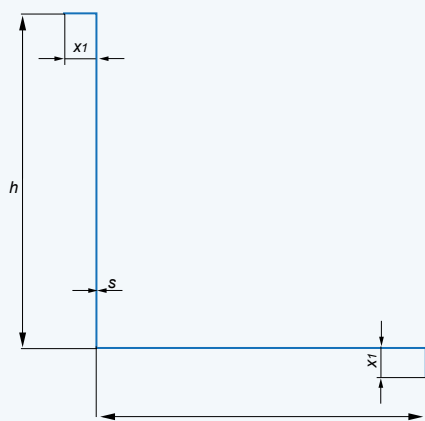
C- Ceiling profile



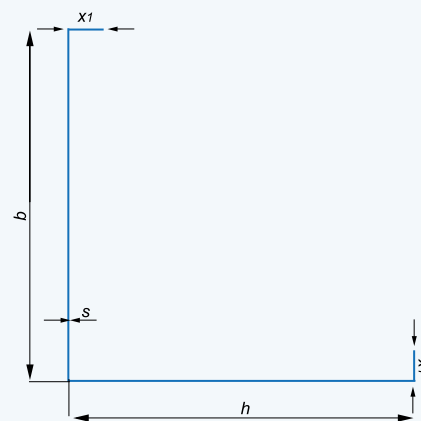
Stud profile (STD)



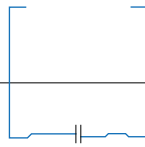
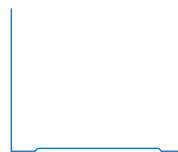
Runner profile (RNR) | Ceiling profile (MMC)



L-Wall inside corner profile

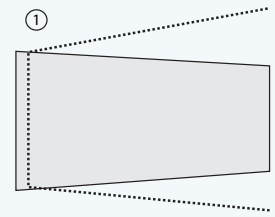


L-Wall outside corner profile

Profile		Web	Flange		Thickness						Return Flange	
Type	Code	Width			Code						Single	Double
		h±0.2	b	limiting	04	05	06	07	10	20	X1	X2
C-Ceiling profile 	CC 48	48	27	± 0.2	x	x	x	x	/	/	6	2
	CC 60	60			x	x	x	x	/	/		
Ceiling profile 	MCC 28	28	27	± 0.2	/	/	x	/	/	/	-	-
STUD profile 	Std 40	38.8	32	± 0.3	x	x	x	/	/	/	6	3
	Std 45	43.8			x	x	x	/	/	/		
	Std 50	48.8			x	x	x	x	x	x		
	Std 100	98.8	50		/	/	x	x	x	x	6	-
	Std 125	123.8			/	/	x	x	x	x		
RUNNER profile 	RNR 30	30	25	± 0.2	/	x	x	/	/	/		
	RNR 40	40	32	± 0.2	/	x	x	/	/	/		
	RNR 45	45			/	x	x	/	/	/		
	RNR 50	50			/	x	x	/	/	/		
	RNR 60	60			/	x	x	/	/	/		
	RNR 75	75			/	x	x	/	/	/		
	RNR 85	85			/	x	x	/	/	/		
	RNR 100	100			/	x	x	/	/	/		
	RNR 125	125			/	x	x	/	/	/		
L-Wall inside corner profile 	Lwi 50	50	50	± 0.2	/	/	x	/	/	/	6	-
	Lwi 60	60	60		/	/	x	/	/	/		
L-Wall outside corner profile 	Lwa 50	50	50	± 0.2	/	/	x	/	/	/	6	-
	Lwa 60	60	60		/	/	x	/	/	/		
U- Stiffener profile to use in Ceiling and as door frame 	UA 30	28.8	27	± 0.1	/	/	/	/	/	x		
	UA 40	38.8			/	/	/	/	/	x		
	UA 45	43.8			/	/	/	/	/	x		
	UA 50	48.8			/	/	/	/	/	x		
	UA 60	58.8			/	/	/	/	/	x		
	UA 75	73.8	40		/	/	/	/	/	x		
	UA 85	83.8			/	/	/	/	/	x		
	UA 100	98.8			/	/	/	/	/	x		
	UA 120	123.8			/	/	/	/	/	x		

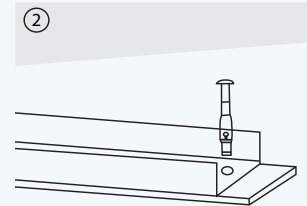
1 Chalk line

Mark the dry wall line on the floor. Mark the door opening. Mark the dry wall line on the ceiling.



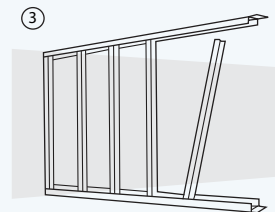
2 Runner Profile

Stick the seal to the runner and attach it to the floor and ceiling with anchor each 1000 mm. Mark stud locations top and bottom.



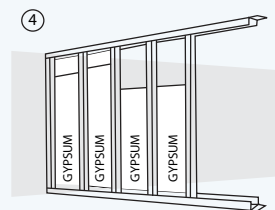
3 Stud Profile

Set the stud minimum 15 mm in the ceiling runner. Space the stud either 300 mm, 400mm or 600mm. On center, note allowable wall height table. Ensure that all studs are facing the same way. So that, the screw begins on the stable side of the stud.



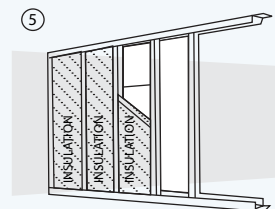
4 Gypsum Board first Wall Side

Gypsum Board should be attached advancing toward the open end of the stud.



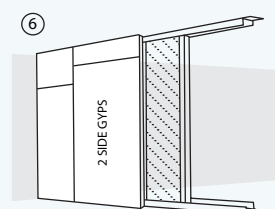
5 Sound Proof Insulation

Set insulation to improve the soundproofing and fireproofing.



6 Gypsum Board second Wall Side

The dry wall receive a further stability through the planking of the second side. The final leveling of the joints and screw heads provide the permanent stability.



DRY WALL PARTITION SYSTEMS

Plaster boards are used in all kinds of buildings such as hotels, hospitals, offices, commercial centers, schools, residential houses, prefabricated houses and all building types as a: wall lining, drywall partitions, false ceilings, demountable partitions, and all decoration works related to walls, partitions or ceilings.

Plasterboard Characteristics

Plasterboard is one of the most important decoration and building materials due to the following reasons:

- Light weight on structure.
- Fast & easy installation.
- Provide more spaces & areas.
- Smooth surfaces which make painting works faster & cheaper.
- Fast & easy installation of concealed water & electrical pipes & cables.
- The ideal way to cover air-conditioning pipes & ducts in ceilings & walls.
- Environmentally friendly due to plaster & cardboard specifications.
- One square metre of drywall weighs one tenth of one square metre of plaster.
- Less weight on your structure means a critical advantage in today's high rise buildings.
- The same insulation value as brick at just a quarter of the thickness.
- Higher sound insulation and fire protection.
- Easy maintenance.

Specifications

SFSPprofiles for drywall are manufactured in accordance with ASTM-C645 and ASTM-C754 requirements.

SFSPprofiles are made from:

* Pre-galvanized steel complying with:

- BS 2989: Zinc grade Z2, zinc coating type G180, G120 and G275.
- ASTM A653 G90 (275 g/sqm) - G60 (180 g/sqm) - G40 (120 g/sqm) - G20 (60 g/sqm)
- DIN EN 10147

At L or T junction, leave a space at the top and bottom for boards' thickness



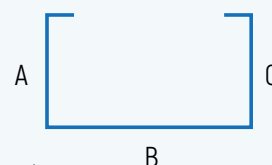
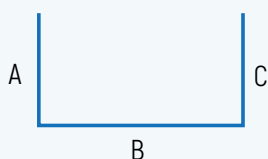
Codes & Dimensions

Runner Codes and Dimensions

Code	Size	Dimensions			Length (m)	Thickness (mm)
		A	B	C		
SVCTCS_F_00198863	52	25	51	25	3 - 12	0.6 -1.5
SVCTCS_F_00239477	66	25	65	25	3 - 12	0.6 -1.5
SVCTCS_F_00239481	72	25	71	25	3 - 12	0.6 -1.5
SVCTCS_F_00239489	77	25	76	25	3 - 12	0.6 -1.5
SVCTCS_F_00239577	94	25	93	25	3 - 12	0.6 -1.5
SVCTCS_F_00239581	104	25	103	25	3 - 12	0.6 -1.5
SVCTCS_F_00239585	127	25	126	25	3 - 12	0.6 -1.5
SVCTCS_F_00239589	154	25	153	25	3 - 12	0.6 -1.5
Other Lengths up to 6 Meters can be produced on request						

Stud Codes and Dimensions

Code	Size	Dimensions			Length (m)	Thickness (mm)
		A	B	C		
SCUC_F_00198851	50	32	49	32	3 - 12	0.6 -1.5
SCUC_F_00239593	64	32	63	32	3 - 12	0.6 -1.5
SCUC_F_00239599	70	32	69	32	3 - 12	0.6 -1.5
SCUC_F_00239605	75	32	74	32	3 - 12	0.6 -1.5
SCUC_F_00240305	92	32	91	32	3 - 12	0.6 -1.5
SCUC_F_00240311	102	32	101	32	3 - 12	0.6 -1.5
SCUC_F_00240317	125	32	124	32	3 - 12	0.6 -1.5
SCUC_F_00240323	152	32	151	32	3 - 12	0.6 -1.5
Other Lengths up to 6 Meters can be produced on request						



Codes & Dimensions

Construction Overview, Full and Half Height Gypsum Profiles

Profile	Dimensions	Stud. distance (mm)	Layer thickness for each side (mm)	Wall thickness (mm)	Allowable Height		RW db
					Full height Gypsum Board (m)	Half height gypsum board (m)	
Std 70/100	70 x 47 x 0,9	600	1 x 15	100	4, 00	3, 75	47
Std 70/130	70 x 47 x 0,9	600	2 x 15	130	4, 95	4, 00	47
Std 100/130	100 x 47 x 0,9	600	1 x 15	130	4, 50	4, 30	51
Std 100/160	100 x 47 x 0,9	600	2 x 15	160	5, 50	4, 50	51
Std 150/180	150 x 47 x 0,9	600	1 x 15	180	6, 00	5, 10	55
Std 150/210	150 x 47 x 0,9	600	2 x 15	210	7, 00	5, 50	55
Std 150/180	150 x 47 x 0,9	400	1 x 15	180	7, 00	6, 40	55
Std 150/210	150 x 47 x 0,9	400	2 x 15	210	8, 00	6, 80	55
Std 200/230	200 x 47 x 0,9	600	1 x 15	230	6, 50	6, 00	58
Std 200/260	200 x 47 x 0,9	600	2 x 15	260	7, 50	6, 30	58
Std 200/230	200 x 47 x 0,9	400	1 x 15	230	7, 50	7, 30	58
Std 200/260	200 x 47 x 0,9	400	2 x 15	260	9, 00	7, 70	58

Deflection Track

Code	Dimensions	Height (mm)	Thickness	Length (m)
SCUC_F_00240329	52	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240335	66	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240341	72	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240347	77	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240353	94	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240359	104	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240365	127	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240371	154	50 - 150	0.6 - 1.5	3 - 12

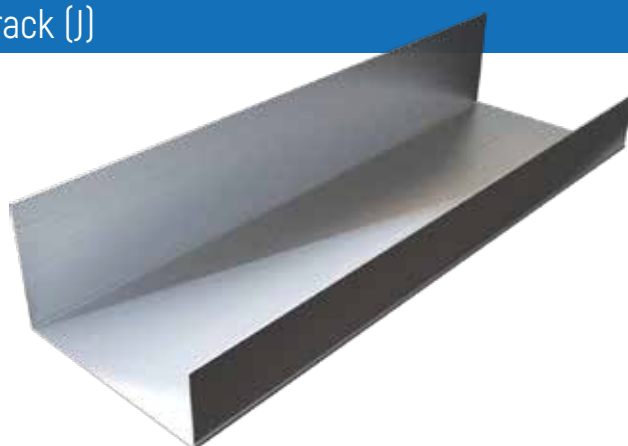
*Other thickness and lengths available upon site request



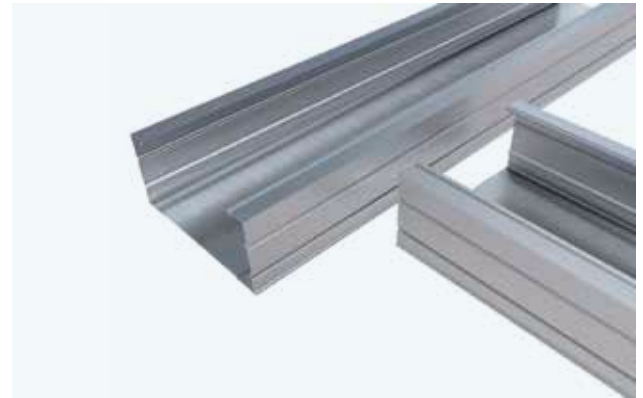
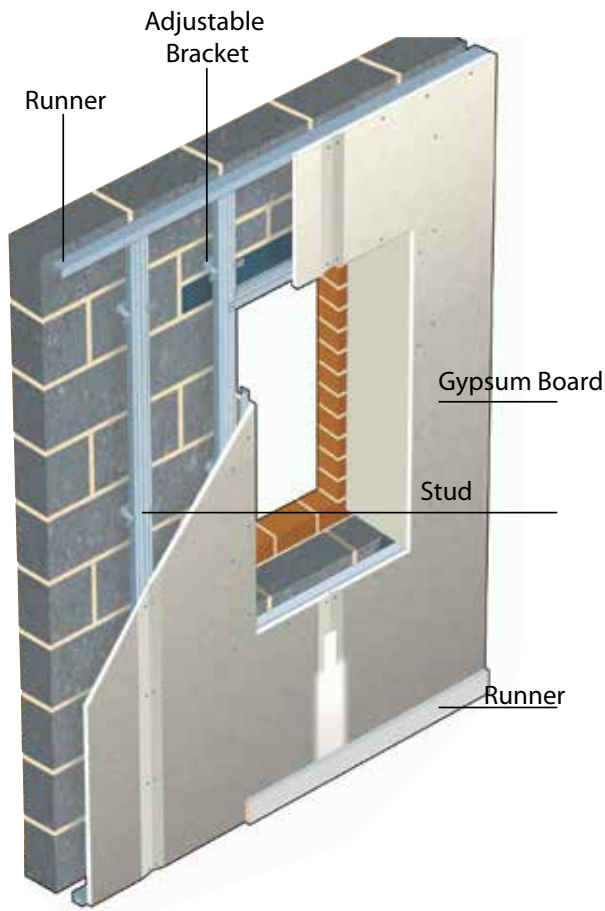
Shaft Wall Track (J)

Code	Dimensions	Height (mm)	Thickness	Length (m)
SCUC_F_00240329	52	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240335	66	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240341	72	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240347	77	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240353	94	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240359	104	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240365	127	50 - 150	0.6 - 1.5	3 - 12
SCUC_F_00240371	154	50 - 150	0.6 - 1.5	3 - 12

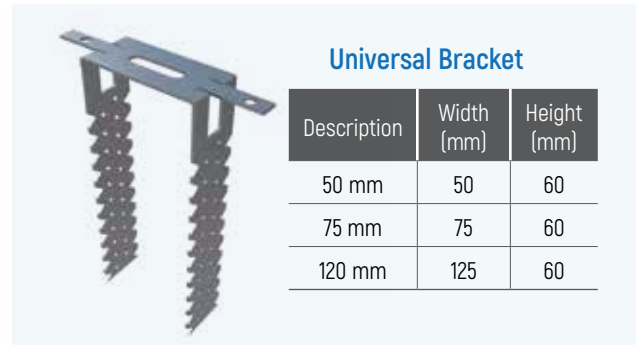
*Other thickness and lengths available upon site request



Wall Lining System



Description	Width (mm)	Height (mm)	Thickness (mm)
Wall Liner	60	27	0.5 - 1.5



Universal Bracket

Description	Width (mm)	Height (mm)
50 mm	50	60
75 mm	75	60
120 mm	125	60

SFSP Wall Liner are made from Pre-Galvanized Steel complying with ASTM A 653 Z 120 / Z 180 / Z 275

Advantages

- Quick and easy to install.
- Cost effective.
- Suitable for internal use in all types of application.
- Adjustable and can make cavity up to 120 mm.
- Can be used on masonry or concrete, black granite with uneven wall surfaces.
- Mineral wool for thermal acoustic insulation can be incorporated.

Installation

- Wall need to be treated from any damp before installation.
- Ceramic tiles or paint can be applied directly with crack resistant surface due to low thermal capacity.
- Established the depth of the cavity and fix all liner track at 600 mm centres to the floor and ceiling with the shallow towards the wall.
- At max 800 mm centre, fix brackets to the wall. Only one bracket is required for heights up to 2.4 m, though brackets not exceed 1200 mm centres on walls more than 2.4 meters high.
- Cut Wall Liner section to length and slot it into the top and bottom track. Adjust brackets to suit board tolerances before final tightening.
- Bend the overhang, if a bracket protrudes beyond the face.
- Fix 1200 mm wide plasterboard at suitable centres using 25 mm drywall screws.

Installation

Preparation

- A. Partition layout should be marked accurately, checking individual measurements against overall dimension.
- B. Installation site should be kept dry and in an enclosed shelter.

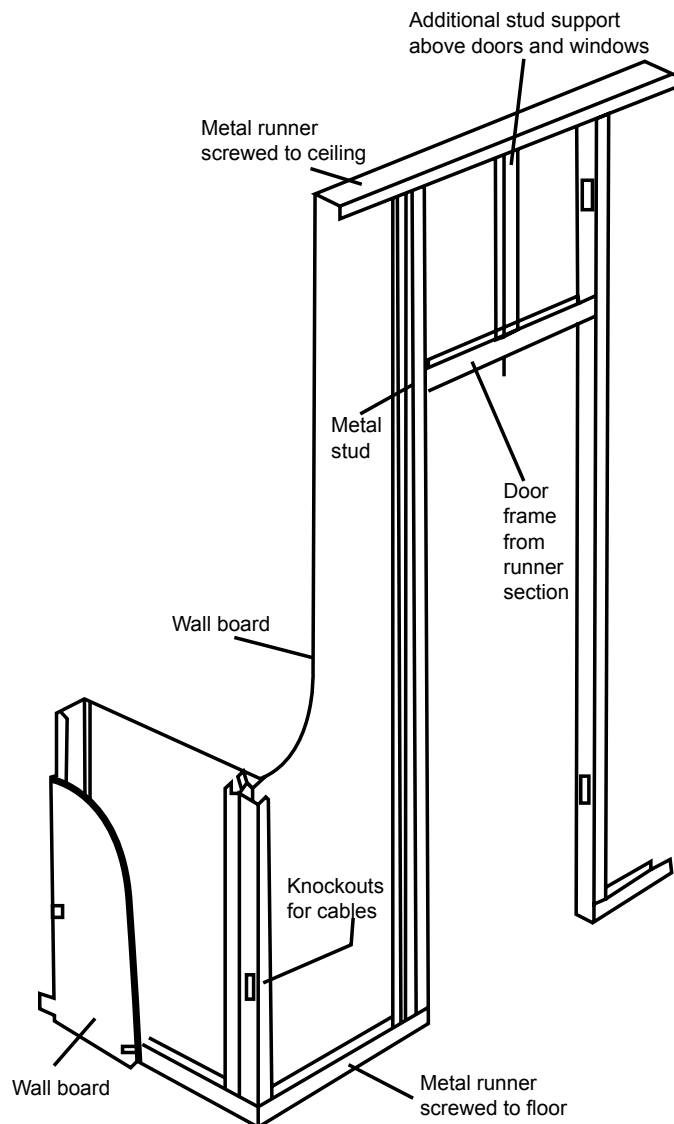
Installation

Partition Framing Installation

- A. Tracks (bottom and top track) should be fastened to structural elements at 50mm in from each ends of the track and spaced at 600mm center to center with suitable masonry fastener (eg. Drive pin, nylon anchor or expansion anchor).
- B. Position studs vertically with open sides facing the same direction, engaging the tracks and spaced at 600 mm center to center.
- C. Studs are not to be fastened to top and bottom tracks.
- D. Cavity Insulation – Install 50mm thick mineral wool with density of 60kg/m² in wall cavity, cut neatly between studs to ensure no gaps and/or crushing of the insulation.

Protection

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

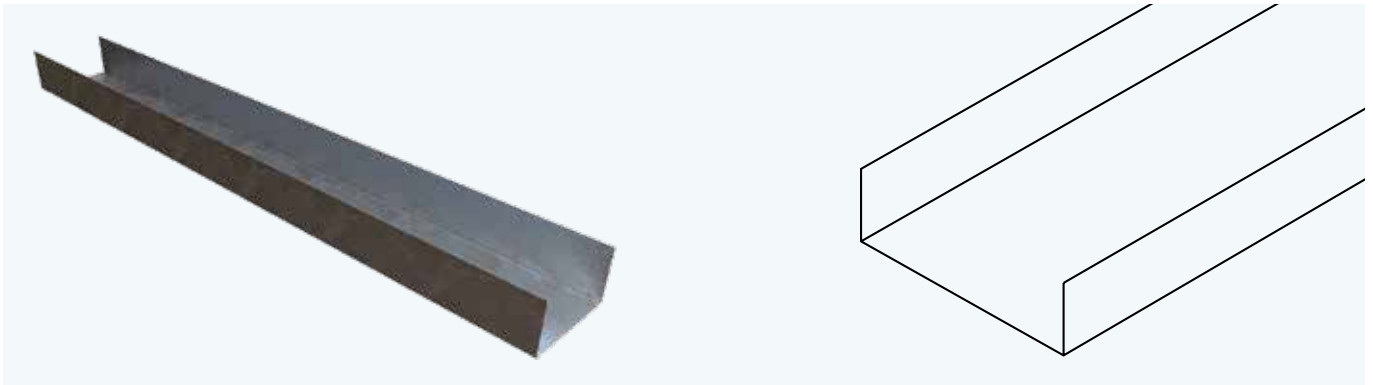


SUSPENDED CEILING SYSTEM

A suspended ceiling has several names as well. Also Known, as a false ceiling or secondary ceiling or a hung ceiling. The suspended ceiling is very widely used in modern construction, especially in offices and basements. A suspended or false ceiling is widely used in modern construction especially in commercial, educational, and health care centers. It provides the convenience for the passage of MEP installation, as well as communication means.

Main Ceiling Channel

The metal framing members of the ceiling grid are called main ceiling channel. Main ceiling channel is hung from above by suspension hanger. They run between the wall angles and form the support system for the suspended ceiling.



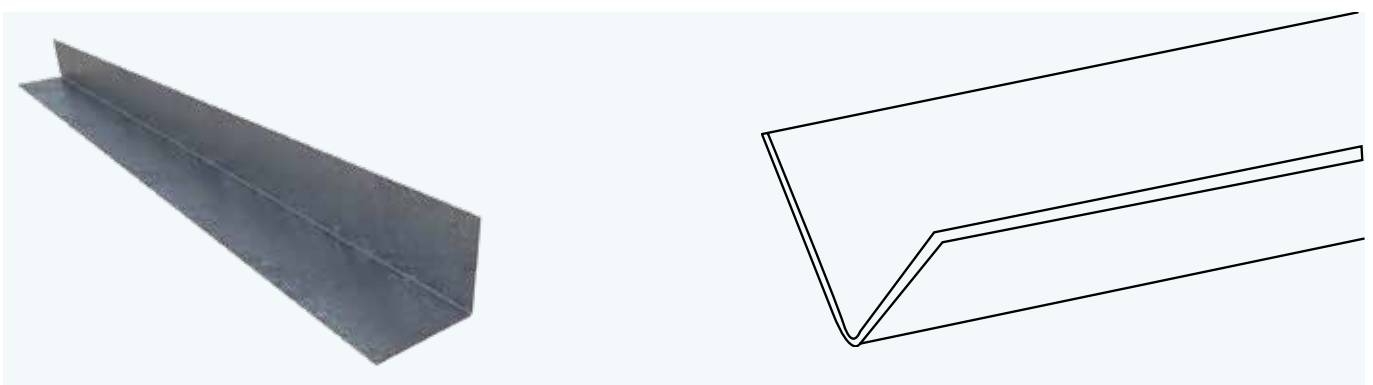
Furring Channel

Furring channel: also known as cross furring. They run perpendicular to the main ceiling channel and are connected to it with a wire connection clip. Furring channels are used to support the ceiling panel (Gypsum Board)



Perimeter (Wall) Angle

This "L" shaped mouldings form the perimeter of ceiling. They ensure a finished edge where the ceiling meets the wall and establish the level of ceiling. Perimeter angles are set on all sides of the ceiling and should overlap on inside corners- Miter the wall angle on outside corners.



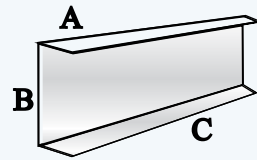
Suspended Ceiling System

Requirements Codes & Dimensions

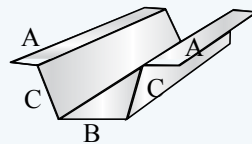
LM: Linear meter

	Code	Description	Dimension (mm)	Approx. requirement per 100 m ²	length (cm)	Pcs./ palletted bundle	Application
Main Ceiling Channel	SVCTCS_F_00179295	Main Ceiling Channel	11 x 38 x 11 mm	110 LM	300	500	Main support for furring channels
Furring Channel	STFP_F_00086719	Furring Channel	12 x 22 x 35 x 22 x 12 mm	200 LM	300	250	Support section where plaster board is fixed
Perimeter Angle	LA_F_00086711	Perimeter Angle (Wall Angle)	25 x 25 mm	40 LM	300	500	Fixed around the perimeter to receive ends of furring channels and outer edges of plaster boards.

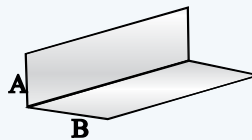
MAIN CEILING CHANNEL



FURRING CHANNEL



PERIMETER (WALL) ANGLE



Advantages of Suspended Ceiling

A suspended ceiling, having an ideal space between its structure and the actual ceiling enables the installation of building wiring, pipes, duct work and insulation, perceiving an easy access for maintenance.

The area above the suspended ceiling is called a plenum space.

Suspended ceiling provides sound deadening qualities, and reducing acoustic problems in room. In modern construction, the efficiency of a suspended ceiling for sound absorption has greatly been valued as one of the best solutions to control noises in buildings.

Material requirements / sqm

Main Ceiling Profile	1.10	m
Furring Profile	2.0	m
Perimeter Angle	0.4	m
Suspension Hanger	4	Pcs
Bracket	4	Pcs
Wire Connection Clip	6	Pcs
Screws	17	Pcs



Gypsum board	Gyp.board thickness	Main ceiling channel	Furring channel	Suspended hanger (c)	Ceiling channel distance (a)	Furring distance (b)	Suspended hanger
Articel	(mm)	Articel	Articel	(mm)	(mm)	(mm)	kN
Plasterboard construction plate	12.5	MCC-Profile	FCL-Profile	950	1000	500	0.13
GKB	15.0	MCC-Profile	FCL-Profile	750	1000	550	0.10
	18.0	MCC-Profile	FCL-Profile	750	1000	625	0.12
Plasterboard Fireproof	12.0	MCC-Profile	FCL-Profile	900	1000	500	0.13
GKF	15.0	MCC-Profile	FCL-Profile	750	1000	500	0.10
	18.0	MCC-Profile	FCL-Profile	750	1000	400	0.12
	2 x 12.5	MCC-Profile	FCL-Profile	750	1000	500	0.17
	15.0 + 18.0	MCC-Profile	FCL-Profile	600	750	400	0.22

Installation of Suspended Ceiling

1. Determine the suspended ceiling height. Keep the new ceiling level above door frames and window opening.
2. Mark the suspended ceiling height and snap a chalk line (Do not take measurement from floor).
3. Align the bottom of the wall angle moulding (perimeter angle) with the chalk line and fix it to the wall.
4. Position the suspension hanger, apply them to the ceiling with eye bolt or hooks.
5. Install the main ceiling channel and adjust with the adjustable suspension hanger to the required height. Distance between wall and first main ceiling channel is 100 – 150 mm.
6. Connect the furring cross channel to the main ceiling channel by using wire connecting clip.
7. Install the ceiling panel (gypsum board) by fixing it with the furring channel using dry wall screw.

Furring Ceiling System

System Overview

The furring ceiling system is a method of fixing one or two layers of 12.5 mm. Plasterboard to metal suspended grid to provide a smooth ceiling where additional decoration may be applied.

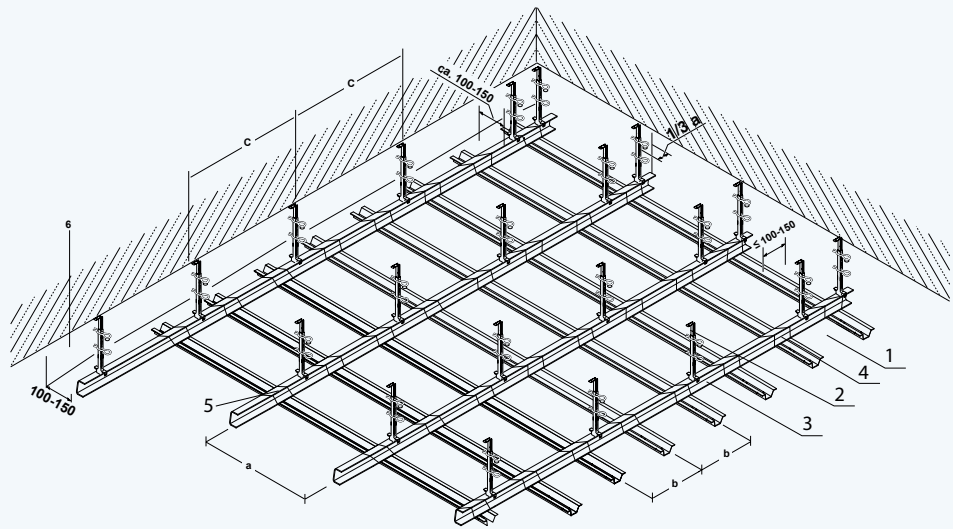
System Components

- 1 - Furring Channel (35 x 25 mm)
- 2 - Main Channel (38 or 45 mm)
- 3 - Plasterboard
- 4 - Angle (25 x 25 mm)
- 5 - Channel Bracket
- 6 - Wire Clip

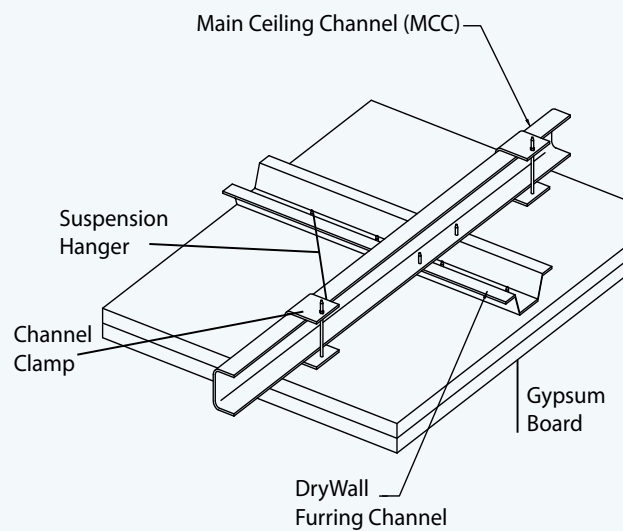
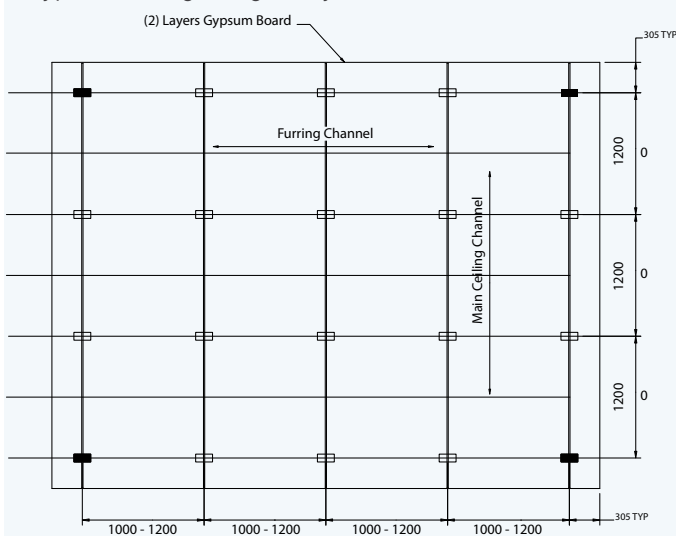
Material requirements per 1 sqm

Code	Description	Quantity by single layer gypsum
MCC	Main ceiling channel	1.90 m
FCL	Furring channel	2.70 m
PAN	Perimeter angle (wall angle)	0.40 m
	Suspension hanger	1.80 Pcs
	Bracket	1.80 Pcs
	Connecting clip	3.10 Pcs
	dry wall screw	22 Pcs
	Eye bolt	1.80 Pcs

- 1= Gypsum Board
 - 2= Suspension Hanger
 - 3= Main Ceiling Channel
 - 4= Furring Channel
 - 5= Connecting Clip (Furring Clip)
 - 6= Perimeter angle (L angle)
- a = Distance between main channel
b = Distance between furring channel
c = Distance between suspension hanger



Typical Ceiling Hanger Layout



NOTES:

No channel shall contact perimeter and create a short - circuit.

Furring Ceiling System For Gypsum Board

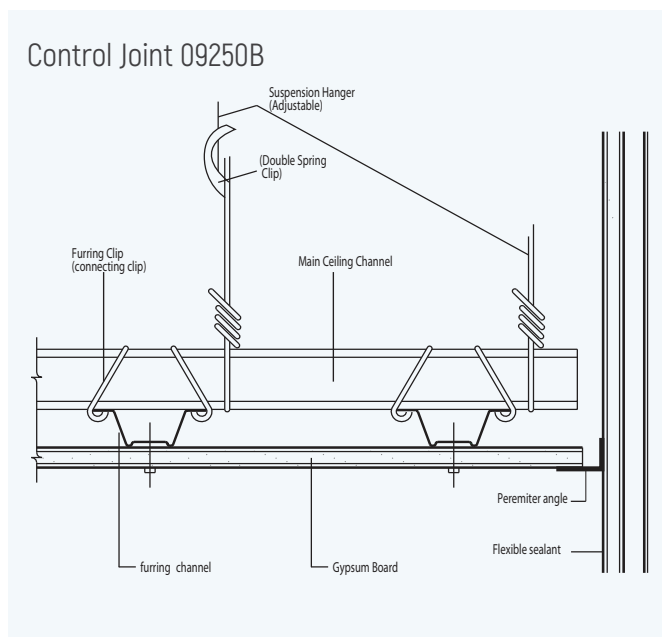
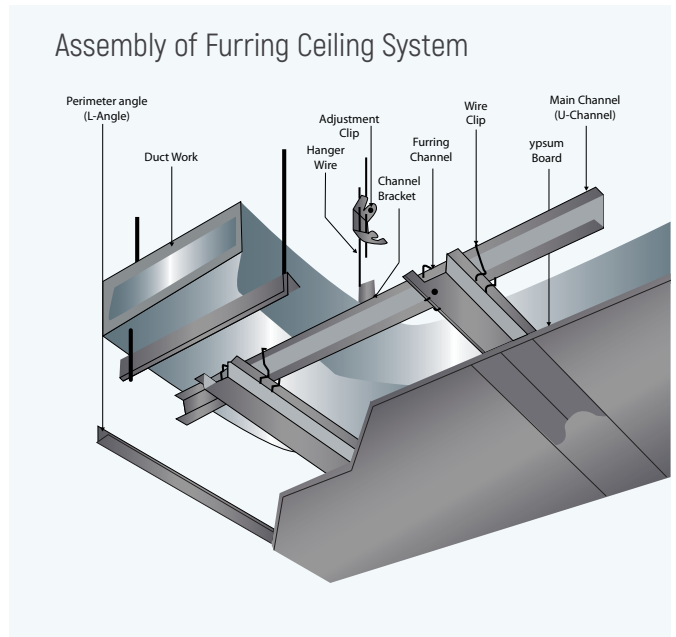
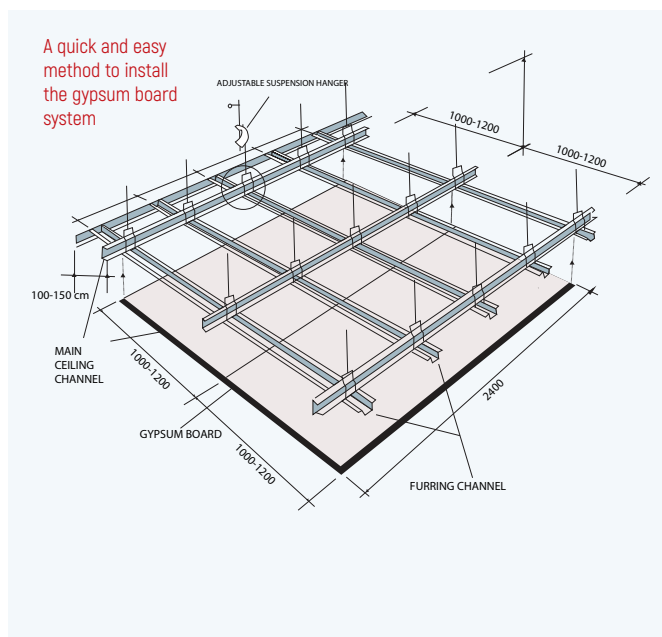
The furring section forms a battening system on to which gypsum board is screwed using dry wall screws with an electric screwdrivers. We recommend our rigid rod adjustable hanger for strength and rigidity. Furring ceiling systems is suspended ceiling system, clad with gypsum boards sheets. The grids are concealed behind the ceiling board. It is commonly used in where plain ceiling is required. Gypsum boards are usually used as the surface material of furring ceiling system. Compared with combustible wooden ceiling, our products are made of incombustible and durable galvanized steel. It is being mostly used in factories, department stores, hospitals, residences, office buildings, restaurants and other commercial offers.

Specification

B.S. 2994: 1976 Cold rolled steel sections and B.S. 2989: 1975 hot dipped galvanized plain steel and coil.
For thickness and sizes see components list.

Fire

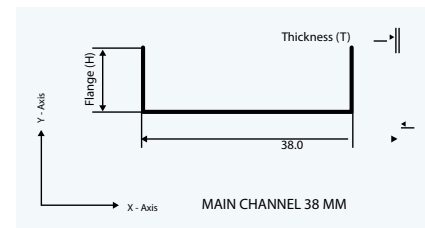
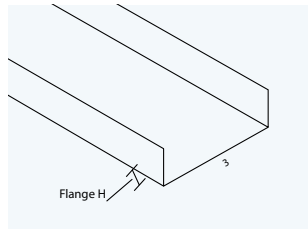
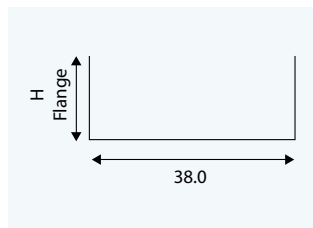
Fire resistance is closely linked to the type of boards used.



Specifications

Main Channel 38 mm specifications

The standard main channel profile comes in a width of 38mm and a flange of 13mm.
Main channels with shorter or longer flanges and of different width can be produced on demand.

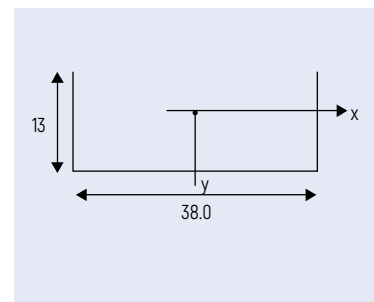


Physical & Structural Properties

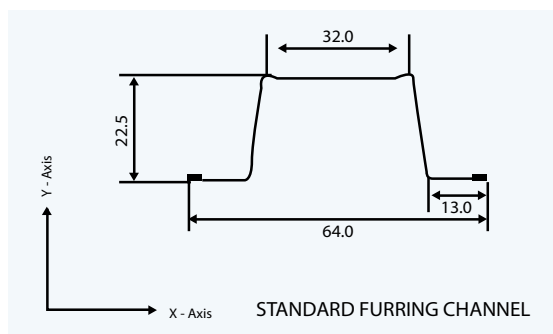
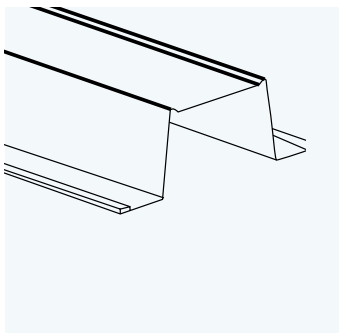
Flange (mm)	Thickness (mm)	Weight (Kg/m)	Cross section area (sq. mm)	About Major Axis			About Minor Axis		
				$\bar{X}$ (mm)	I_x (mm ⁴)	R_x (mm)	$\bar{Y}$ (mm)	I_y (mm ⁴)	R_y (mm)
13	0.5	0.25	31.5	0	3.9	4.83	2.83	6681	14.6
13	0.60	0.30	37.7	0	3.9	4.84	2.86	7947.3	14.5
13	0.90	0.46	56.0	0	3.9	4.87	2.98	11611.4	14.4
13	1.20	0.61	73.9	0	3.8	4.90	3.10	15078.6	14.3
13	1.50	0.76	91.5	0	3.8	4.90	3.20	18356.1	14.16

$\bar{X}$ - Centroid distance in the x-axis
 I_x - Moment of inertia about the principal x-axis
 R_x - Radius of gyration about centroidal of the principal x-axis
 $\bar{Y}$ - Centroid distance in the y-axis
 I_y - Moment of inertia about the principal y-axis
 R_y - Radius of gyration about centroidal of the principal y-axis

Thickness	Section wx modulus wx		Section wx modulus wy		Moment of Inertia	
	Top	Bottom	min	max	I_x	I_y
mm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ⁴
0.5	-0.047	0.17	-0.352	0.352	0.048	0.668
0.6	-0.057	0.201	-0.421	0.421	0.058	0.802
0.90	-0.085	0.287	-0.626	0.626	0.087	1.202
1.20	-0.114	0.365	-0.829	0.829	0.116	1.603
1.50	-0.143	0.437	-1.028	1.028	0.145	2.005



Furring Channel 35x22 mm Specifications

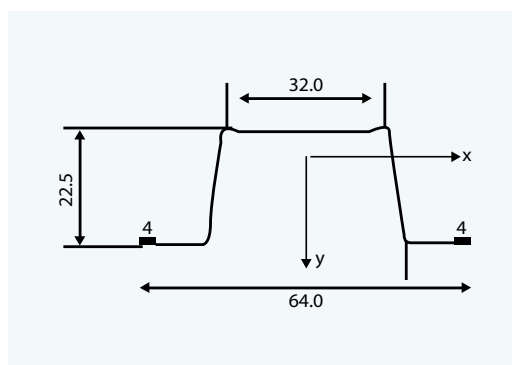


Physical & Structural Properties

Furring Size (mm)	Thickness (mm)	Weight (Kg/m)	Cross section area (sq. mm)	About major axis			About minor axis		
				$\bar{X}$ (mm)	I_x (mm ⁴)	R_x (mm)	$\bar{Y}$ (mm)	I_y (mm ⁴)	R_y (mm)
32x22.5	0.45	0.37	46.5	0.0	4150	15.3	12.04	15151.9	18
	0.50	0.42	51.7	0.0	4610	15.3	12.06	16820.6	18
	0.60	0.50	62.0	0.0	5530	15.3	12.08	20149.2	18
	0.90	0.75	93.0	0.0	8290	15.4	12.18	30064.9	17.97
	1.20	1.00	124.0	0.0	11060	15.5	12.27	39876.8	17.90
	1.50	1.25	155.1	0.0	13830	15.6	12.40	49586.7	17.88

$\bar{X}$ - Centroid distance in the x-axis
 I_x - Moment of inertia about the principal x-axis
 R_x - Radius of gyration about centroidal of the principal x-axis
 $\bar{Y}$ - Centroid distance in the y-axis
 I_y - Moment of inertia about the principal y-axis
 R_y - Radius of gyration about centroidal of the principal y-axis

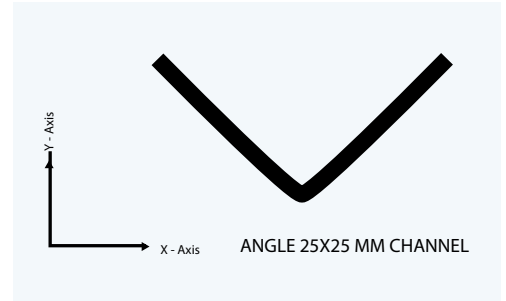
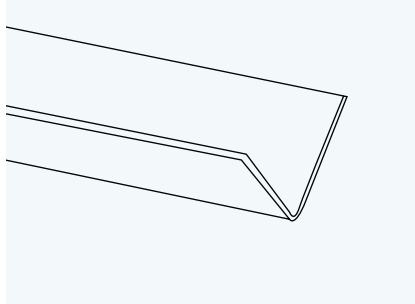
Cross Section Area	Thickness t	Section wx modulus wx		Section wy modulus wy		Moment of Inertia	
	t	Top	Bottom	min	max	I_x	I_y
cm ²	mm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ⁴
0.465	0.45	0.383	0.342	-0.477	0.477	0.415	1.527
0.517	0.50	0.425	0.379	-0.53	0.53	0.461	1.697
0.62	0.60	0.507	0.453	-0.636	0.636	0.553	2.037
0.93	0.90	0.751	0.671	-0.955	0.955	0.829	3.055
1.24	1.20	0.988	0.855	-1.273	1.273	1.106	4.074
1.55	1.50	1.219	1.093	-1.591	1.591	1.383	5.092



Specifications

Perimeter Angle 25x25 mm Specifications

SFSPSections manufactures angles 25x25 in different standard sizes and stock lengths. This product's specifications sheet cover the 0.45, 0.50, 0.6, 0.7, 0.90, 1.0, 1.20 and 1.50 mm gages. However, if you have specific requirements with different gauges, leg sizes or lengths please contact us for a detailed offer.

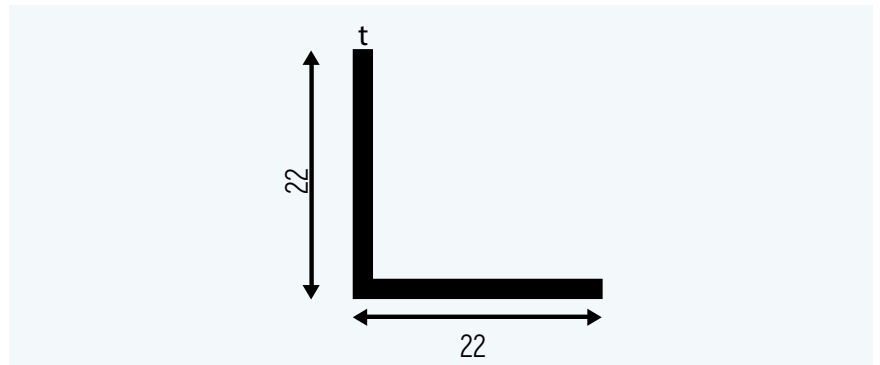


Physical & Structural Properties

Profile	Thickness (mm)	Weight (Kg/m)	Cross section area (sq. mm)	About major axis			About minor axis		
				$\bar{X}$ (mm)	I_x (mm ⁴)	R_x (mm)	$\bar{Y}$ (mm)	I_y (mm ⁴)	R_y (mm)
AE 25	0.45	0.18	22.30	6.4	1470	10.25	6.4	1470	10.25
AE 25	0.50	0.20	24.75	6.4	1630	10.25	6.4	1630	10.25
AE 25	0.60	0.24	29.60	6.47	1950	10.27	6.47	1950	10.27
AE 25	0.90	0.36	44.19	6.58	2930	10.30	6.58	2930	10.30
AE 25	1.20	0.48	58.56	6.70	3910	10.34	6.70	3910	10.34
AE 25	1.50	0.60	72.75	6.80	4890	10.38	6.80	4890	

$\bar{X}$ - Centroid distance in the x-axis
 I_x - Moment of inertia about the principal x-axis
 R_x - Radius of gyration about centroidal of the principal x-axis
 $\bar{Y}$ - Centroid distance in the y-axis
 I_y - Moment of inertia about the principal y-axis
 R_y - Radius of gyration about centroidal of the principal y-axis

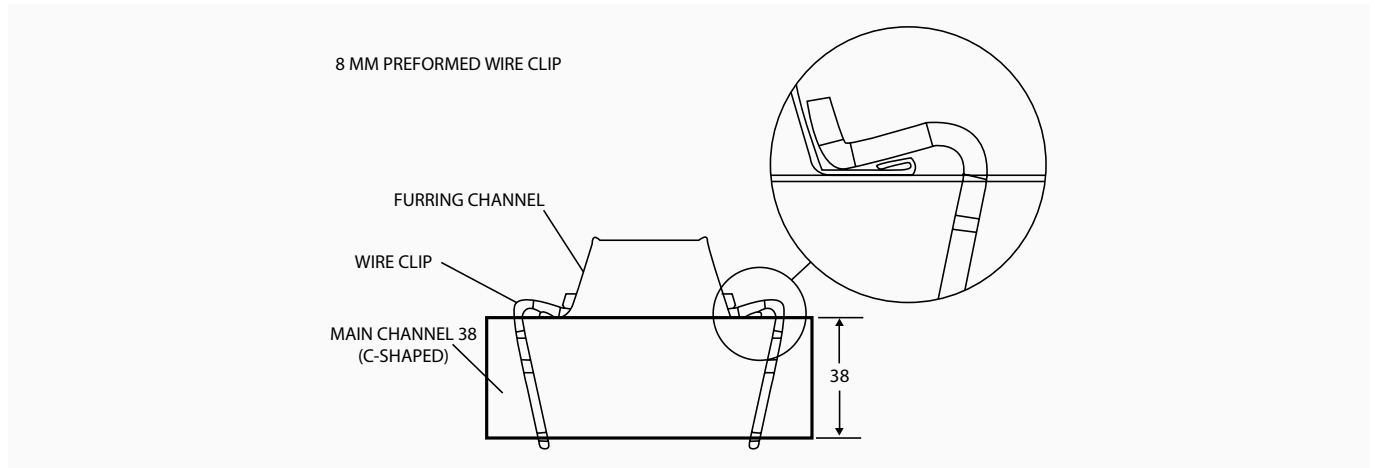
Thickness t	Section modulus $w \text{ cm}^3$		Moment of Inertia
t	Top	Bottom	I
mm	cm ³	cm ³	cm ⁴
0.45	0.08	0.226	0.147
0.50	0.09	0.250	0.163
0.60	0.104	0.298	0.195
0.90	0.156	0.437	0.293
1.20	0.209	0.571	0.391
1.50	0.261	0.699	0.489



The preformed wire clip is used to attach a furring channel to a main channel in a spring-loaded condition. Our precisely formed clip ensures easy-installation and optimum grip.

Durability

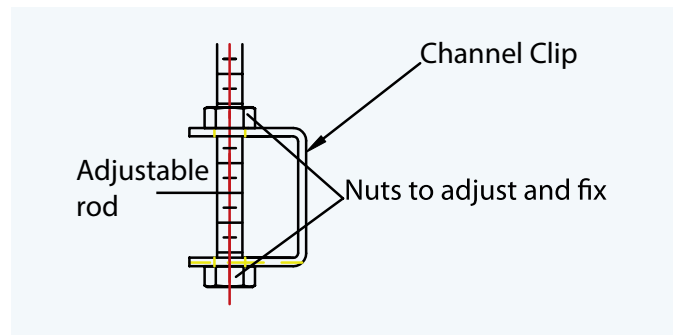
Our 38 mm preformed wire clip conforms to the highest standards. It is made from high quality galvanized steel wire. The galvanized steel wire has a G90 / Z275 coating and confirm to ASTM standards.



Connecting the main ceiling channel to the bracket

Channel Clamp (Channel Bracket)

Is used to hold the main ceiling by a threaded Rod, an adjustment spring is not required. The adjustment takes place with nut as shown. Slide the Main Ceiling Channel through the channel bracket of the leveling bolt. The grid can be adjusted to level, by loosening of the bottom nut of the leveling bolt / channel bracket.



Specifications

Channel Clamp

38 mm channel clamp to hold channel to ceiling by threaded rod



Channel Bracket

38mm channel bracket to hold channel to ceiling by threaded rod.



Double Spring Clip

Double spring adjustable clip ceiling level.



Furring Clip

(connecting clip)

2.5mm dia preformed wire clip to fit furring channel and main ceiling channel.



Accessories



Corner tape



Drywall joint tape



Bracket



Framing screw



Ready mix joint compound



Chalk line



Adjustable suspension Hanger



Drywall screw



Power screw driver



Power Tools



Tie Wire



Universal bracket
50 - 75mm

Tool Kits



Wire connecting clip



Measuring tape



Drywall joint tape



Taping knife



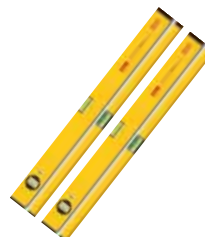
Tin snips



Wallboard hand saw



Utility knife



BMI Level



Plumb line

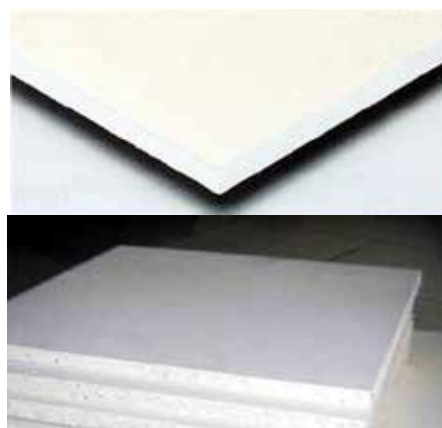
**PLASTER BOARD
RANGE CEILING**

Boards are composed of a gypsum core encased in paper on the face side and a paperliner on the back side. The face paper is folded around long edges to reinforce and protect the core. The ends are square cut and finished smoothly. The long edges are tapered on the face side to form a shallow channel for the joint reinforcement. Gypsum boards may also be available with long square edges.

Advantages & Applications

Advantages

- * Eliminate excessive moisture in construction.
- * Exceptionally resistant to cracks caused by minor frame movements, vibrations or settlements.
- * Quickly and easily applied, low cost installation.
- * Suitable for all decorations: paint, textile, wallpaper and tiling.
- * Excellent fire-resistive building material
- * Effectively help control sound transmission
- * Versatile and durable



Applications

For internal use only:

- * Ceiling
- * Under roofing
- * Wall lining
- * Partitioning

Regular boards

Thickness mm (± 0.4 mm)	Width mm (+0 mm - 5 mm)	Approx. weight kg/m ²	Length mm (+ 0.5 mm)
9.5	1 200	7.9	1800 - 4000
12.5	1 200	10.2	1800 - 4000
15	1 200	12.1	1800 - 4000
18	1 200	14.9	1800 - 4000

Technical characteristics

Thermal resistance

9.5 mm	0.03 m ² . K/W
12.5 & 15 mm	0.04 m ² . K/W
18 mm	0.05 m ² . K/W

Water Resistant

Boards are covered with a multi sheet cellulose impregnated with silicon.

The core of the boards is also treated with silicone oil. This treatment provides a high protection against water and moisture.

Properties

The main technical properties of gypsum boards are:

- Moisture absorption according to ASTM C 473
- Surface absorption less than 160 gm. after 2 hours. Immersion absorption less than 5% of the weight after two hours of immersion.

Applications

The main application is for walls and partitions where there is a risk of flooding, such as: bathrooms, kitchens, gymnasiums, technical rooms, basements, etc.

Fire Resistant

Gypsum board is an excellent fire-resistive building material. Its noncombustible core contains nearly 21% chemically combined water, which, under high heat, is slowly released as steam. Because steam will not exceed 100 degrees under normal atmospheric pressure, it very effectively retards the transfer of heat and the spread of fire. Even after complete calcination, when all the water has been released from its core, gypsum board continues to serve as a heat-insulating barrier. Moreover, tests conducted in accordance with ASTM E 84 show that gypsum board has a low flame-spread index and a low smoke-density index. When installed in combination with other materials in laboratory-tested wall and ceiling assemblies, gypsum board serves to effectively protect building elements from fire for prescribed time periods.

Properties & Applications

The longer fire resistance of those boards make them specially adequate for buildings where a special fire protection is required.
Thermal conductivity (W/M2 Oc): 0.18.
Classified M-1, non flammable.

Standard Dimensions (mm).

Thickness	12.5	15
Width	1200	1200
Length	2400 - 3000	2400 - 3000

Specifications

Storage

Stacks of boards should be stored on a level surface in a dry place, preferably inside a building and protected from damp and rainy weather. It is possible to stack 4 pallets one on each other.

Handling

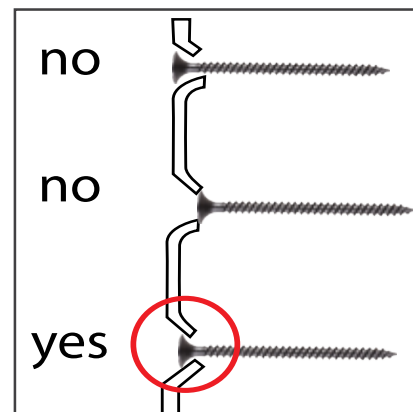
Boards should be carried on edge.

Cutting

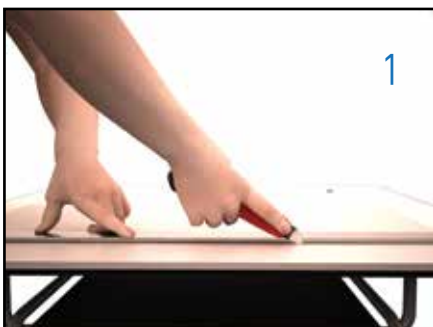
With a knife or cutter. Cutting metal studs and runners is done with tins nips from one flange to the other.

Screwing of Gypsum Boards

Use a power screwdriver and self tapping screws, adjust the chuck of the screwdriver for proper depth.



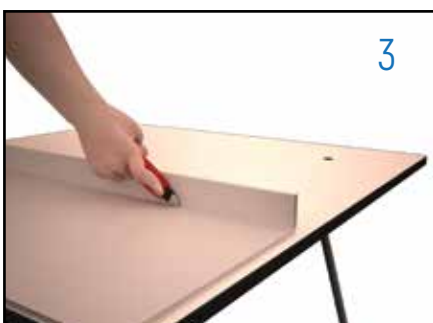
Bords Working



1
Make a cut into the facing liner, guided by a straight edge.



2
Break it by snapping.



3
Turn the board over and bend it. The grey liner is easy to cut.



4
With a hand saw, Make out the line and saw off.

PLASTER ACCESSORIES

Our plaster accessories include Perforated Corner Bead, Board Trim, J-Trim and Zinc Control Joint.

Perforated Corner Bead

SFSP produce an economical hot-dipped galvanized corner bead for excellent corrosion protection.

Product Data & Ordering information:

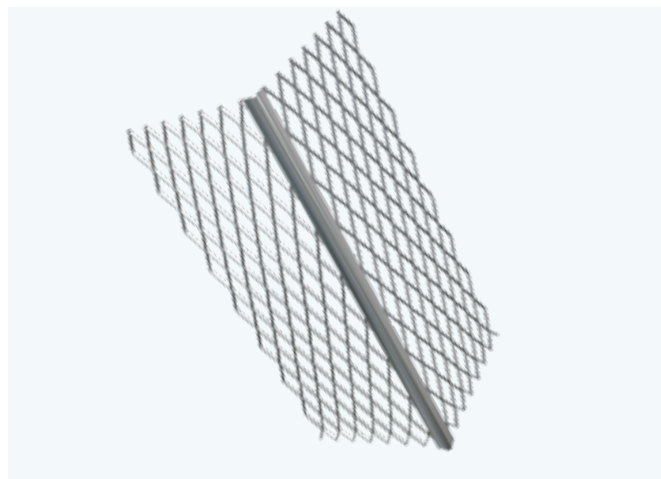
Material: 0.40 mm thickness, Hot-Dipped Galvanized Steel.

Dimensions: 25 - 30 x 25 - 30 wing.

Size	Length	Pcs./ctn.
25 x 25 mm	3000 mm	50
30 x 30 mm	3000 mm	50

ASTM & Code Standards:

- ASTM C 840 / C1047
- All drywall accessories are fabricated from prime galvanized steel zinc coating by the hot dipped method, conforming to steel and coating specification ASTM A-653/A-653M.



Storage:

All stored materials shall be kept dry. Materials shall be stacked off the ground, supported on a level platform, and protected from the weather and surface contamination conforming to ASTM C-1063.

Board Trim

Short flange casing to terminate stucco/plaster edge

Used as a stucco/plaster stop to provide a screwed edge and protective finish trim while terminating plaster in a clear straight line at doors, windows, and or other openings. Also, recommended as an edge divider between plaster and other dissimilar materials. The board trim is used where an expanded flange is not required.

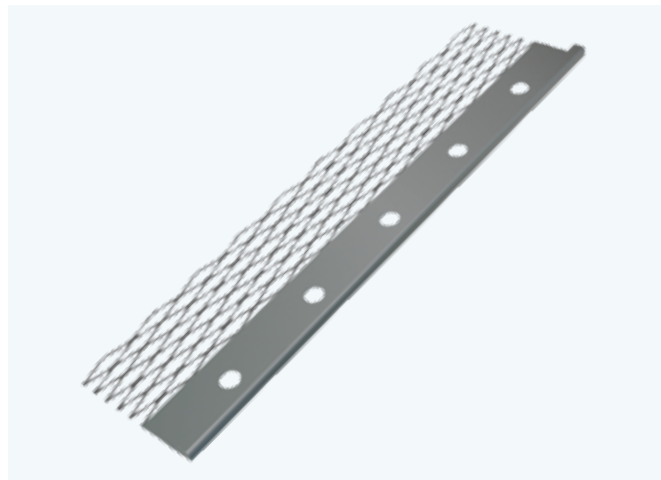
Product Data & Ordering information:

Material: 0.40 mm Gauge, Hot-dipped galvanized steel, ASTM A 653.

Dimension: 10 to 30 mm Grounds, 3000 mm length

Packaging: 50 pcs per carton.

Pcs./ctn.	Length	Size
10 mm	3000 mm	50
12.5 mm	3000 mm	50
19 mm	3000 mm	50



ASTM & Code Standards:

- ASTM C 840 / C 1047
- All board trim accessories are fabricated from galvanized steel coating by the hot dipped method, conforming to steel and coating specification ASTM A-ASTM A-653.
- For installation and placement instruction refer to ASTM C1063, C841 and C926.

Storage:

All stored materials shall be kept dry. Materials shall be stacked off the ground, supported on a level platform, and protected from the weather and surface contamination conforming to ASTM C-1063.

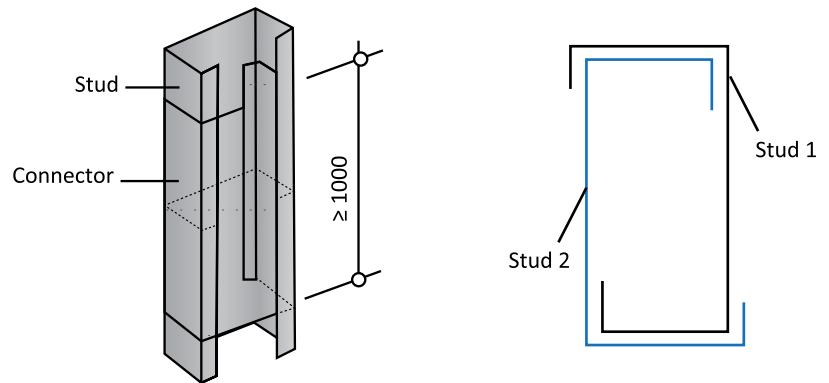
DETAILS

Material requirement per m²

Profile	Profile			Plaster board (m²)		Fast screw	Strip	Joint	Felt	Headline	Socket	Mineral
	Stud		Runner	12.5	15		joint	filler	strip	dowels		fiber
	Stud spacing				18							
	600(cm)	400(cm)	(m)	(m²)	20	pieces	(m)	Kg	(m)	pieces	(m)	(m²)
Single stud, single board	m	m	m	m²	m²	pieces	(m)	Kg	(m)	pieces	(m)	(m²)
STD 048	1,8	2,4	0,8	2,0	/	26	3,3	0,5	1,3	1,6	0,8	1,0
STD 075	1,8	2,4	0,8	2,0	/	26	3,3	0,5	1,3	1,6	0,8	1,0
STD 100	1,8	2,4	0,8	2,0	/	26	3,3	0,5	1,3	1,6	0,8	1,0
Single stud, double board												
STD 048	1,8	2,4	0,8	4,0	{4,0}	9 + 26	3,3	0,65	1,3	1,6	0,8	1,0
STD 075	1,8	2,4	0,8	4,0	{4,0}	9 + 26	3,3	0,65	1,3	1,6	0,8	1,0
STD 100	1,8	2,4	0,8	4,0	{4,0}	9 + 26	3,3	0,65	1,3	1,6	0,8	1,0
Single stud, three board												
STD 100	1,8	2,4	0,8	6,0	/	9 + 9 + 26	3,3	0,8	1,3	1,6	0,8	1,0
Double stud, double board												
STD 048+048	3,6	4,8	1,6	4,0	{4,0}	9 + 26	3,3	0,65	5,4	3,2	0,8	1,0
STD 075+075	3,6	4,8	1,6	4,0	{4,0}	9 + 26	3,3	0,65	5,4	3,2	0,8	1,0
STD 100+100	3,6	4,8	1,6	4,0	{4,0}	9 + 26	3,3	0, 65	5, 4	3, 2	0, 8	1, 0

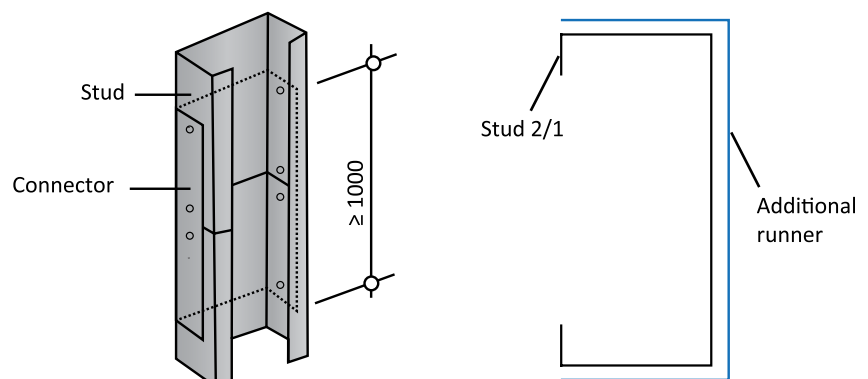
Stud Splicing for wall height > 5m

Stud connection
for wall height > 5m



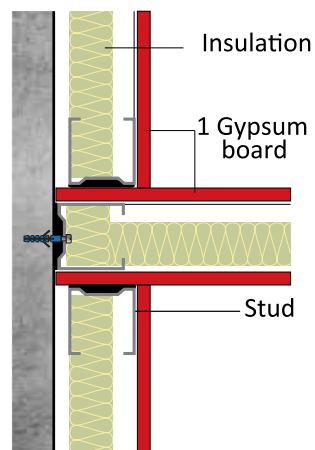
Stud Splicing for wall height < 5m

Stud connection
for wall height < 5m



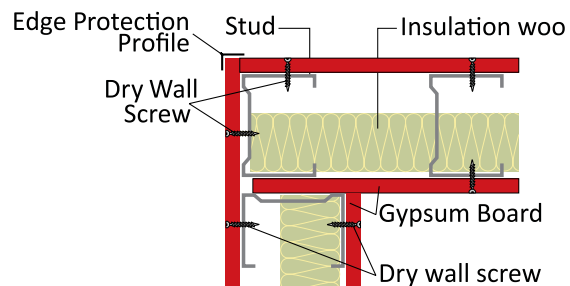
Corner

Conjunction
for wall height > 5m

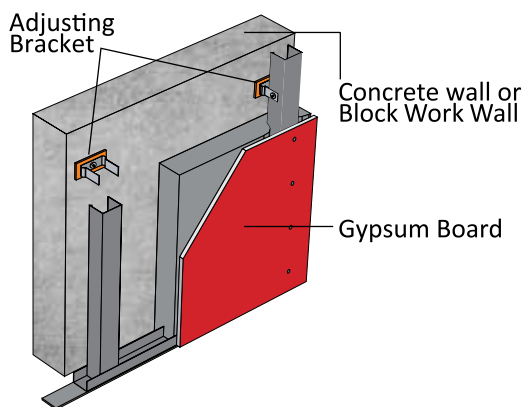


Corner

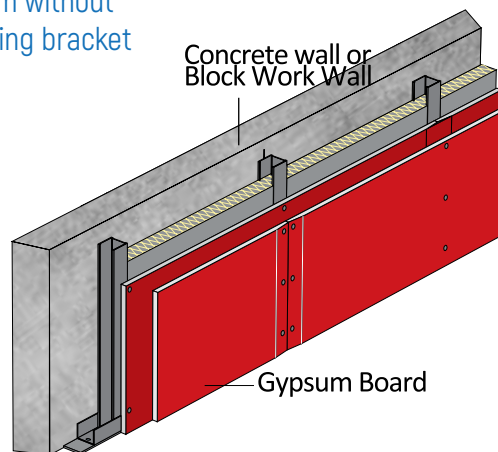
Corner for wall height
> 5m



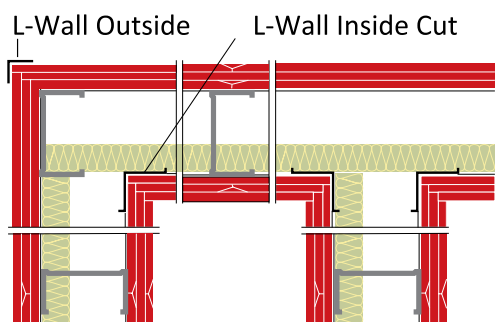
Chase wall gypsum with adjusting bracket



Chase wall gypsum without adjusting bracket

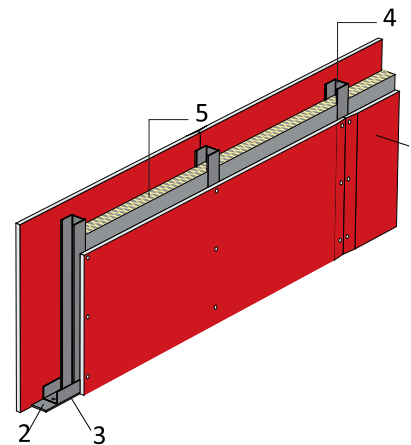
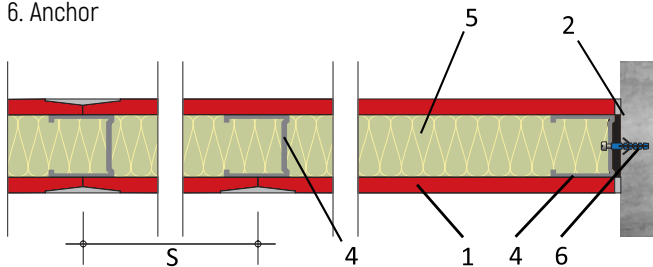


Edge Protection Profile



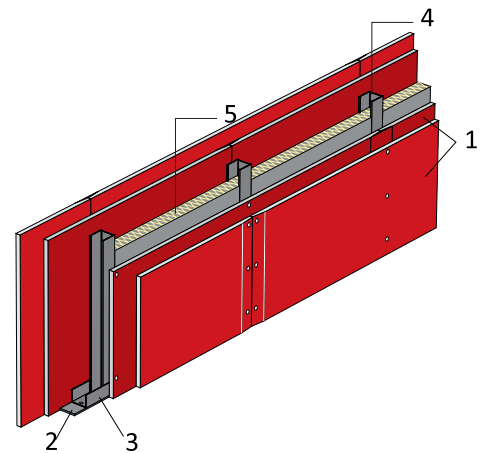
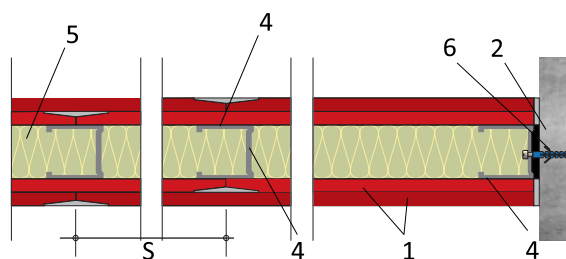
Wall Detail: Single Support One Layer Gypsum Board

1. One layer planking gypsum board
2. Seal
3. Runner (RNR)
4. Stud (STD)
5. Insulation soundproofing
6. Anchor



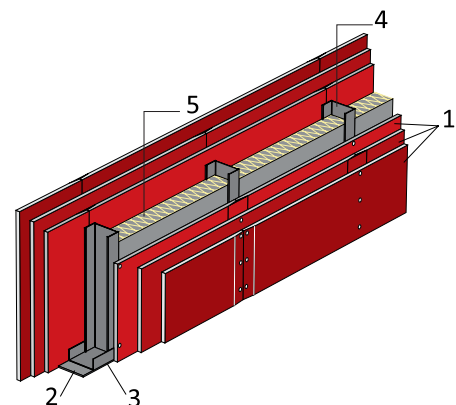
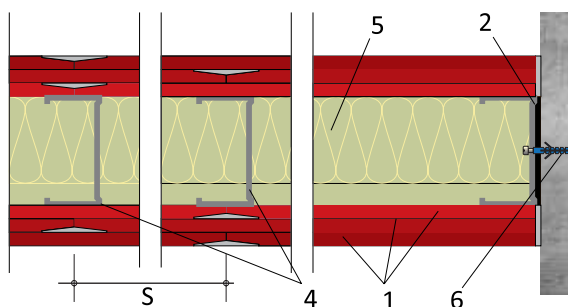
Wall Detail: Single Support Two Layers Gypsum Board

1. Two layer planking gypsum board double
2. Seal
3. Runner
4. Stud
5. Insulation
6. Anchor
7. Base profile (Socket)

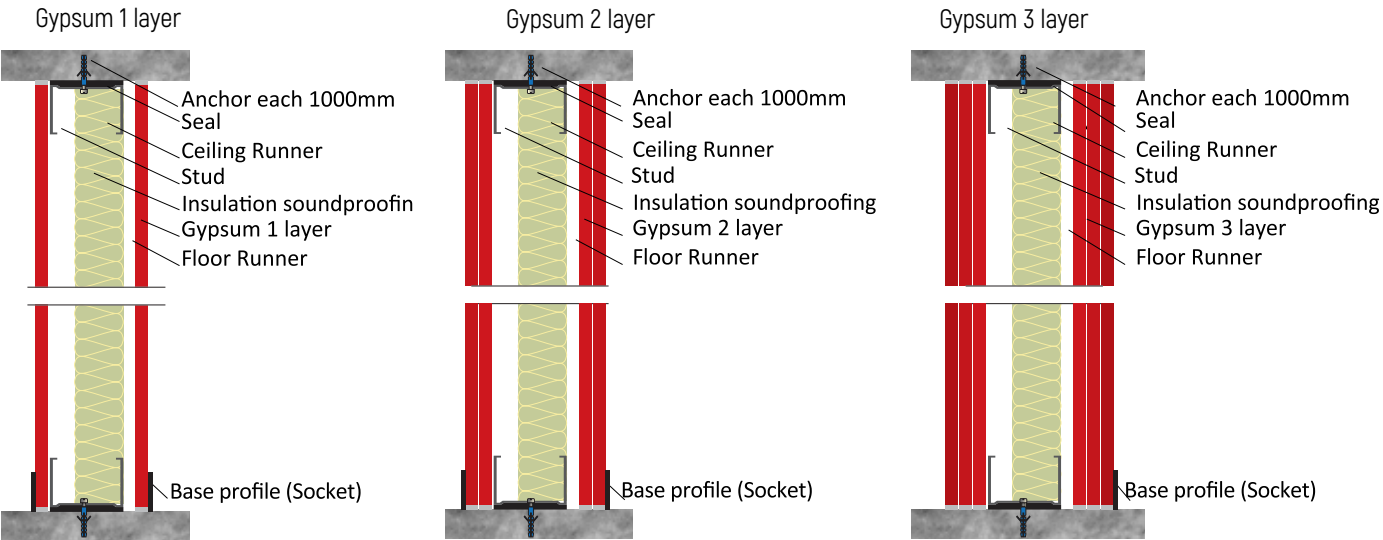


Wall Detail: Single Support Three Layers Gypsum Board

1. Three layer planking gypsum board
2. Seal fire resistance
3. Runner
4. Stud
5. Insulation soundproofing
6. Anchor
7. Base profile (Socket)

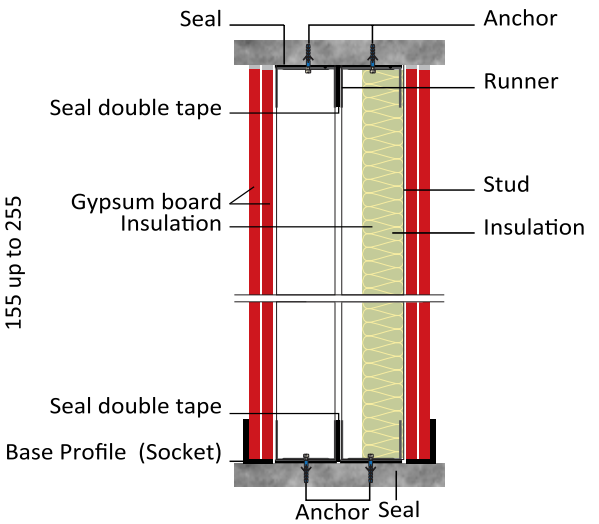
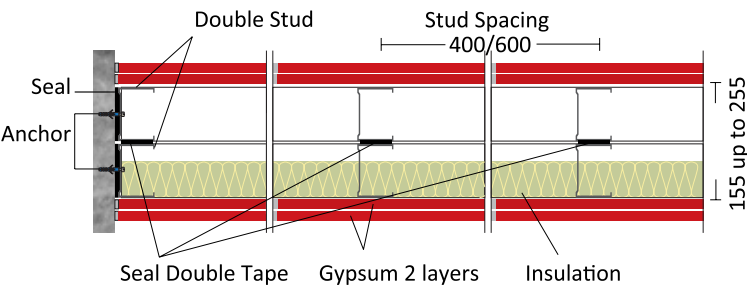


Gypsum Board Cross Section

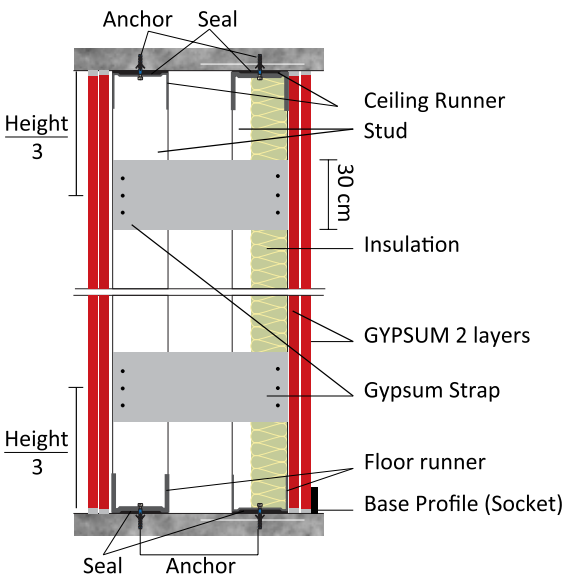
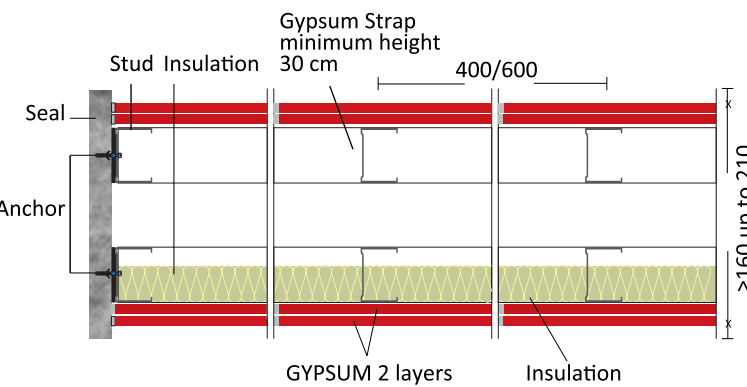


Double Stud

Seal Double Tape



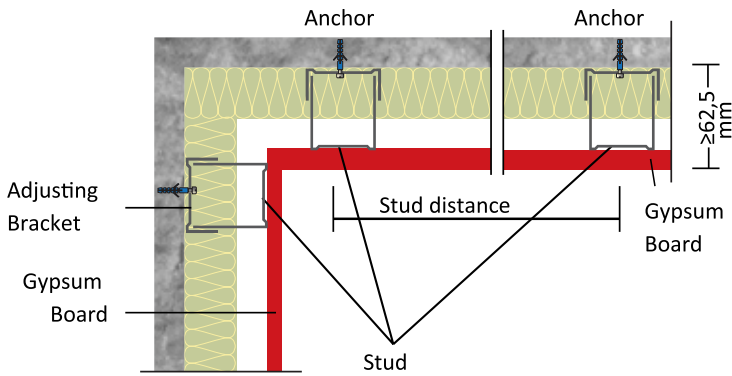
Installation Wall



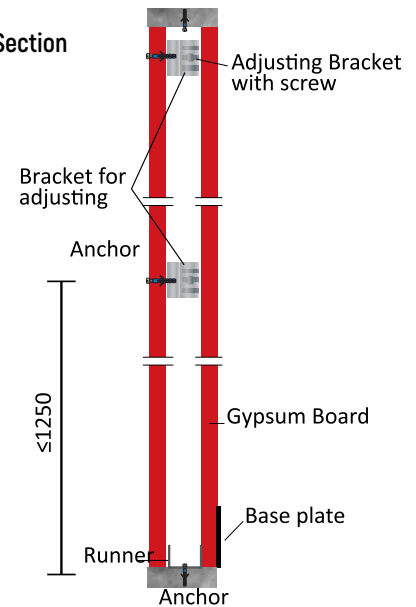
Chase Wall one layer

Plan Section

Gypsum sections with adjusting bracket

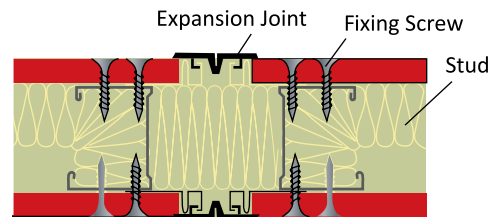
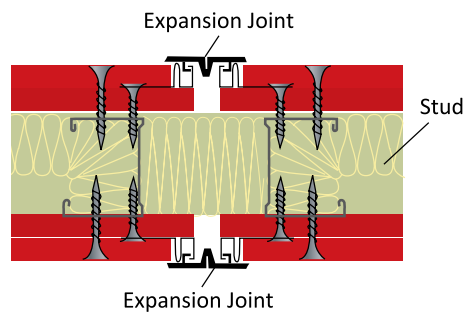
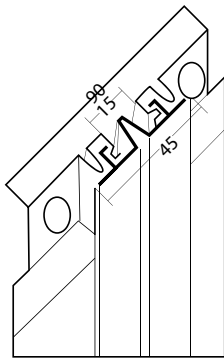


Cross Section

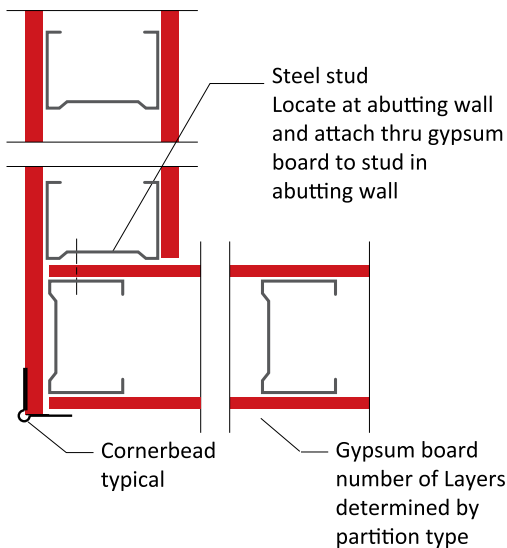


Expansion Joint

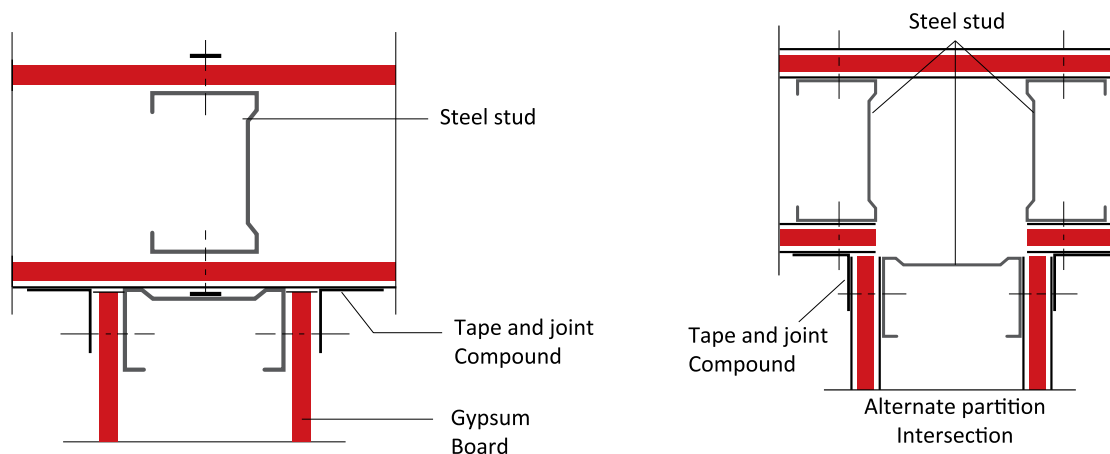
Expansion Joint not fire rated



Corner Detail

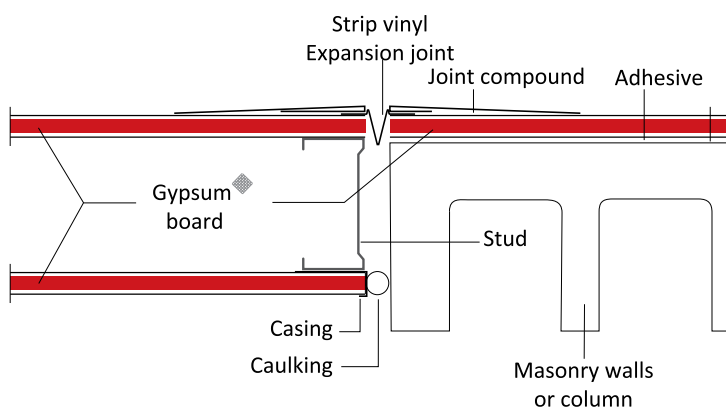


Partition Intersection



Joint where Wall Framing Changes

Expansion Joint not fire rated

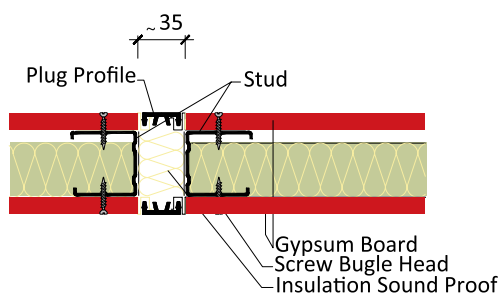


Movement Joint

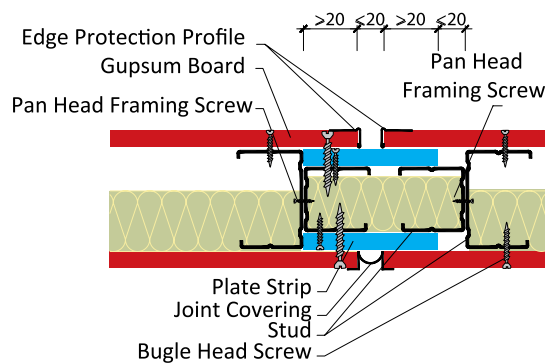
The Arrangement of movement joint is required by dry wall with a length of more than 15.0m [according to DIN 18181].

- Opening has to be covered with plug profile.
- The distance between the movement joint shall not exceed 15.0 m
- If fireproofing is required, so use a gypsum plate strip to close the joint, set the plate strip under the main gypsum board

MOVEMENT JOINT WHERE FIRE PROOF NOT REQUIRED

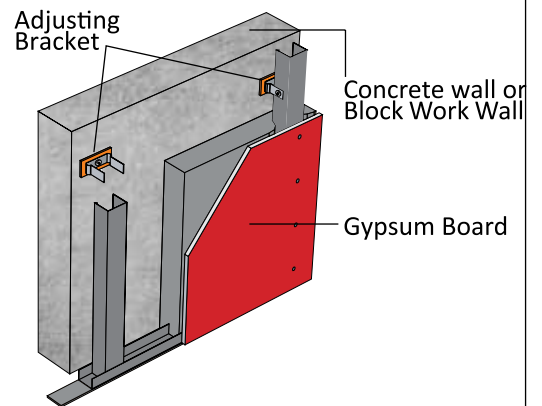
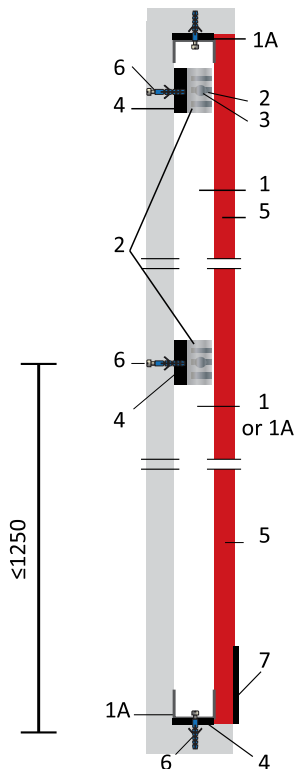
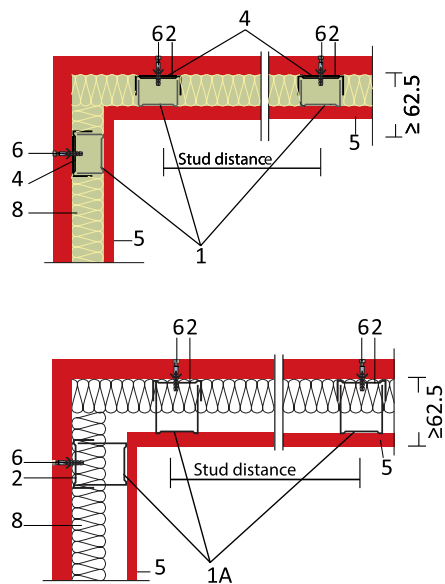


MOVEMENT JOINT WHERE FIRE PROOF IS REQUIRED



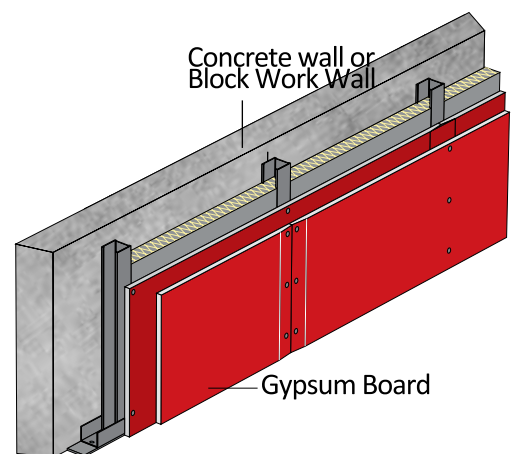
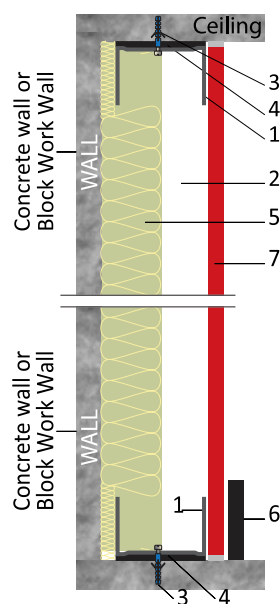
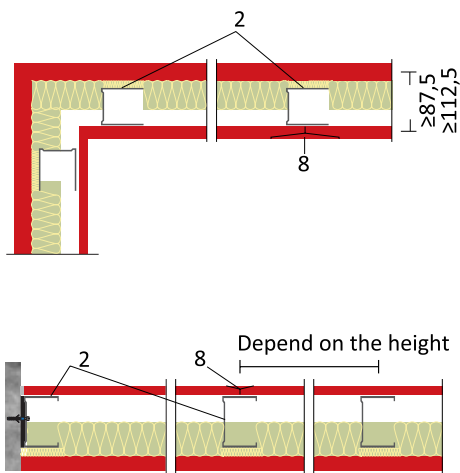
Chase Wall with Adjusting Bracket

- | | |
|----------------------|-----------------|
| 1. Ceiling channel | 5. Gypsum board |
| 1 A. Runner | 6. Anchor |
| 2. Adjusting bracket | 7. Base profile |
| 3. Dry wall screw | 8. Insulation |
| 4. Seal | |



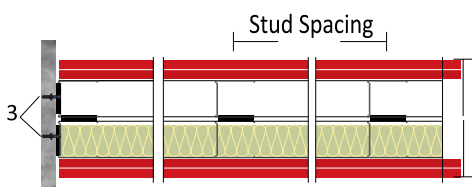
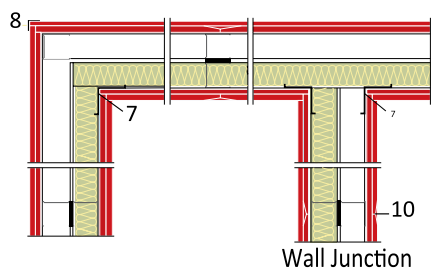
Chase Wall without Adjusting Bracket

- | | |
|-----------|--------------------------|
| 1. Runner | 5. Insulation |
| 2. Stud | 6. Base profile (socket) |
| 3. Anchor | 7. Gypsum board |
| 4. Seal | 8. Joint filler |

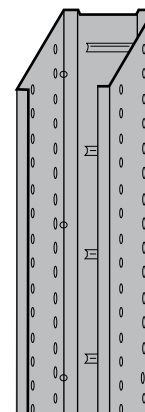
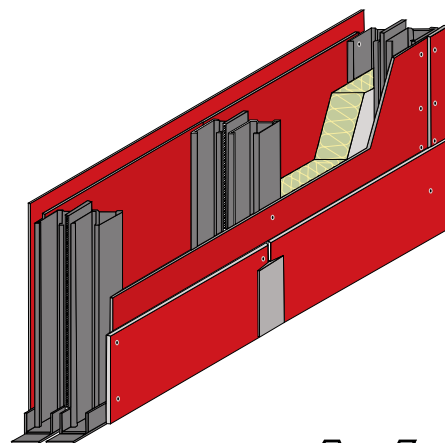
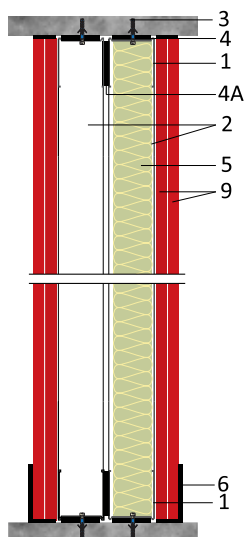


Double Stud for Increased Acoustic (Soundproofing)

- | | |
|----------------------|----------------------------|
| 1. Runner | 5. Insulation |
| 2. Stud | 6. Base profile (socket) |
| 3. Anchor | 7. L angle inside corner |
| 4. Seal | 8. Edge protection profile |
| 4a. Seal double tape | 9. Gypsum board |

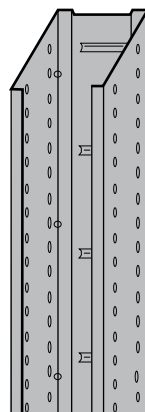
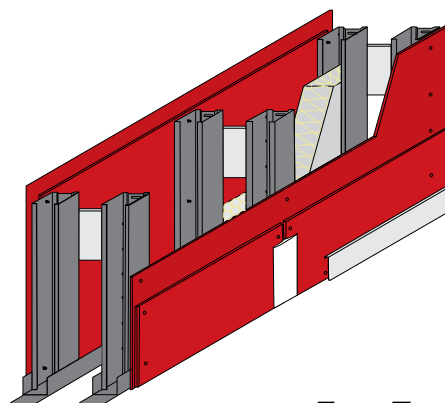
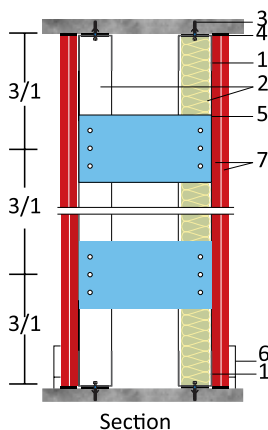
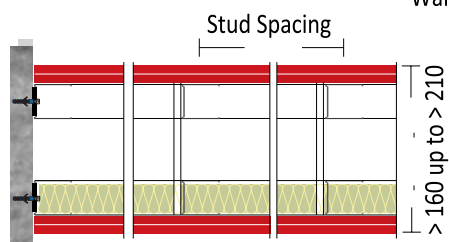
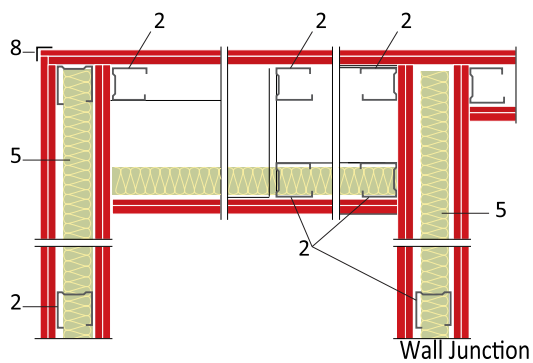


10. Joint filler



Installation Wall

- | | |
|---------------|----------------------------|
| 1. Runner | 6. Base profile (socket) |
| 2. Stud | 7. Gypsum board |
| 3. Anchor | 8. Edge protection profile |
| 4. Seal | |
| 5. Insulation | |



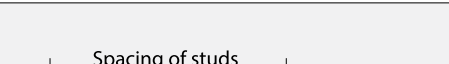
Technical Data / Sound Protection / Thermal Insulation

	Technical Data					Sound Protection proof $R_{w,R}$	Insulation nominal thickness	Thermal Insulation U Value
	Dimension				Weight			
	Wall	Stud	Board					
	thiciness	cavity	thickness	Type				
	D	h	d		approx.			
	(mm)	(mm)	(mm)		kg/m² 1	dB 2)	mm 3)	W/(m²K)

Metal Stud Partiton Single metal stud frame - single layer cladding

Spacing of studs	75	50	12.5	GKB GKF	25	41	40	0.66
	100	75				42	40	0.65
						43	60	0.50
	125	100				42	40	0.65
						43	60	0.49
						44	80	0.40

Metal Stud Partiton Single metal stud frame - double layer cladding

Metal Stud Partition Single metal stud frame - double layer cladding											
	100	50	2 x 12.5	GKB GKF	45	50	40	0.61			
	125	75				51	40	0.60			
	150	100				52	60	0.47			
						51	40	0.60			
						52	60	0.46			
						53	80	0.38			

Metal Stud Partiton Double metal stud frame - double layer cladding

spacing of studs	155	105	2 x 12.5	GKB GKF	48	59	2X40	0.37
	205	155				58	60	0.47
	255	205				61	2X60	0.27
						60	80	0.37
						63	2X80	0.21

Technical Data / Sound Protection / Thermal Insulation

	Technical Data					Sound Protection proof $R_{w,R}$	Insulation nominal thickness	Thermal Insulation U value
	Dimension				Weight			
	Wall	Stud	Board					
	thickness	Cavity	Thickness	Type				
	D	h	d		Approx.			
	(mm)	(mm)	(mm)		kg/m ² 1	dB 2)	mm 3)	W/(m ² K)

Metal Stud Partiton Single metal stud frame - tripple layer gypsum board

	125	50	3 x 12.5	GKB GKF	66	51	40	0.57
	150	75				53	60	0.44
	172	100				55	80	0.36

GKB: Gypsum Board.

GKF: Gypsum Board Fire Proof (Fire Resistance).

Installation Wall Double metal stud frame - double layer gypsum board

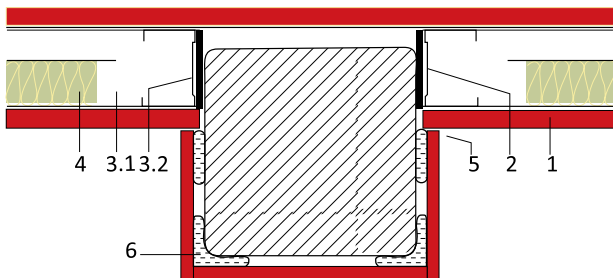
	$\geq 220 \geq 170$	2 x 12.5	GKB GKF	49	52	40	0.60
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GKB: Gypsum Board.

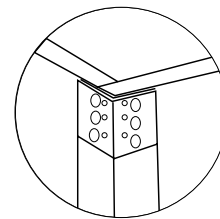
GKF: Gypsum Board Fire Proof (Fire Resistance).

Dry Wall Metal Stud Combined With Columns

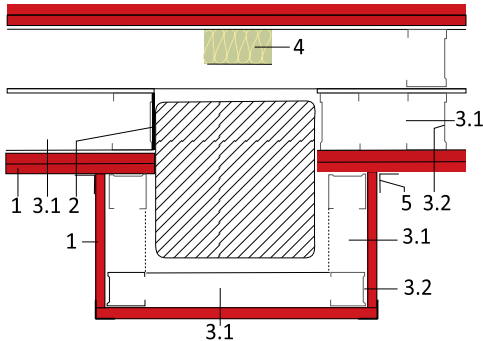
Single Stud One Layer Gypsum Board



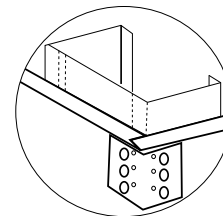
Corner bead leveling on corner



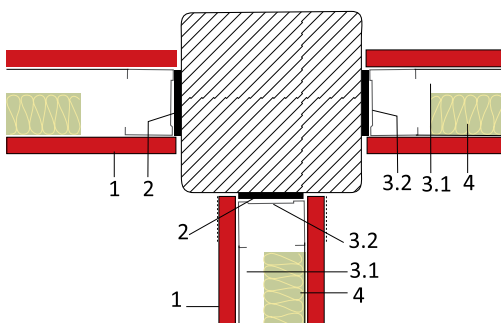
Double Stud Two Layers Gypsum Board



Corner bead leveling on corner



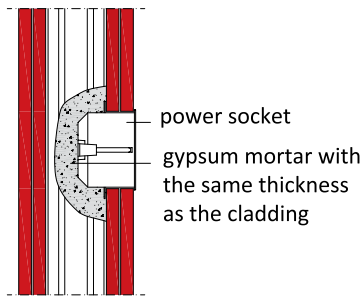
Dry Wall Metal Stud Combined with Columns



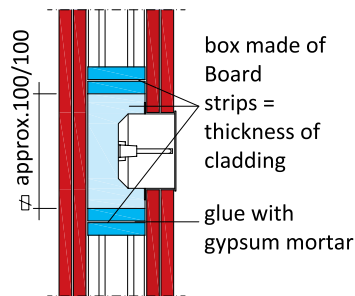
1. Gypsum Board / single stud one or two layer
2. Seal
3. Main profile
 - 3.1 Runner
 - 3.2 Stud
4. Insulation |Mineral Wool |Sound Proofing
5. Corner mesh (if necessary) | Leveling on corner
6. Binder

Installation of Power Sockets

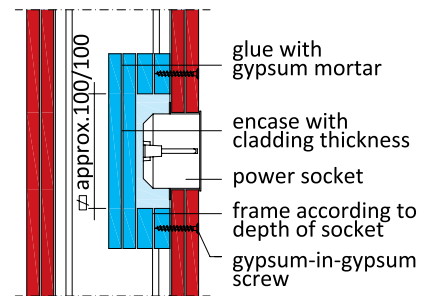
Partitions with insulation min. B2 resp. without insulation



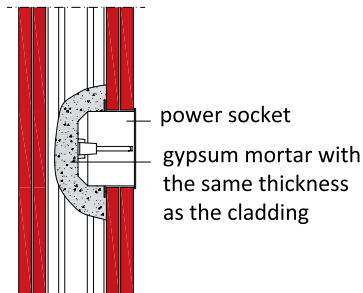
power sockets covering with gypsum mortar



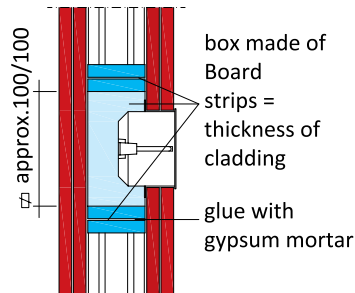
Power sockets covering with gypsum boards



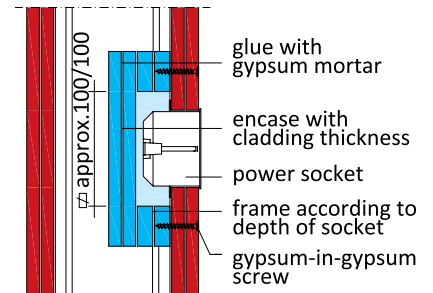
Only for single metal stud partitions



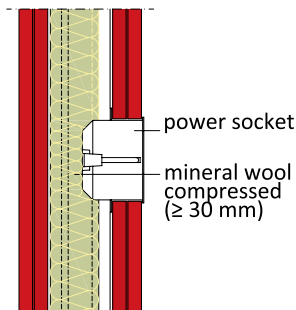
power sockets covering with gypsum mortar



Power sockets covering with gypsum boards



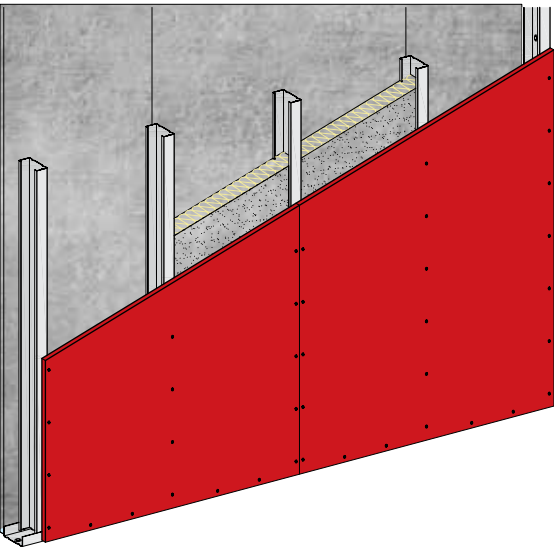
Partitions according to DIN 4102-4 with mineral wool insulation melting point ≥ 10000 c



Insulation layers that are necessary for fire protection should be preserved but are allowed to be compressed down to ≥ 30 mm.

NOTE

Power sockets, switch sockets, splitter sockets etc. are allowed to be installed at any position, but not opposite to each other.
Entry of single electric cables is allowed.
The remaining opening has to be closed with gypsum mortar.



Area A*:
Areas with a low collection of people like homes, hotels, offices,...

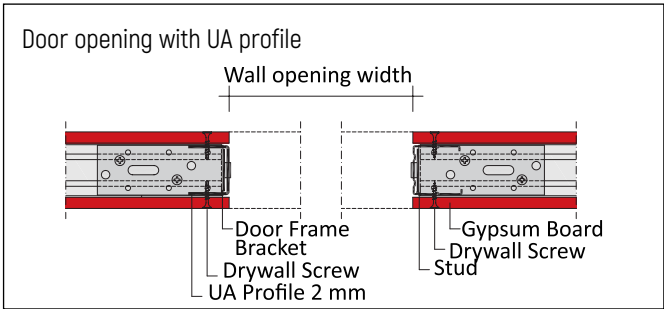
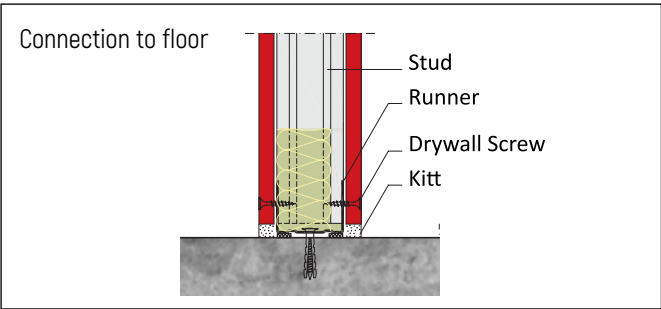
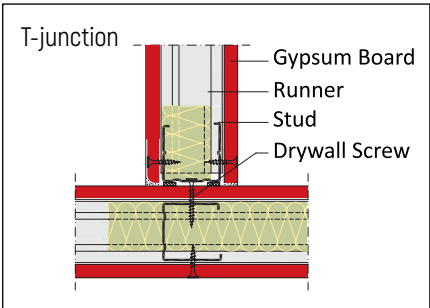
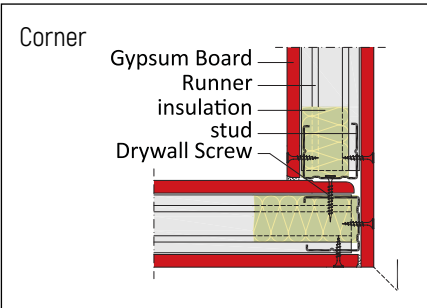
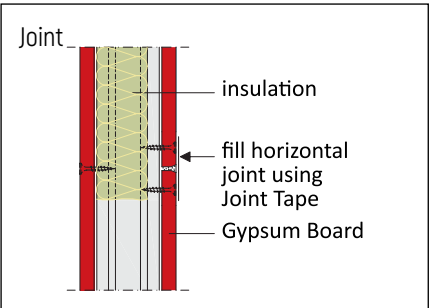
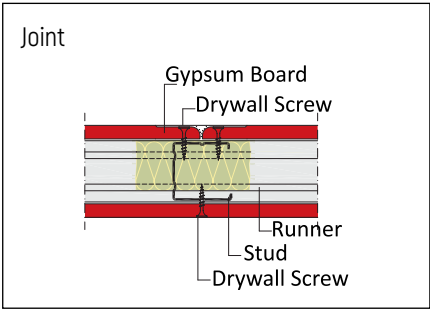
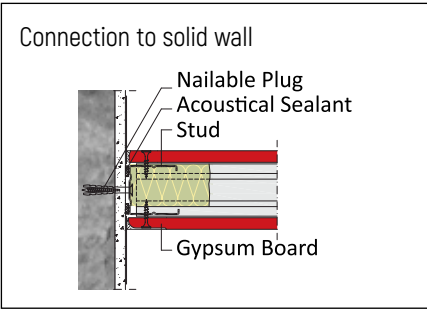
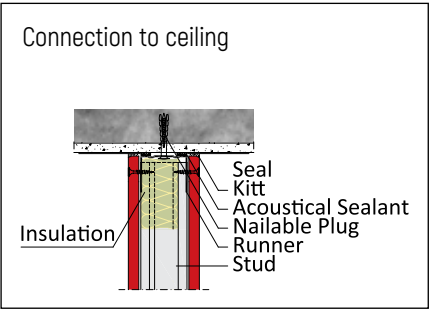
Area B:**
Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

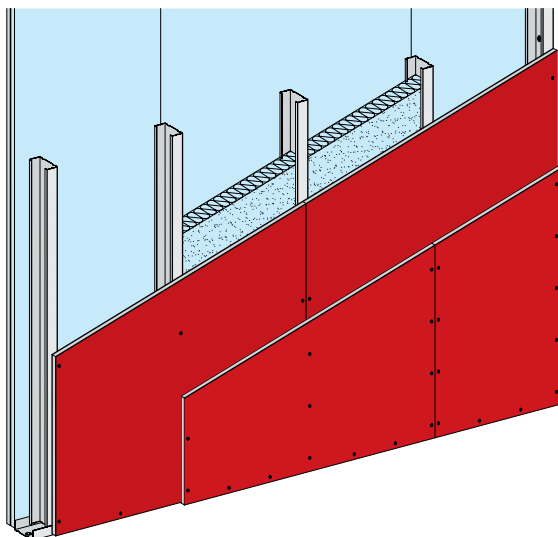
Wall heights

Stud	Spacing of studs	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone		I	II
Metal		I	II	I	II
Thickness 0.6 mm	(cm)	(m)	(m)	(m)	(m)
 Stud 50	60	3	2.75	3	2.75
	40	4	3.75	-	-
	30	5	4.75	4	-
 Stud 75	60	4.5	3.75	4.5	3.75
	40	6	5.25	-	-
	30	7	6.25	5	-
 Stud 100	60	5	4.25	5	4.25
	40	6.5	5.75	-	-
	30	8	7.25	5	-

Bold printed values are maximum allowable heights of metal stud partitions according to DIN 18183

Details



**Area A*:**

Areas with a low collection of people like homes, hotels, offices,...

Area B:**

Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

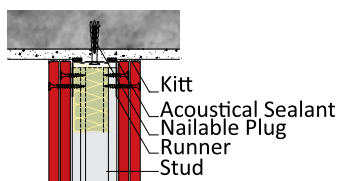
Wall heights

Stud	Spacing of studs	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone		I	II
Metal		I	II	I	II
Thickness 0.6 mm	(cm)	(m)	(m)	(m)	(m)
 Stud 50	60	3	2.75	3	2.75
	40	4	3.75	-	-
	30	5	4.75	4	-
 Stud 75	60	4.5	3.75	4.5	3.75
	40	6	5.25	-	-
	30	7	6.25	5	-
 Stud 100	60	5	4.25	5	4.25
	40	6.5	5.75	-	-
	30	8	7.25	5.5	-

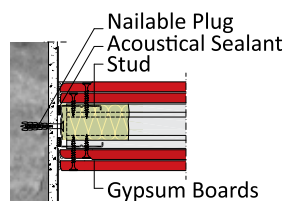
Bold printed values are maximum allowable heights of metal stud partitions according to DIN 18183

Details

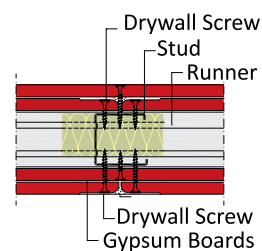
Connection to ceiling



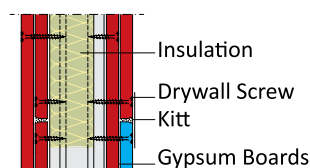
Connection to solid wall



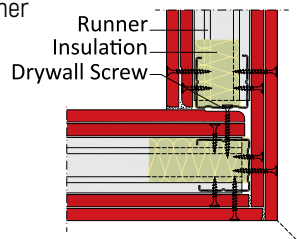
Joint



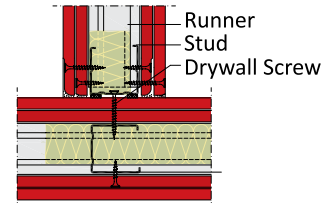
Joint



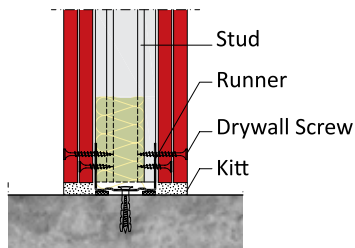
Corner



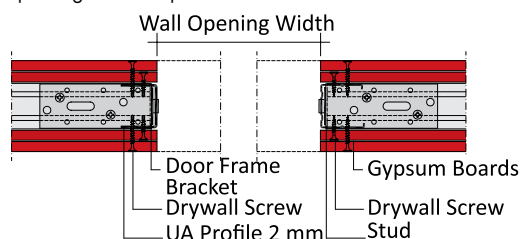
T-junction

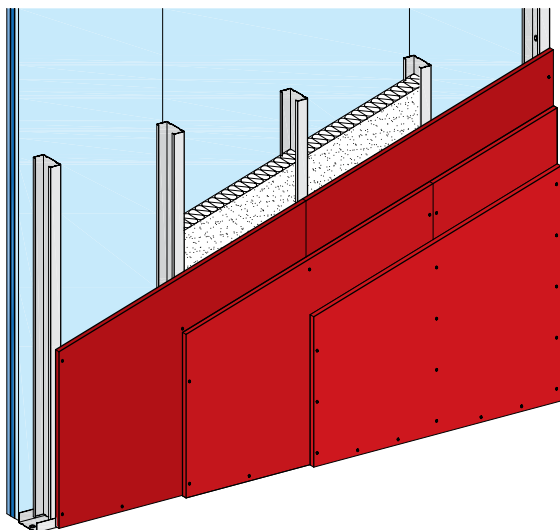


Connection to floor



Door opening with UA profile



**Area A*:**

Areas with a low collection of people like homes, hotels, offices,...

Area B:**

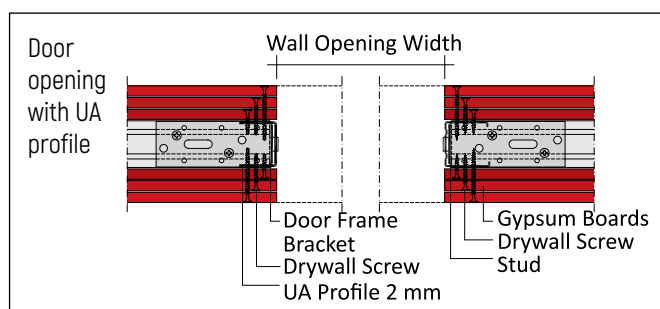
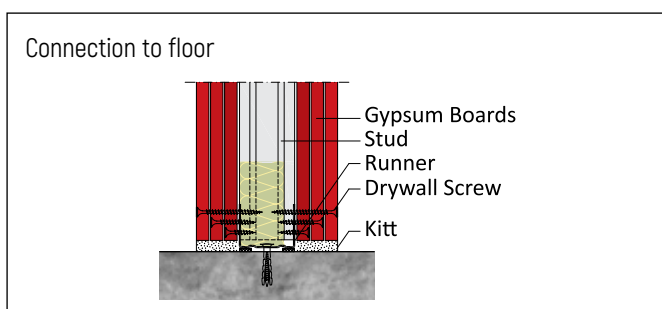
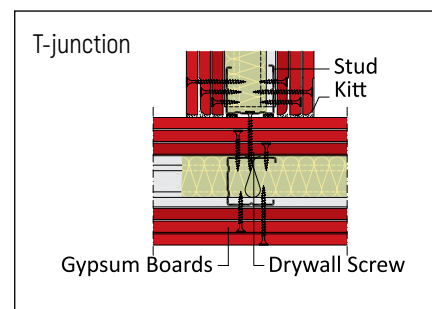
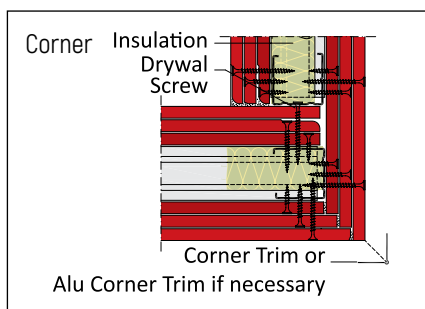
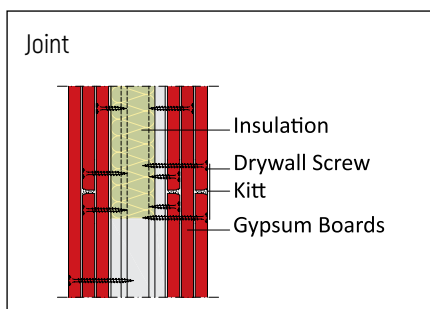
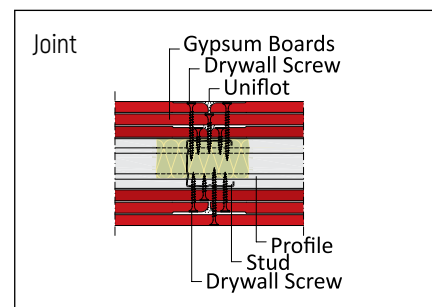
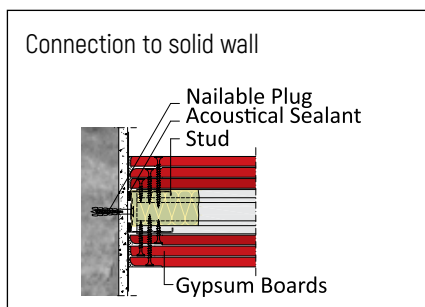
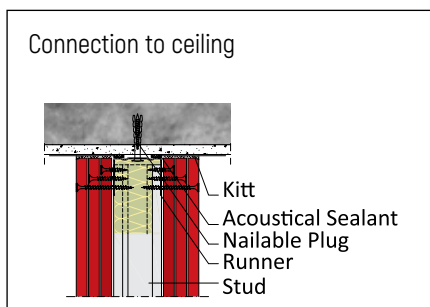
Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

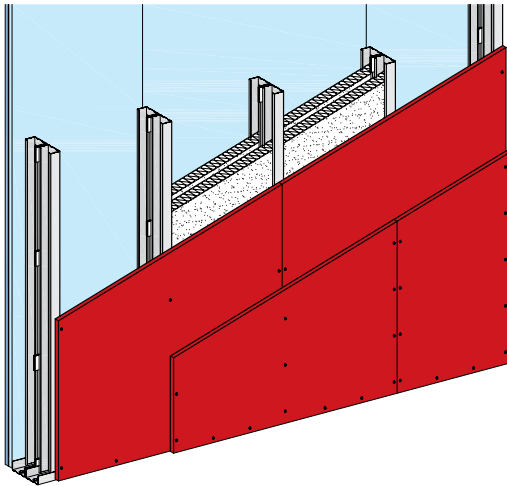
Wall heights

Stud	Spacing of studs (cm)	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone		I	II
Metal Thickness 0.6 mm		I (m)	II (m)	I (m)	II (m)
 Stud 50	62.5	4.5	4	4	3.5
	41.7	5.5	5	5	4.5
	31.25	6.5	6	6	5.5
 Stud 75	62.5	6	5	5.5	5
	41.7	7	6.5	6.5	6
	31.25	8	7.5	7.5	7
 Stud 100	62.5	7	6.5	6.5	5.75
	41.7	8	7.5	7.5	7
	31.25	9.5	9	9	8.5

Bold printed values are maximum allowable heights of metal stud partitions according to DIN 18183

Details





Wall heights

Stud	Spacing of studs	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone		I	II
Metal		I	II	I	II
Thickness 0.6 mm	(cm)	(m)	(m)	(m)	(m)
 Stud 50	62.5	3.3 (4.5)	2.8 (4)	3.3 (4.5)	2.8 (4)
 Stud 75	62.5	4.5 (6)	3.3 (5.5)	4.5 (6)	4 (5.5)
 Stud 100	62.5	5.5 (6.5)	5 (6)	5.5 (6.5)	5 (6)

Area A*:

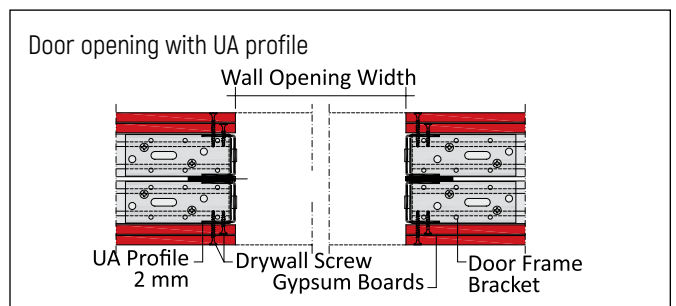
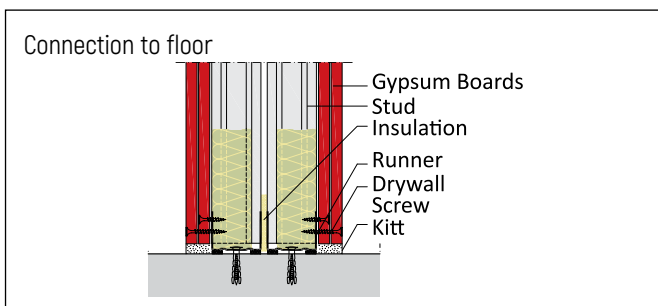
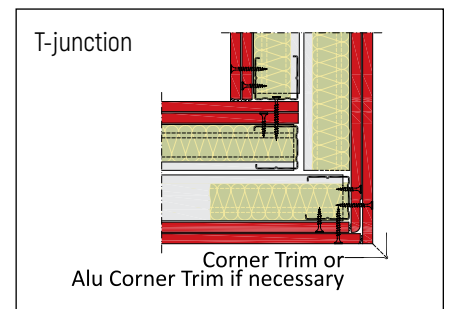
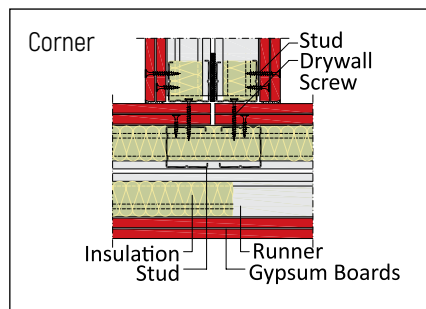
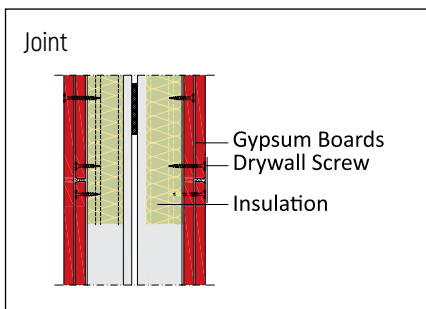
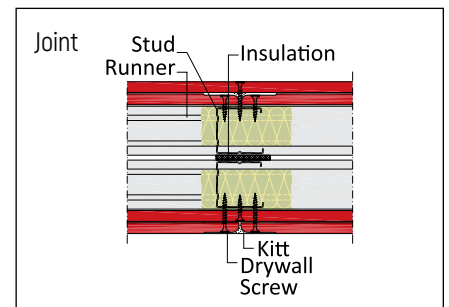
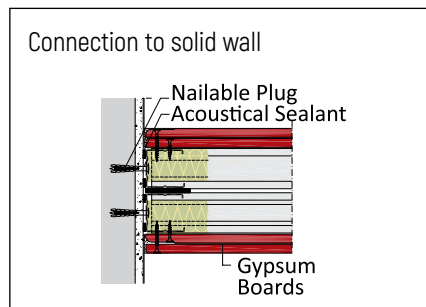
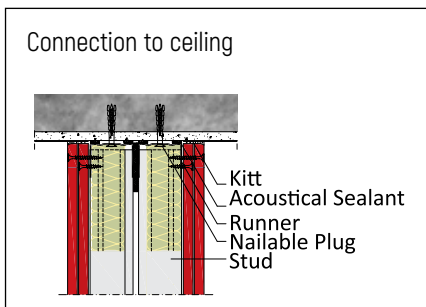
Areas with a low collection of people like homes, hotels, offices,...

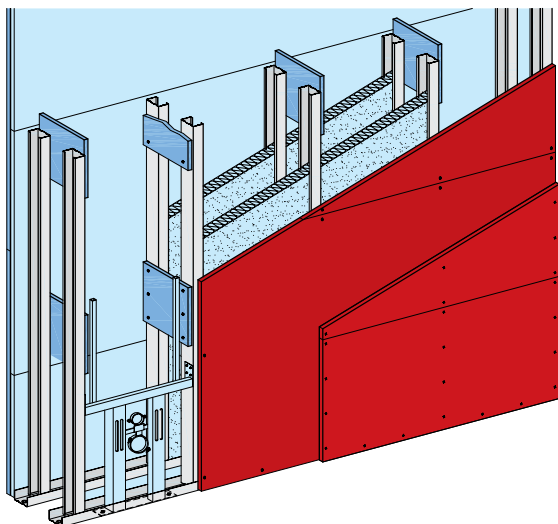
Area B**:

Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

Bold printed values are recommended by SFSP
() values are maximum allowable heights of metal stud partitions acc. to DIN 18183

Details





Wall heights

Stud	Spacing of studs (cm)	Maximum wall heights			
		Without fire protect.		Incl. fire protect	
		Installation zone		I	II
Metal Thickness 0.6 mm		I (m)	II (m)	I (m)	II (m)
 Stud 50	62.5	4.5	4	4.5	4
 Stud 75	62.5	6	5.5	6	5.5
 Stud 100	62.5	6.5	6	6.5	6

Area A*:

Areas with a low collection of people like homes, hotels, offices,...

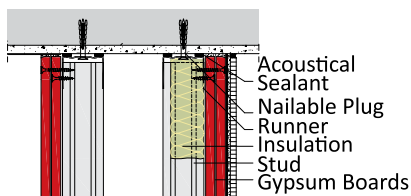
Area B**:

Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

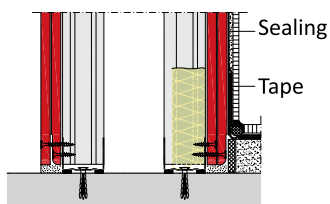
Sheet thickness 0.8 mm

Details

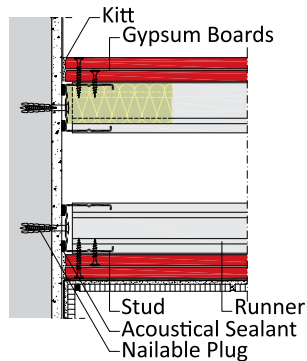
Connection to ceiling



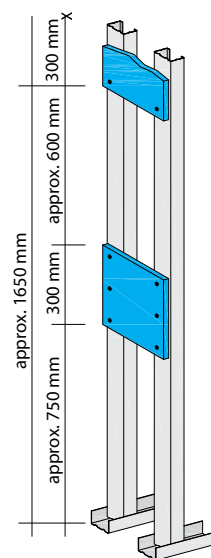
Connection to floor



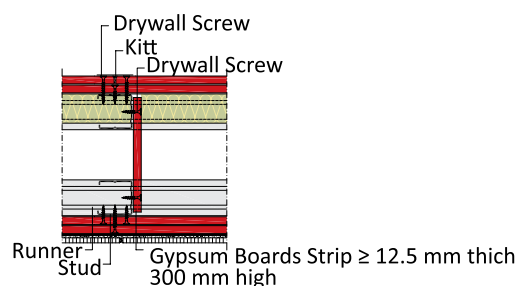
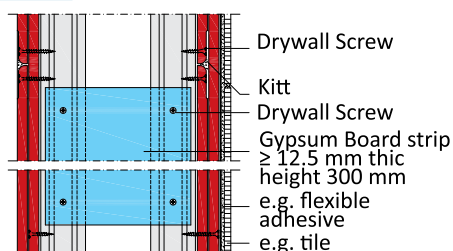
Connection to solid wall

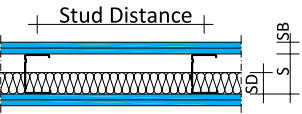
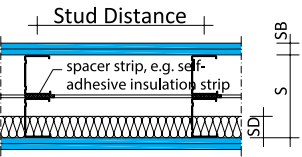
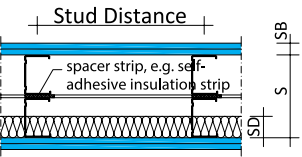


Stud reinforcement



Joint and stud reinforcement

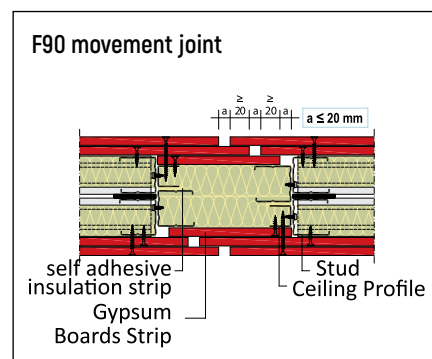
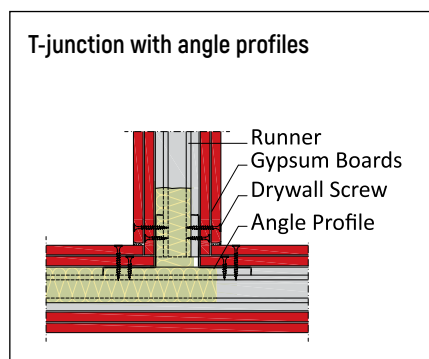
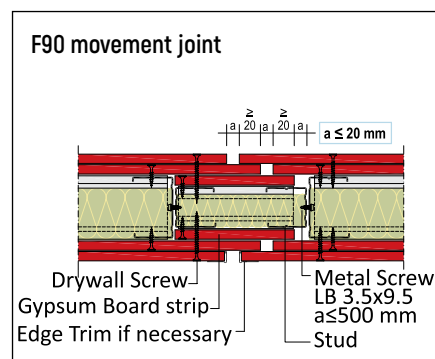
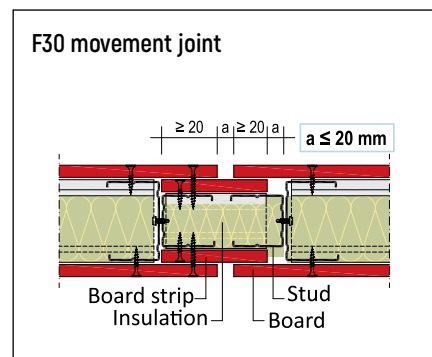
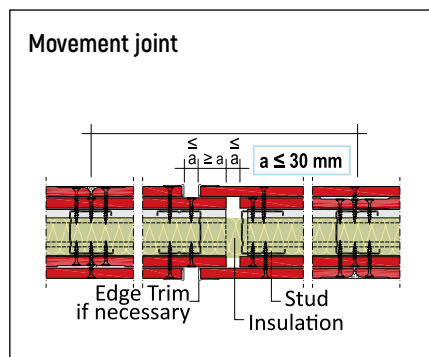
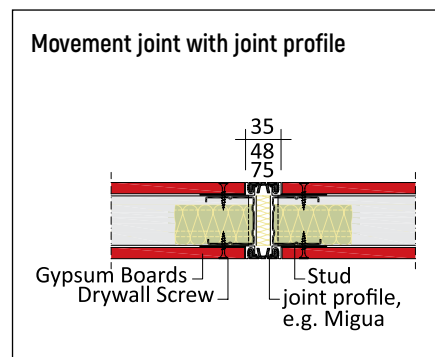


Examples	SB ¹⁾	Stud ²⁾	Minimum clearance between gypsum board	Minimum insulation thickness	R _{WIR}
			S	SD	dB
	12.5	Stud 50 x 0.6	50	40	39
		Stud 75 x 0.6	75	40	39
		Stud 100 x 0.6	100	40	41
				60	42
				80	43
	2x12.5	Stud 50 x 0.6	50	40	46
		Stud 75 x 0.6	75	40	46
		100x0.6	100	60	49
				40	47
				80	50
	2x12.5	Stud 50 x 0.6	105	80	58
		Stud 100 x 0.6	205	80	59

1) Thickness of cladding according to DIN 18180, applied according to DIN 18181, joints filled. The weight per unit area of the boards has to be at least 8,5 kg/m².

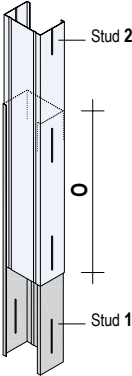
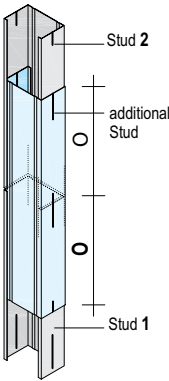
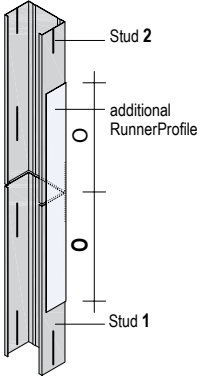
2) Letter symbol for C studs and metal thickness according to DIN 18182-1 dimensions in mm.

Details: Movement Joints / T-Junctions / Corners



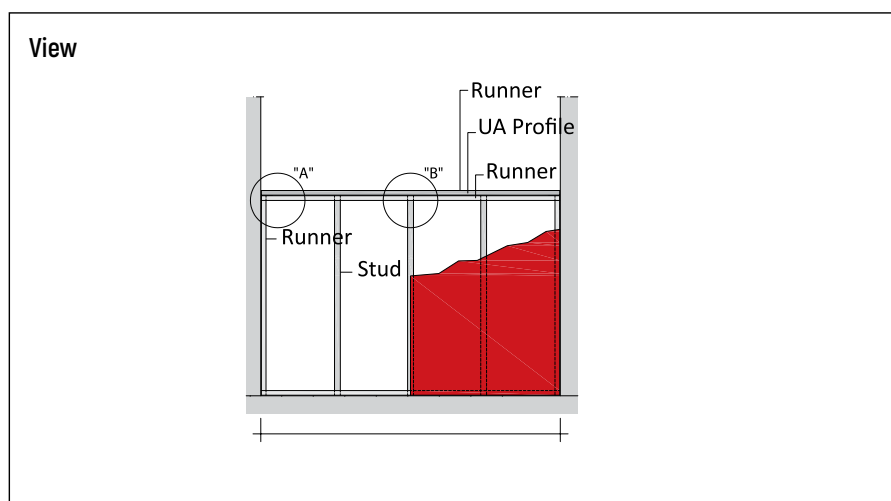
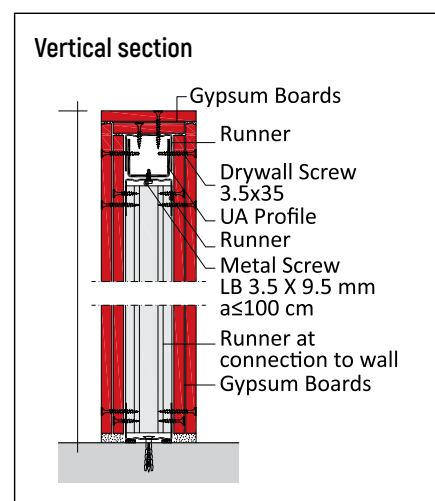
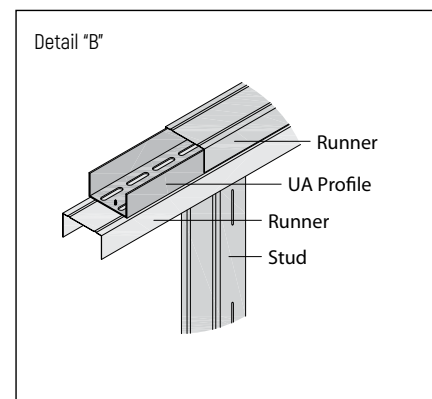
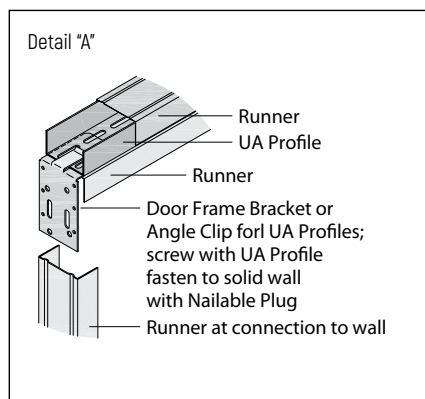
Stud Joints / Partitions without Connection to Ceiling

Vertical stud joints

Stud	Overlap O	Variation 1	Variation 2	Variation 3
Stud 50	≥ 50	2 Studs interlaced as box	2 studs butt joint interlaced with additional Stud	2 studs butt joint interlaced with additional Runner
Stud 75	≥ 75			
Stud 100	≥ 100			
Displace stud joints vertically fit-up aid: Crimp, rivet or screw Studs at overlap  Stamp Pliers				

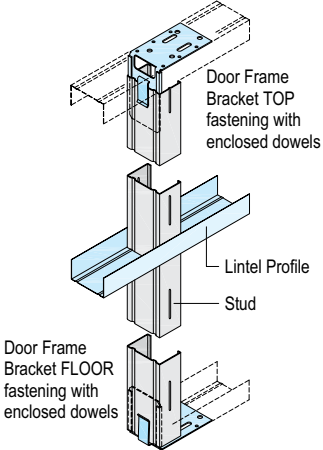
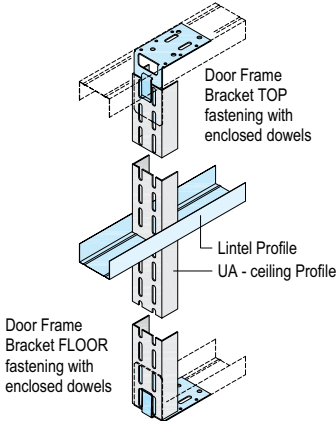
Partitions without connection to ceiling

Max. partition length (span of UA profile)		
UA profile	Maximum allowable partition width Cladding	
	12.5 mm	2 x 12.5 mm
Metal thickness 2 mm	(m)	(m)
UA 50	3	4
UA 75	4.5	5.5
UA 100	5	6.5

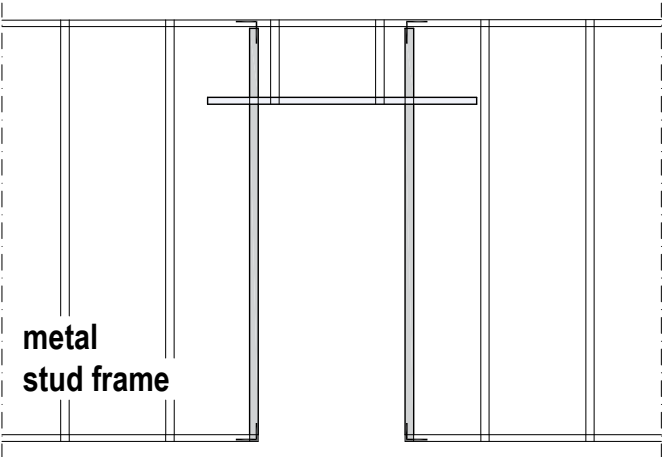
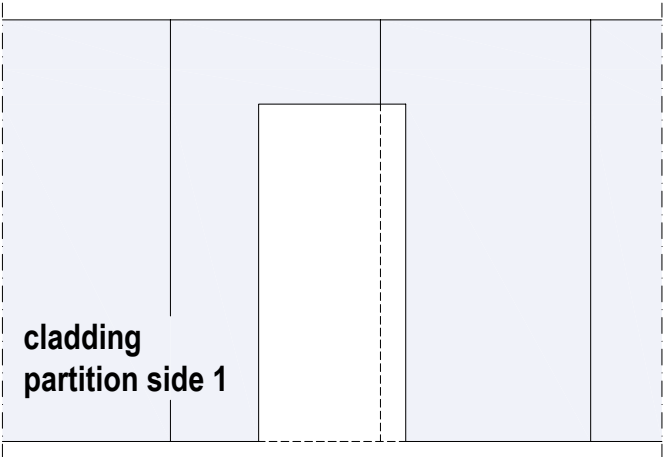
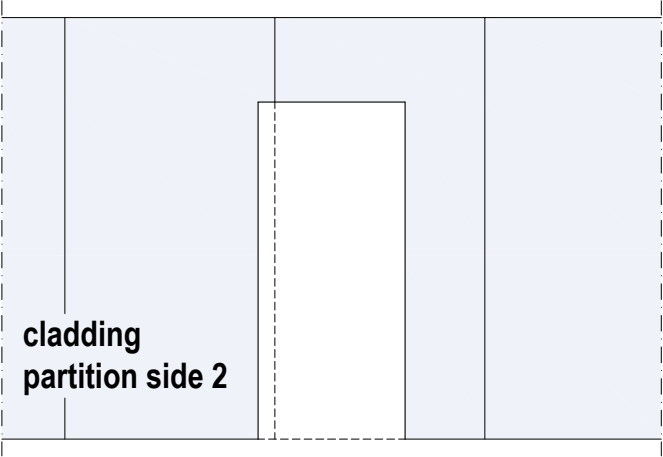


Door Openings: Stud Construction Cladding / Door Panel Weight

Stud construction

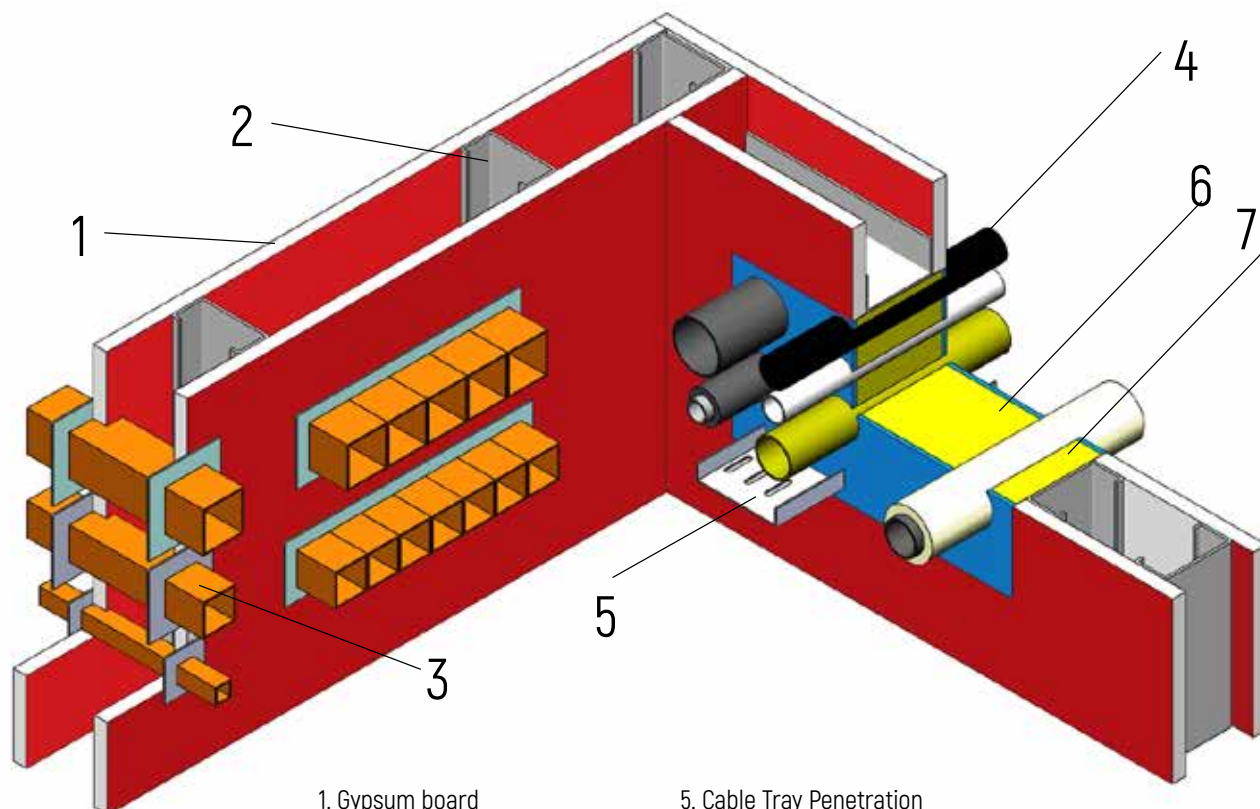
Variation stud	Variation UA	Deflection head
- Acc. to DIN 18340 Wall heights ≤ 2.60 m Door width ≤ 0.885 m Door panel weight ≤ 25 kg 	Remove plastic strip from Door Frame Bracket - Acc. to DIN 18340 Wall heights ≤ 2.60 m Door width ≤ 0.885 m Door panel weight ≤ 25 kg 	Possible with Stud or 4A ceiling profile

Scheme Drawings

 metal stud frame	 cladding partition side 1
 cladding partition side 2	

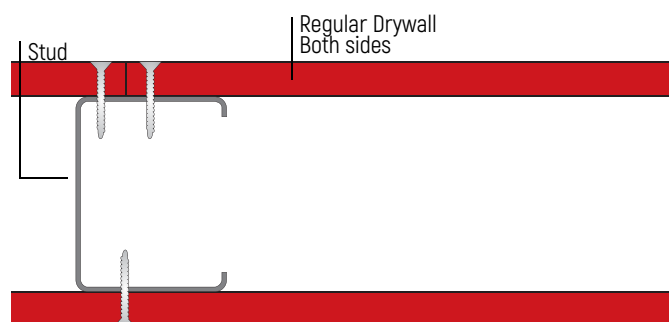
Drywall system with fire stop solutions

For cabling and wiring installation and the penetration of piping and ducts

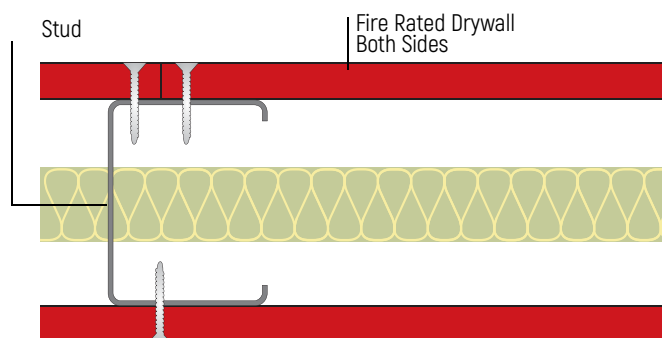


- | | |
|------------------------|---------------------------|
| 1. Gypsum board | 5. Cable Tray Penetration |
| 2. Stud | 6. Fire Rated Insulation |
| 3. Fire Rated Pathways | 7. Insulated Pipe |
| 4. Pipe Penetration | |

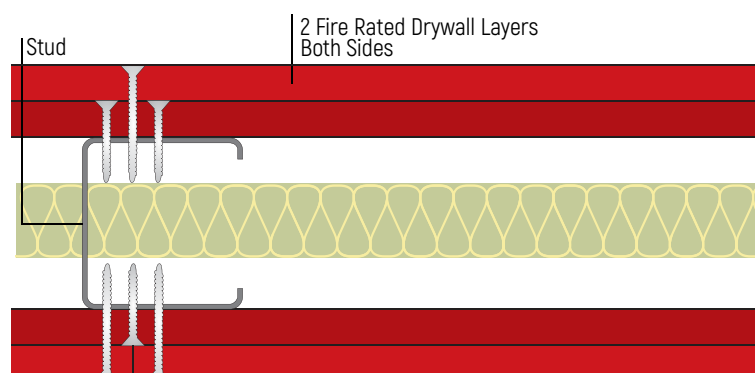
Drywall Design for Fire Safety Partition



Fire Performance



Maximum Fire Performance



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