

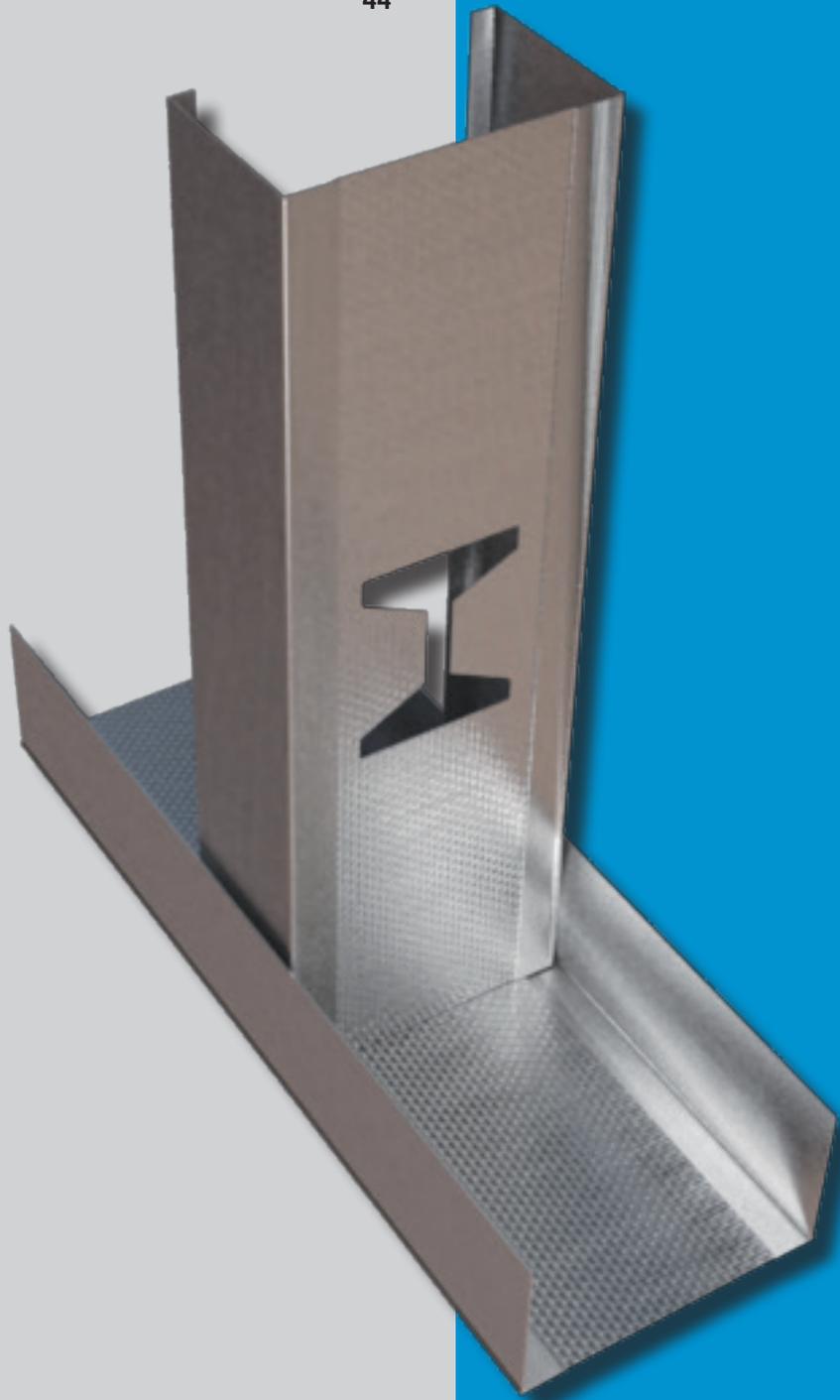
DRY WALL PARTITION CATALOGUE

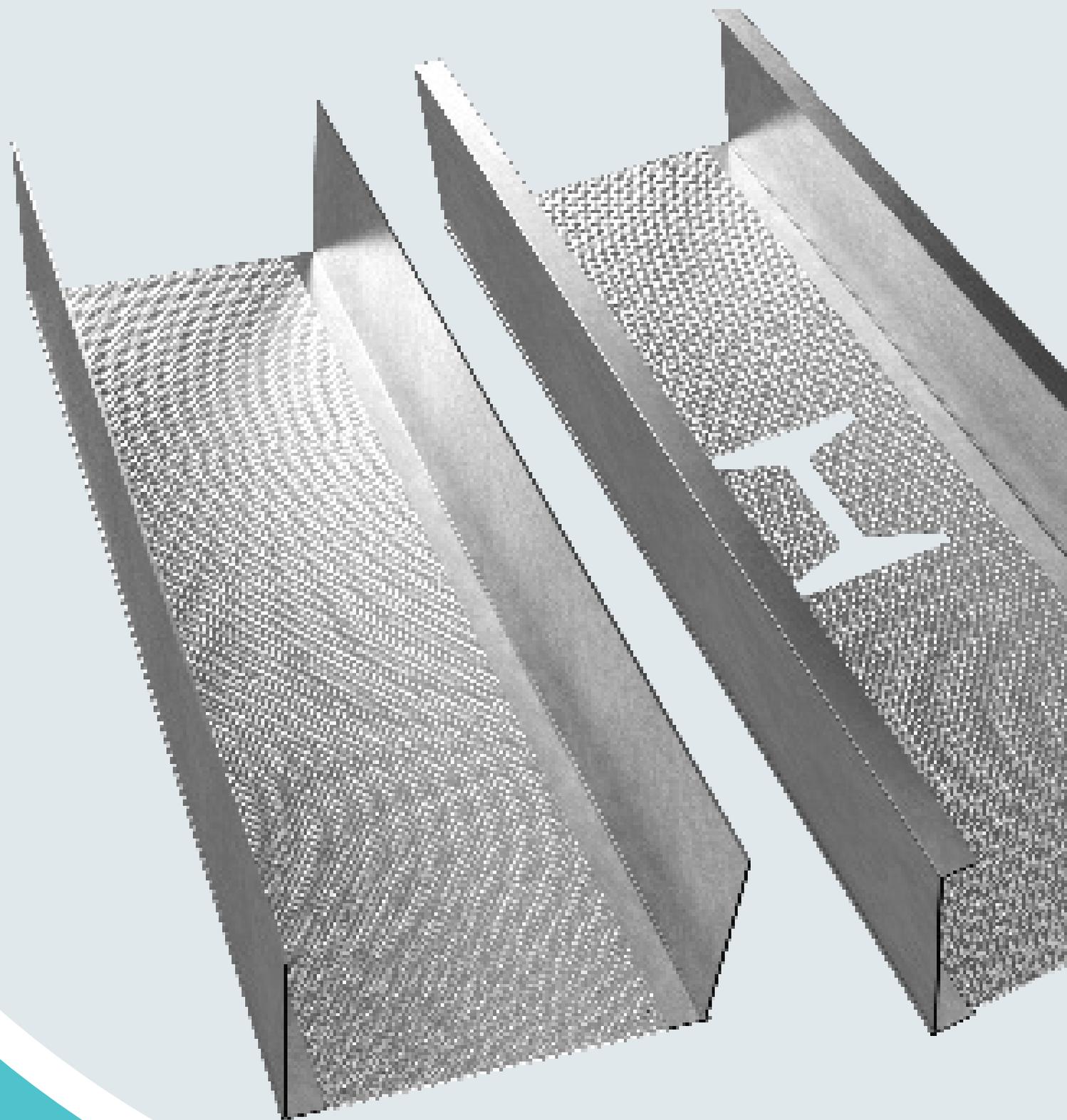


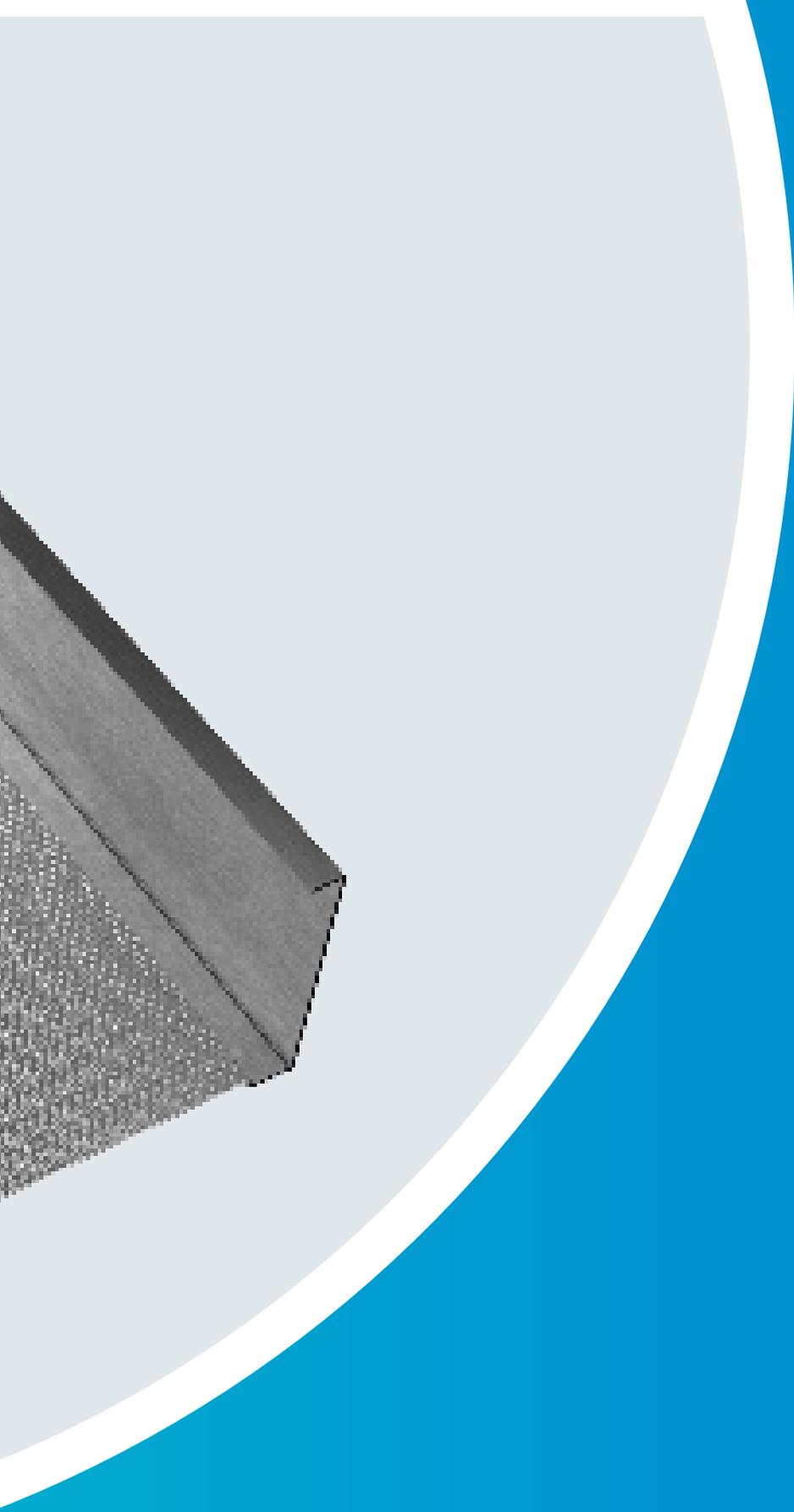
SFSP
Specialized Factory
for Steel Products /s.a.r.l
www.sfsp-lebanon.com

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ABOUT SFSP



SFSP
Specialized Factory
for Steel Products /s.a.r.l
www.sfsp-lebanon.com

Specialized Factory for Steel Products is a leading factory in Lebanon, established in the year 2011 to serve the steel construction products industry in Lebanon and the region.

Production at the factory is observed using modern practices of manufacturing methods in the steel construction industry with a definite compliance to international standards of fabrication.

SFSP adapts quickly and easily to market demands and requirements. The factory is operating a top of the line production machinery, automated with high technology to ensure quality and maintain speed with delicacy.

Quality at SFSP is uncompromised; the factory is working as per ISO 9001: 2008 Quality Management System, with care for the safety of its workers and clients as well as the welfare of its society by acknowledging the environmental key issues, trying to maintain a pollution-free production facility

TECHNICAL SERVICES

A crucial factor in the job of a factory is to provide continuous technical services and consultations.

That's why SFSP has invested in a professional team of researchers and specialists.

SFSP has recruited brilliant graduates and experienced engineers having the appropriate knowhow on the on latest technology changes and development in the steel building materials industry.

The product range is developed and updated according to the relevant standards of fabrication across markets, whilst the business processes are evaluated to achieve maximum efficiency.

SFSP R&D Core Objectives

- Carry out responsibilities effectively in a safe and healthy work environment.
- Develop and implement research programs relevant to the products and solutions introduced and ensure that the results are communicated clearly in-house and among the clients , concisely and accurately.

SOCIAL RESPONSIBILITY

Being socially responsible is a part of who we are and how we do our business. We aim to provide useful products and services, to provide jobs and development opportunities for our communities, and to gain satisfaction through meaningful work.

We make a difference by acting on the values and principles of our societies and we inspire others to do so. At SFSP, we anticipate and reduce threats caused by environmental changes or natural disasters, and we are well adapted to significant social changes.

We contribute to a more sustainable society by means of value and support to our consumers, supply chains, and stakeholders. We are keen to identify ways they can improve our impacts on the people and places we work and live in, and thereby become more valuable and valued members of society.

- Organizational governance: We promote accountability and transparency at all levels, thus, promoting responsibility
- Human care: We treat individuals with respect; and make efforts to help members of vulnerable groups
- Labor practices: We provide just, safe and favorable conditions to workers
- Environment: At SFSP, we identify and improve environmental impacts of our operations, including the resource use of natural resources and waste disposal.
- Fair operating practices: Practicing accountability and fairness in dealings with other businesses

At SFSP, we are committed to continuous improvement ongoing learning, process review and innovative thinking that foster new initiatives; and better practices. Our environmental programs evolve to meet today's changing needs while; protecting resources for future; generations.



ENVIRONMENTAL AWARENESS

SFSP is committed to the following:

- Compliance with all statutory and regulatory requirements related to its activities, products and services and the environmental aspects.
- Identifying quality and environmental objectives by review and audit of the processes both in-house and on-site.
- Formally setting objectives based on the results of the process reviews and their significance in relation to their impact on the environment and the continual improvement of the quality and environmental management system.
- Implementing management programs to achieve these objectives.
- Investing in a well-trained and motivated workforce.
- Working closely with suppliers and customers to ensure mutual understanding and benefits of the environmental aspects consideration.
- Reviewing our policy and objectives as part of the Management Review Process.
- Communicating this policy to all persons working for or on behalf of the organization.
- Preventing and minimizing Pollution to the environment.



LOCATION

SFSP / Lebanon

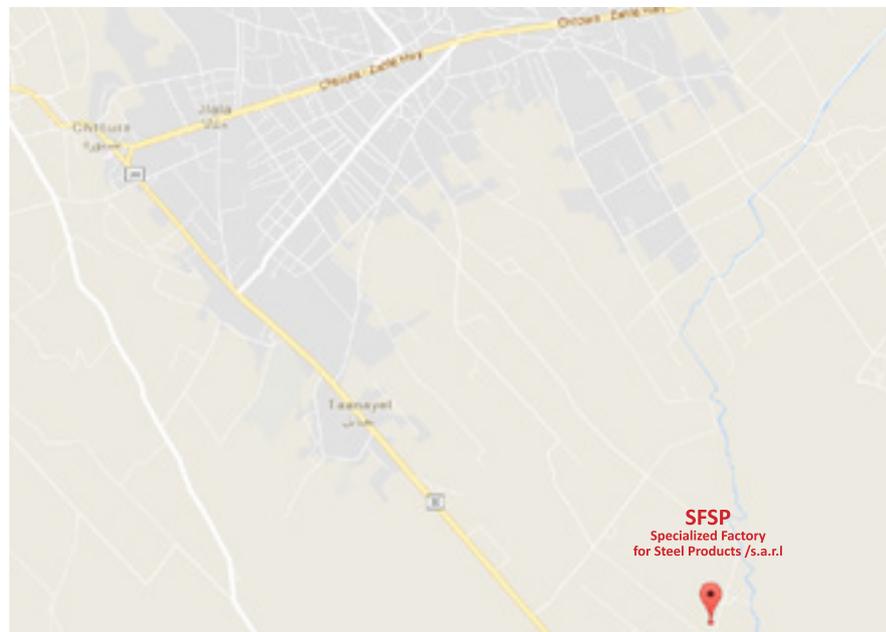
management@sfsp-lebanon.com

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HEALTH AND SAFETY

The Factory Management regard the health and safety of the employees, clients and all others that may be affected by their operations to be of a major importance.

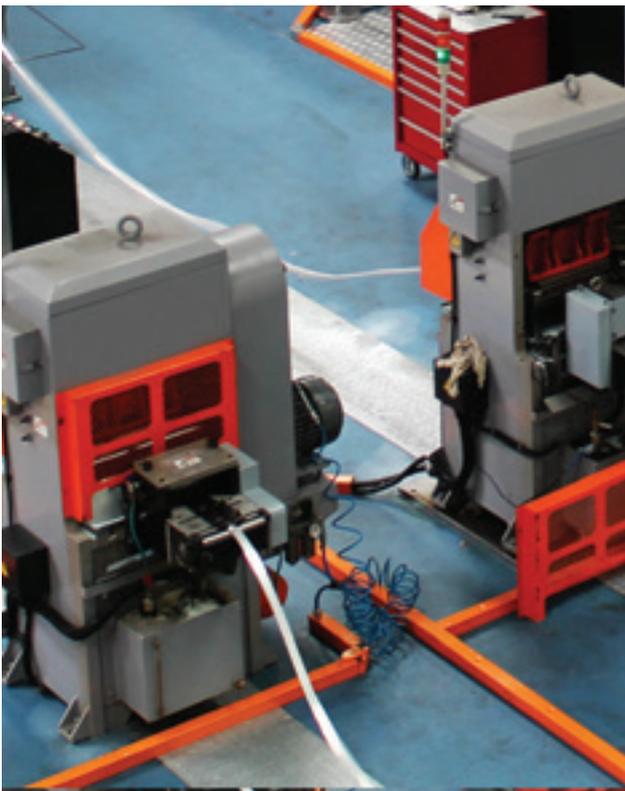
In support of this, the management promotes health and safety throughout the Factory's operations and endeavour to engender a positive attitude in all employees towards the prevention of accidents and maintenance of healthy working arrangements.

The Factory satisfies the requirements of the Health, Safety and related legislation by setting out the responsibilities of all levels of staff and the arrangements for carrying out those responsibilities and in particular do what is reasonably practicable to:

1. Maintains safe & healthy working conditions.
2. Ensures that all facilities and equipment are safe and properly maintained.
3. Provides products that can be applied and used safely and without risk to health.
4. Provides and maintain working procedures, that are safe and without risk to health, throughout the its operations in respect of:
 - The use, handling, storage, transports and disposal of materials and substances.
 - The use of factory equipment.
 - Potential emergency situations, including first aid, fire and escape of substances.
5. Ensure the competence of employees.



SFSP facilities are equipped with advanced machinery amongst are Cable Management Production Lines, Steel cladding systems production lines, metal lathes and blockwork production line, garbage and linen chutes production line, and also partition and ceiling profiles production capacity, and Computerized Numerical Cut machines to ensure delicacy and speed of delivery.



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.

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.



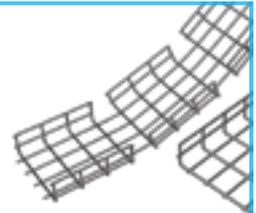
Cable Ladders (Welded & Swaged)

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.



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.



Expanded Metals, Plasterers' Beads

Expanded Metals help the formation of joints, protection of corners and resistance against cracks, chips and impact damage.

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.

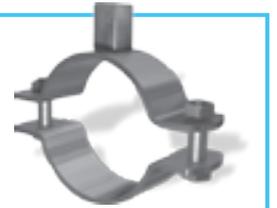
Steel Lintels & Block Work Accessories

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.



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.



Marble & Granite Fixings

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.



Dry Wall & Ceiling Profiles

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



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. Chutes are used as original equipment in new buildings, such as : Hotels, Hospitals, High Rises and Residential Towers.



Expansion joints COVERS

SFSP manufactures architectural lines of thermal, seismic, waterproof, and fire-rated expansion joint systems meeting aesthetic and structural demands of multiple projects including airports, hospitals, commercial and residential buildings, shopping malls, and several other structural types

Materials used in SFSP expansion joints systems includes 6063 Aluminum, Rubber (Natural and Neoprene), Stainless Steel, TPE.



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

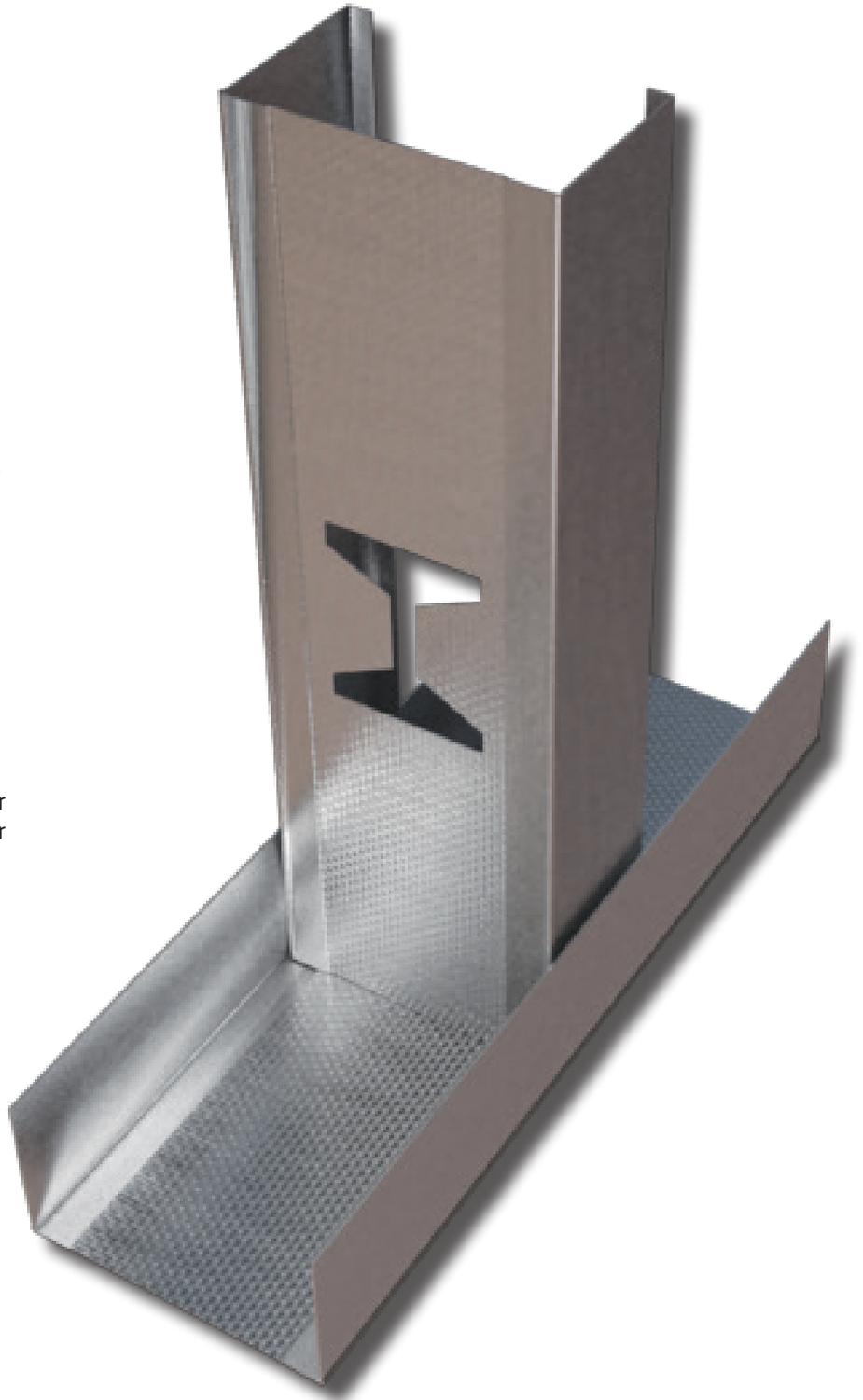
References:

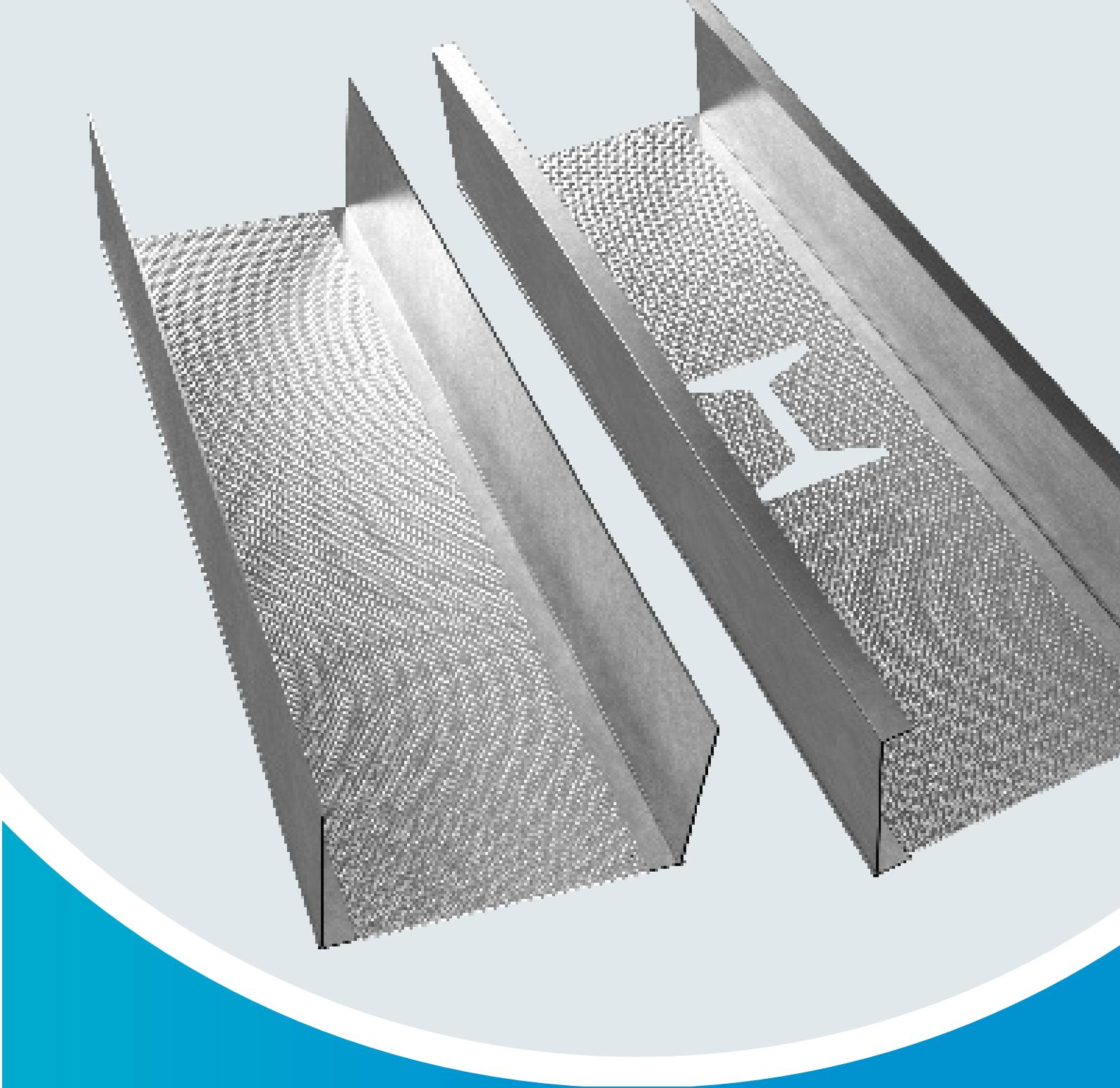
ASTM C1047 : Standard specification for Gypsum Wallboard and Gypsum Veneer Base Accessories.

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.





STUDS & RUNNERS

TECHNICAL INFORMATION

Construction Overview Single Support Wall Sheet Thickness = 0,8 (mm)

Wall type stud/wall thickness	Stud width (mm)	GK	Planking (mm) both sides	Isol. (mm)	Wall thickness (mm) +/-1	Fire- proof	Allowable height in meter						Acoustic db
							Stud Distance* (mm) Mountering area A *			Stud Distance** (mm) Mountering area B**			
							625	417	312	625	417	312	
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

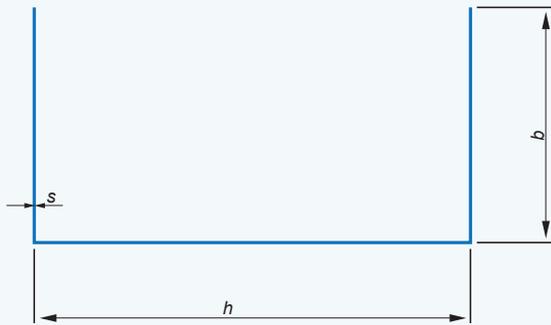
Thickness Code	Thickness (mm)	Tolerance (mm)
04	0.4	0,40 - 0,46
05	0.5	0,46 - 0,55
06	0.6	0,56 - 0,64
07	0.7	0,66 - 0,74
10	1.0	0,91 - 1,09
20	2.0	1,86 - 2,14

Soundproofing in dB

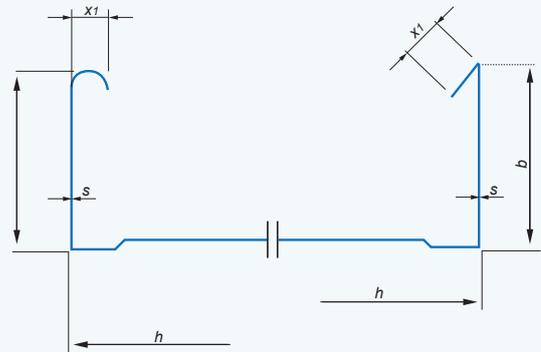
Description of wall system				Sound-proofing	
Planking with plasterboard	Planking in each side (mm)	Insulation (mm)	Wall Thickness (mm)	According to DIN 18180 (dB)	Planking plasterboard (dB)
Stud STD 048 / 72	1 x 12.5	45	72	40-43	41-46
Stud STD 075 / 99	1 x 12.5	50	99	40-44	44-49
Stud STD 075 / 99	1 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

TECHNICAL INFORMATION

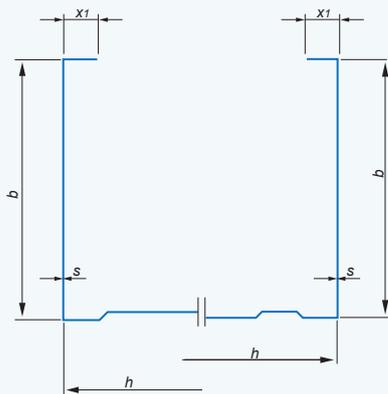
X1 = 6mm, X2 = 3mm



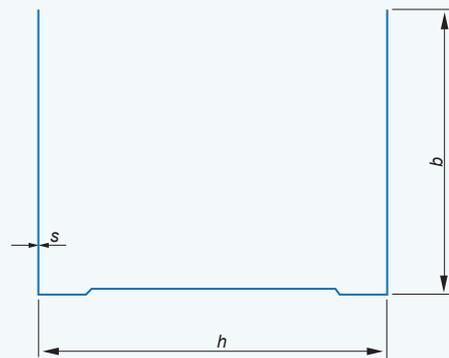
U-Stiffener profile (UA)



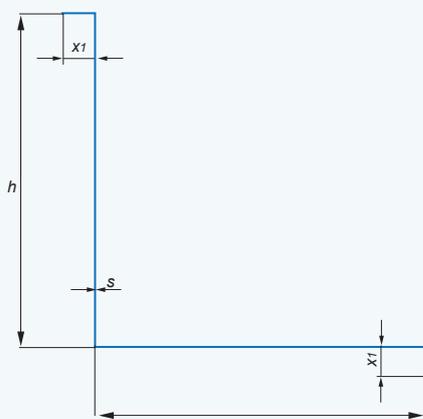
C- Ceiling profile



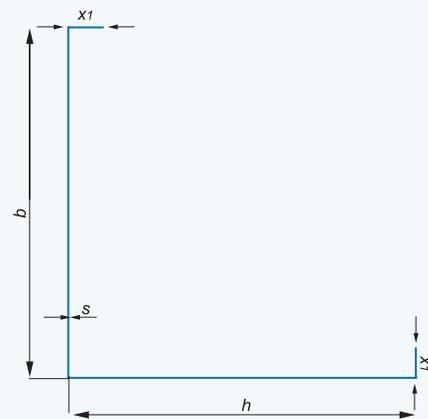
Stud profile (STD)



Runner profile (RNR) | Ceiling profile (MMC)

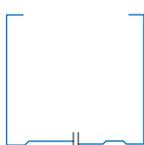
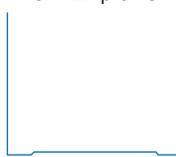
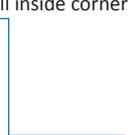


L-Wall inside corner profile



L-Wall outside corner profile

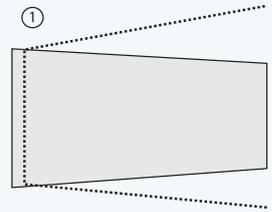
DIN 18182

Profile		Web	Flange		Thickness						Return Flange		
Type	Code	Width			Code						Single	Double	
		$h \pm 0.2$	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	x	6	-
	Std 125	123.8			/	/	x	x	x	x			
RUNNER profile 	RNR 30	30	25	± 0.2	/	x	x	/	/	/	6	-	
	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	6	-	
	UA 40	38.8			/	/	/	/	/	x			
	UA 45	43.8			/	/	/	/	/	x			
	UA 50	48.8			/	/	/	/	/	x			
	UA 60	58.8			40	/	/	/	/	/			x
	UA 75	73.8				/	/	/	/	/			x
	UA 85	83.8				/	/	/	/	/			x
	UA 100	98.8				/	/	/	/	/			x
	UA 120	123.8				/	/	/	/	/			x

Installation of Partition

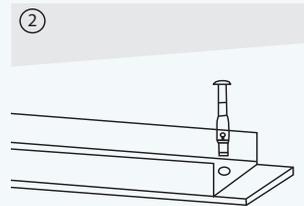
1 Chalk line

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



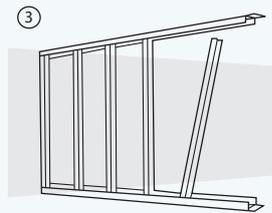
2 Runner Profile

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.



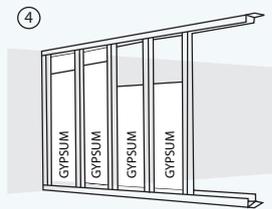
3 Stud Profile

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.



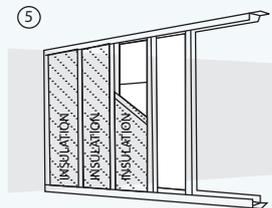
4 Gypsum Board first Wall Side

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



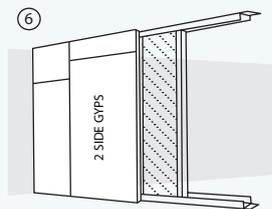
5 Sound Proof Insulation

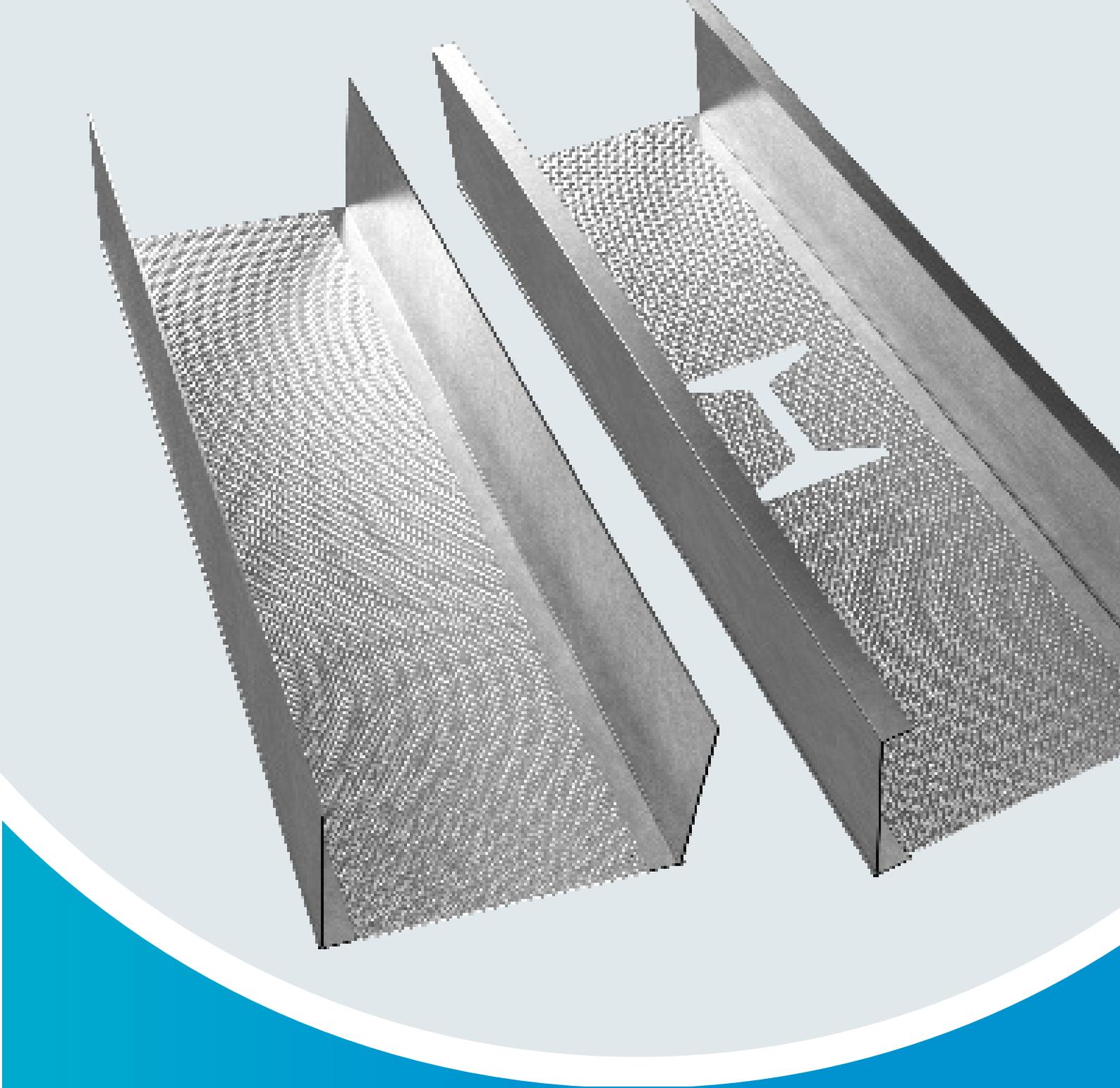
Set insulation to improve the soundproofing and fireproofing.



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

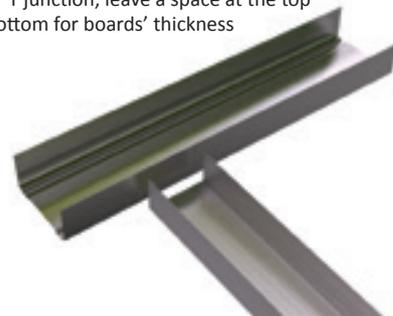
Plasterboard is one of the most important decoration and building materials due to the following reasons:

- 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.

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



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

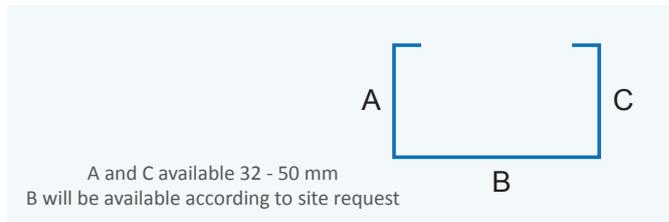
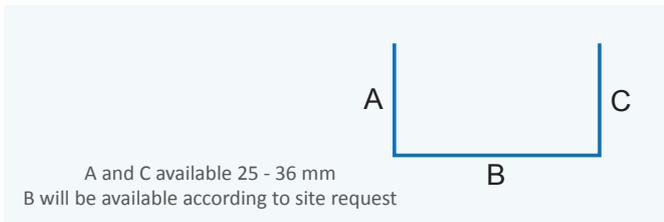
Codes & Dimensions

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

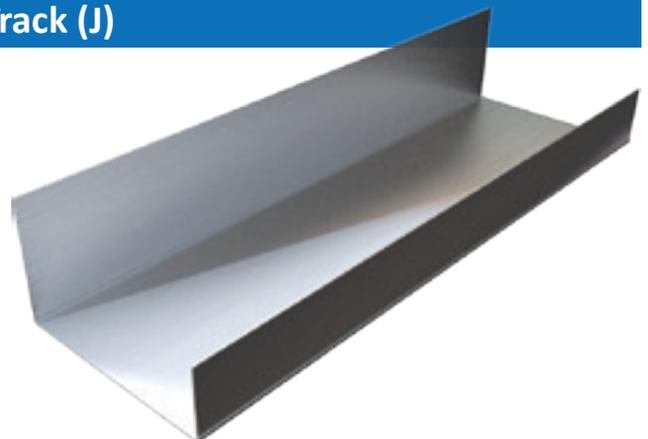
*Other thickness and lengths available upon site request



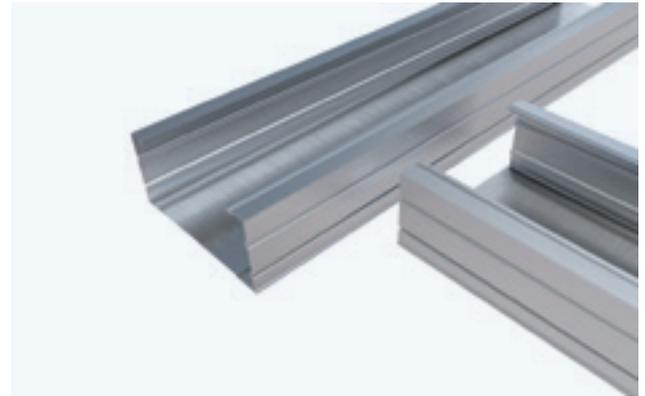
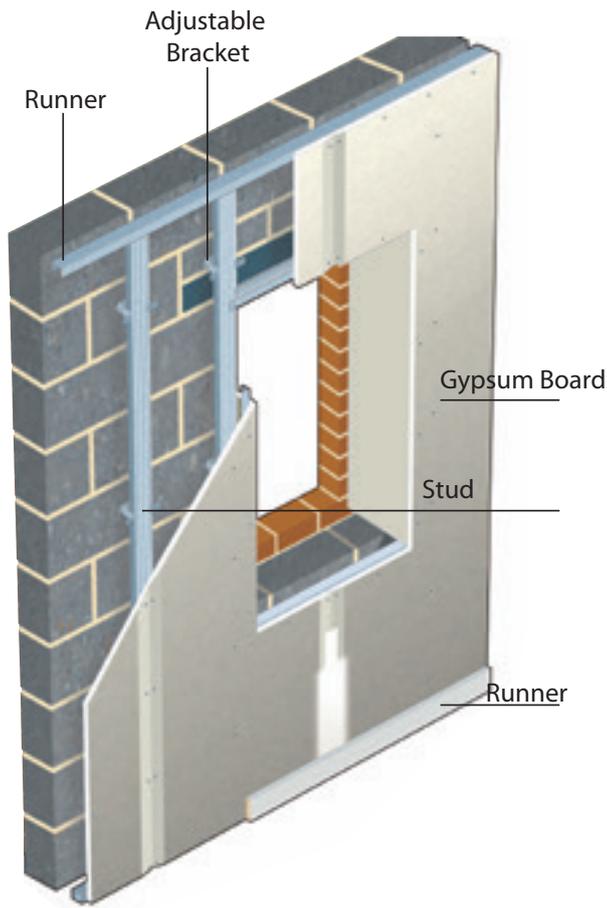
Shaft Wall Track (J)

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

- 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.

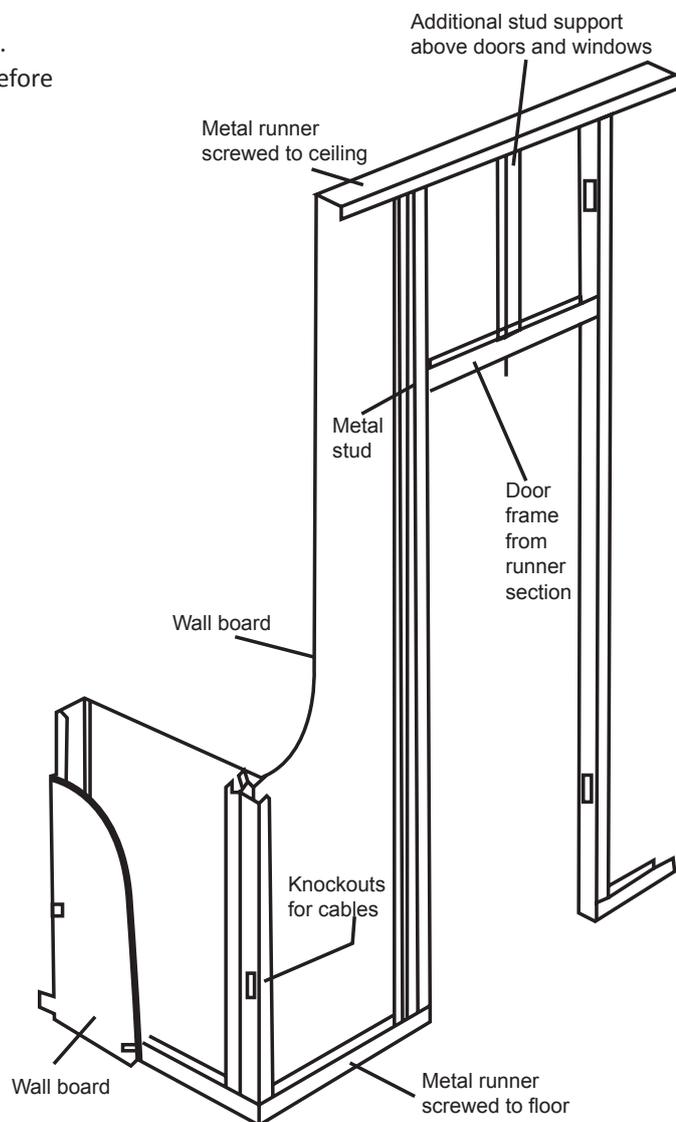
Installation

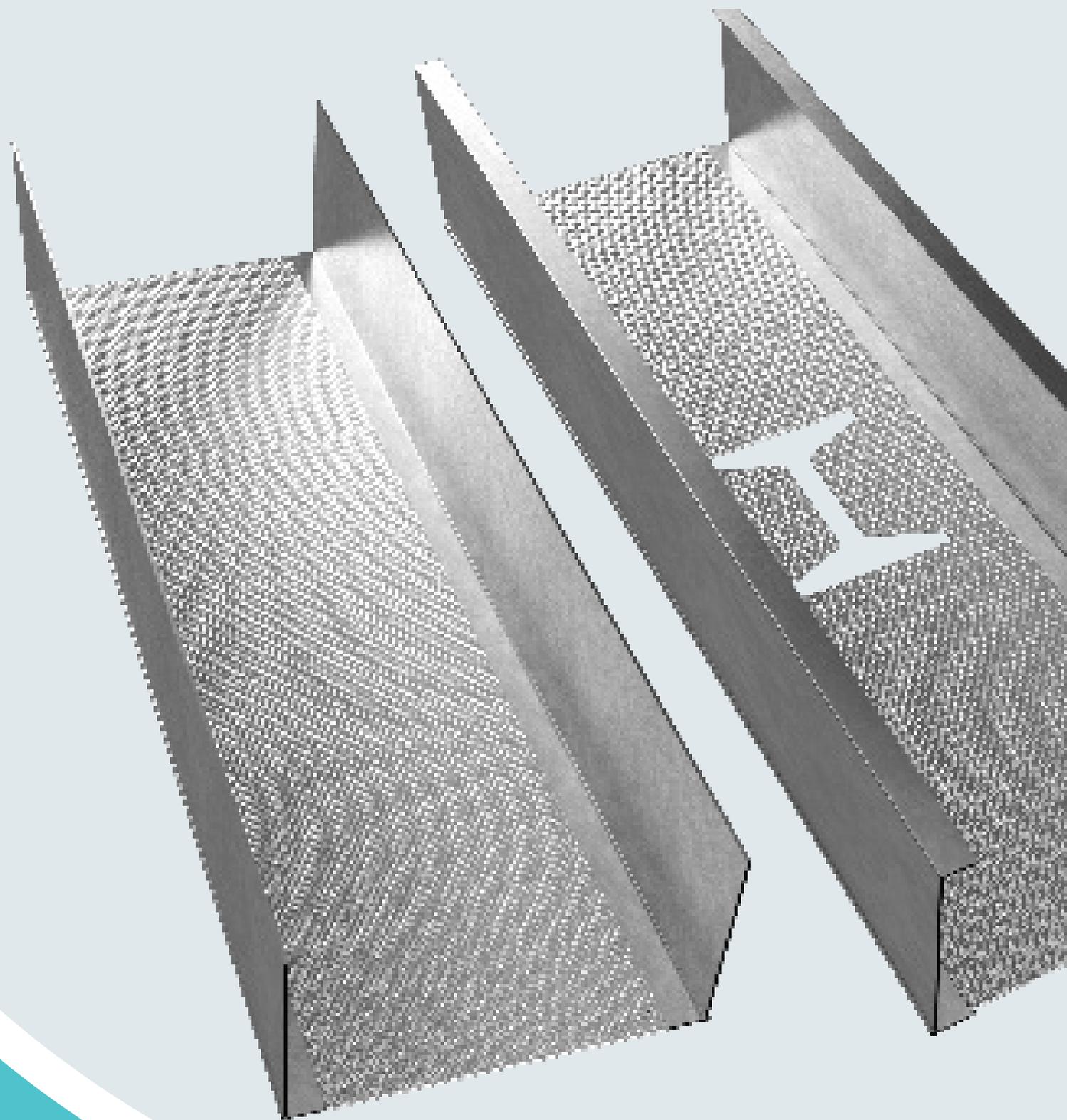
Partition Framing Installation

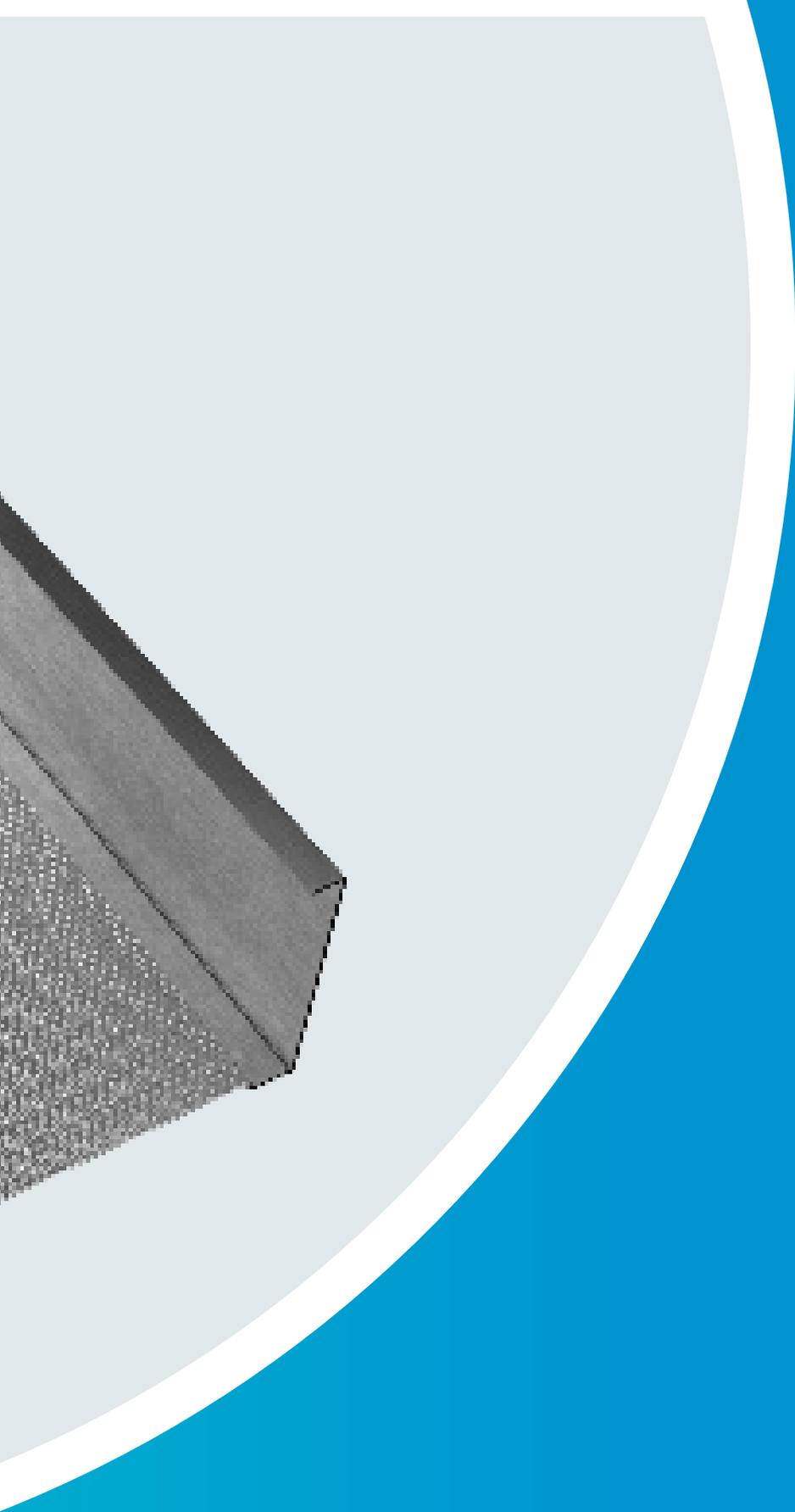
- A. Tracks (bottom and top track) should be fastened to structural elements at 50mm in from each ends of the track and spaced at 600mm center to center with suitable masonry fastener (eg. Drive pin, nylon anchor or expansion anchor).
- B. Position studs vertically with open sides facing the same direction, 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/m³ 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.





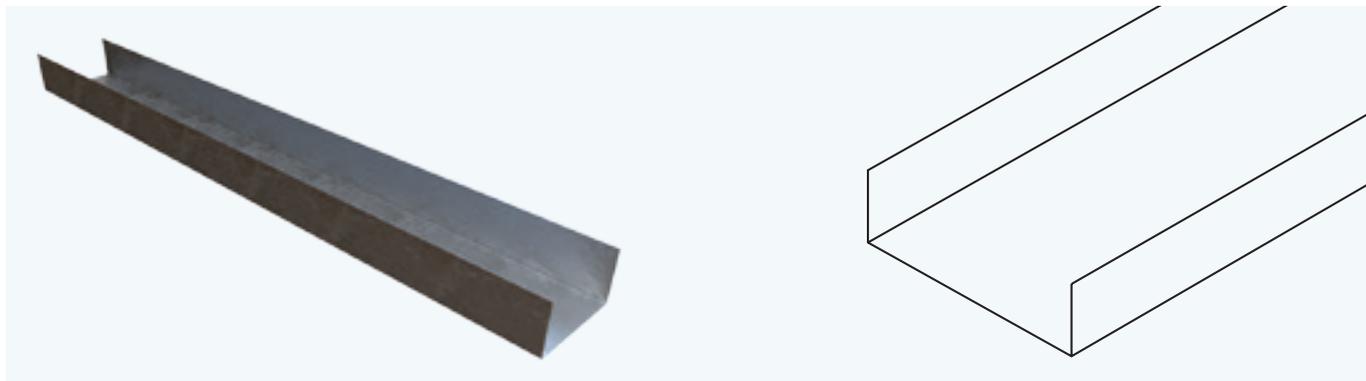


SUSPENDED CEILING SYSTEM

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.

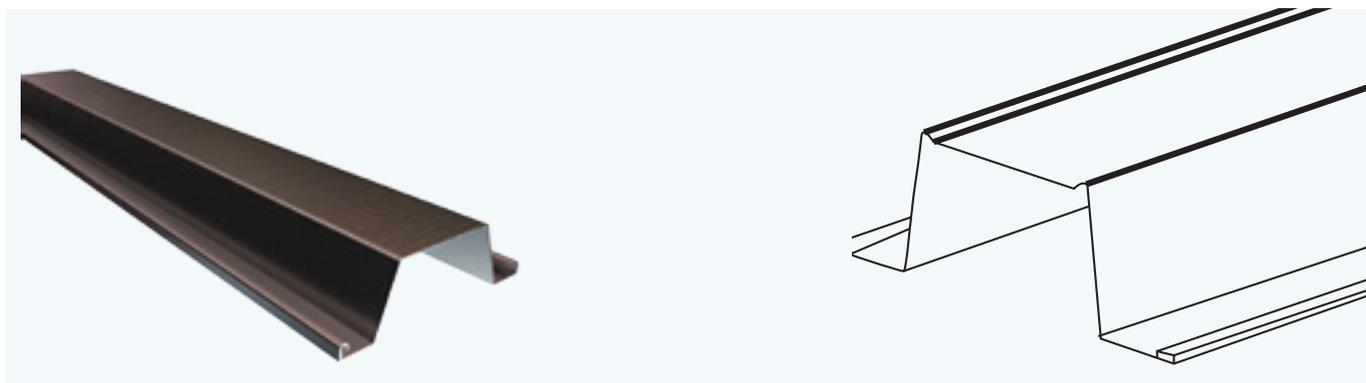
Main Ceiling Channel

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.



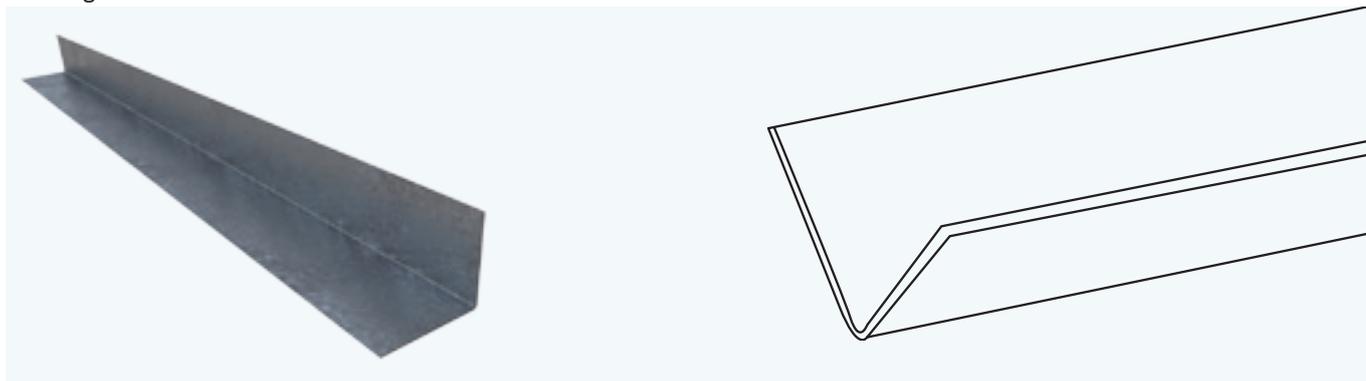
Furring Channel

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.



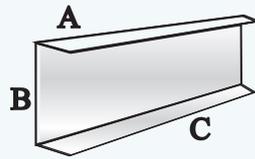
Suspended Ceiling System

Requirements Codes & Dimensions

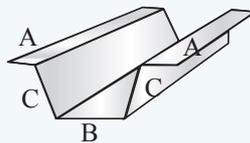
LM: Linear meter

	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.

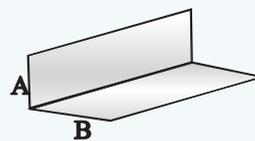
MAIN CEILING CHANNEL



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, providing 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.

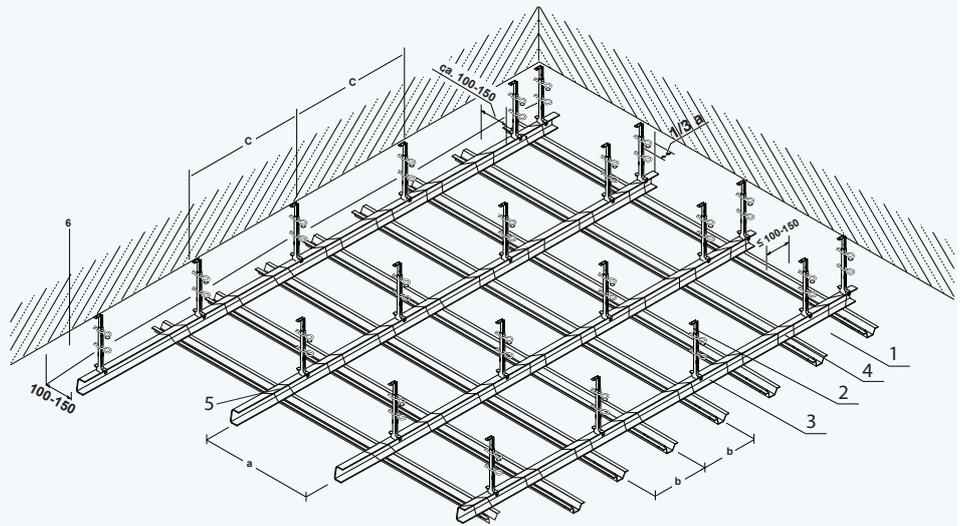
System Components

- 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

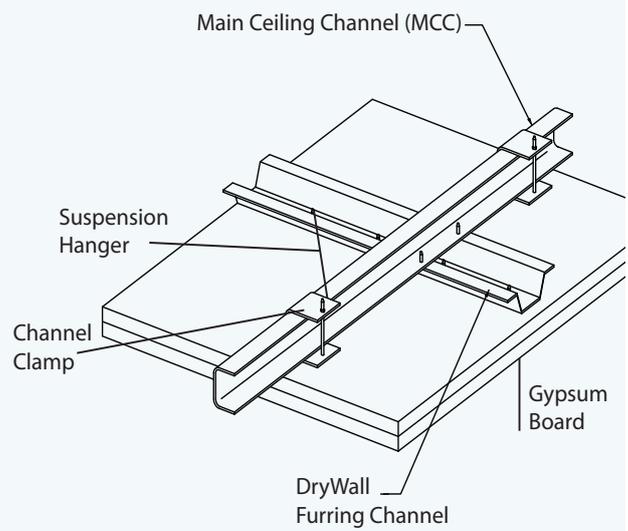
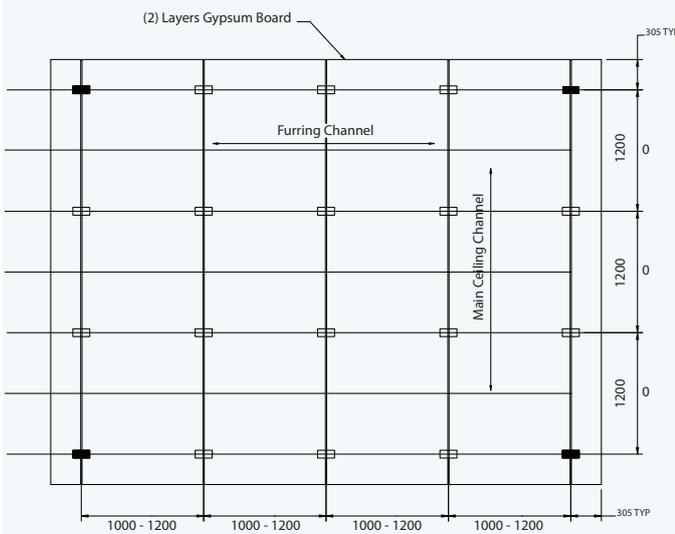
Material requirements per 1 sqm

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.

Plan Section

Furring Ceiling System For Gypsum Board

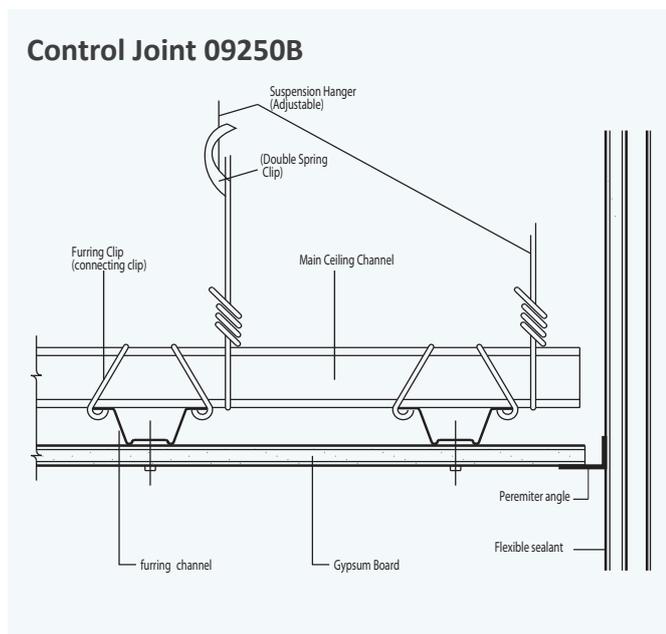
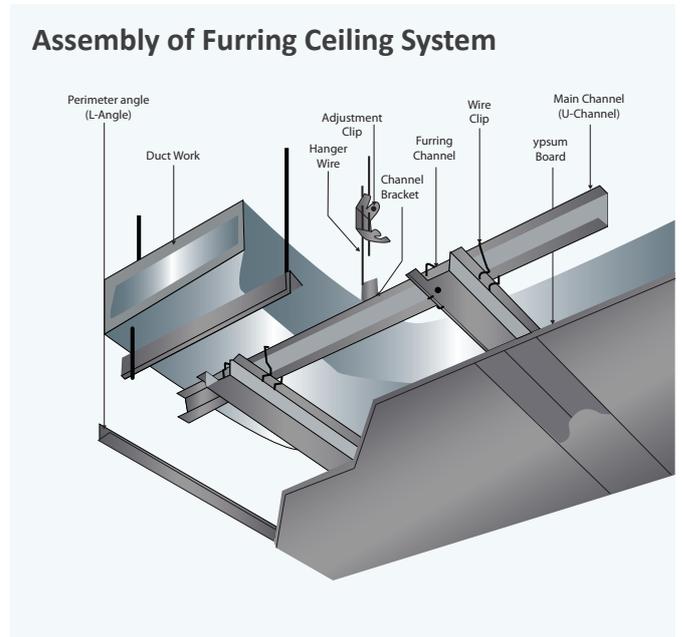
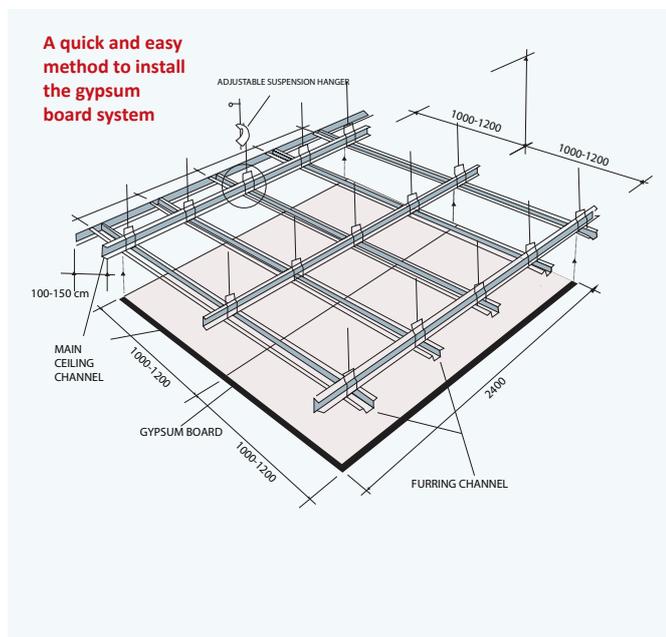
The furring section forms a battening system on to which gypsum board is screwed using dry wall screws with an electric screwdrivers. We recommend our rigid rod adjustable hanger for strength and rigidity. Furring ceiling systems is suspended ceiling system, clad with gypsum boards sheets. The grids 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

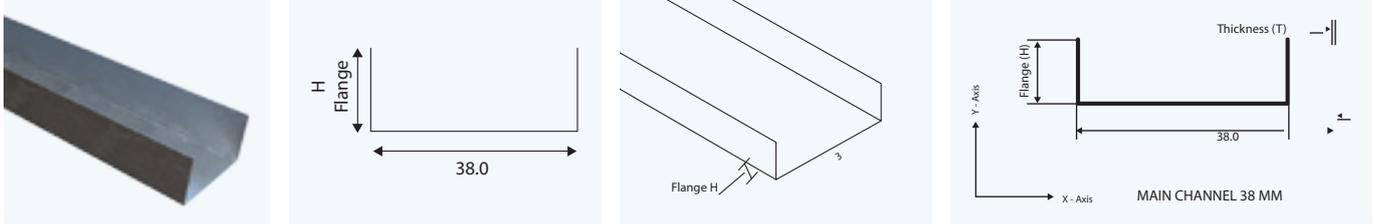
Fire resistance is closely linked to the type of boards used.



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.

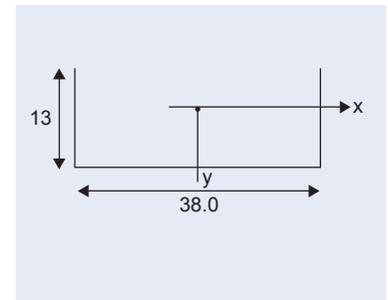


Physical & Structural Properties

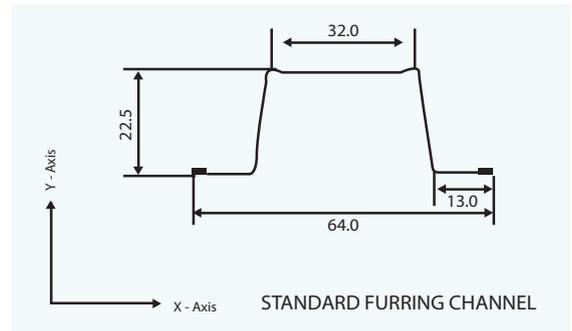
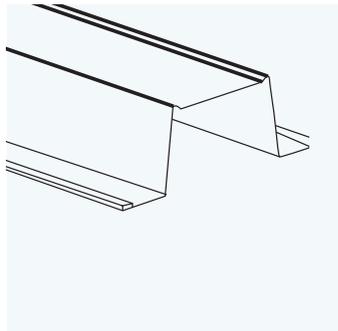
Flange (mm)	Thickness (mm)	Weight (Kg/m)	Cross section area (sq. mm)	About Major Axis			About Minor Axis		
				\bar{X} (mm)	I_x (mm ⁴)	R_x (mm)	\bar{Y} (mm)	I_y (mm ⁴)	R_y (mm)
13	0.5	0.25	31.5	0	3.9	4.83	2.83	6681	14.6
13	0.60	0.30	37.7	0	3.9	4.84	2.86	7947.3	14.5
13	0.90	0.46	56.0	0	3.9	4.87	2.98	11611.4	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

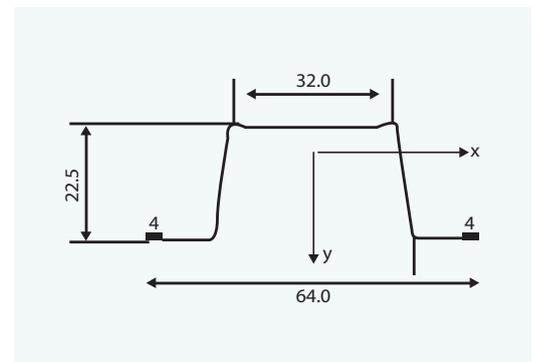


Physical & Structural Properties

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

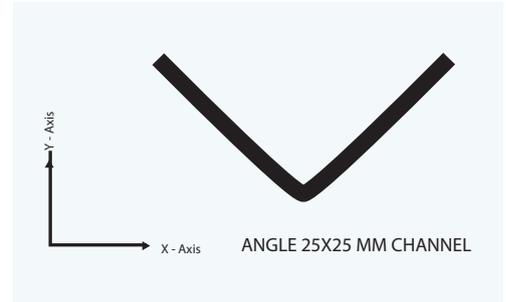
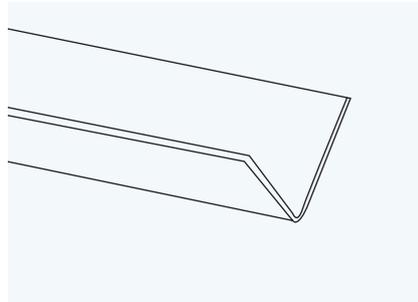
\bar{X} - Centroid distance in the x-axis
 I_x - Moment of inertia about the principal x-axis
 R_x - Radius of gyration about centroidal of the principal x-axis
 \bar{Y} - Centroid distance in the y-axis
 I_y - Moment of inertia about the principal y-axis
 R_y - Radius of gyration about centroidal of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



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.

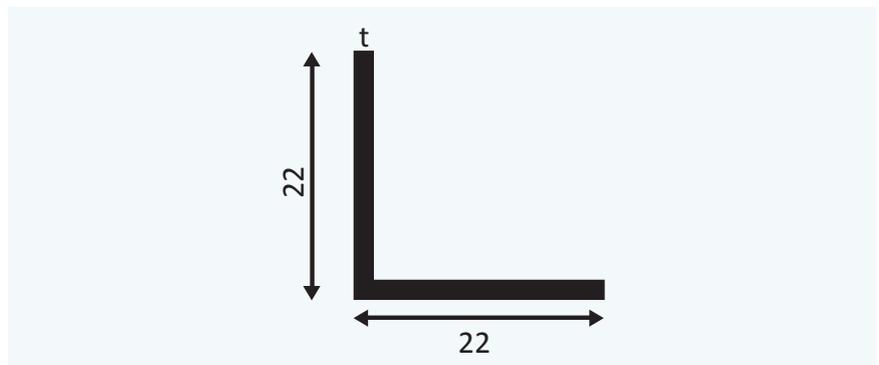


Physical & Structural Properties

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

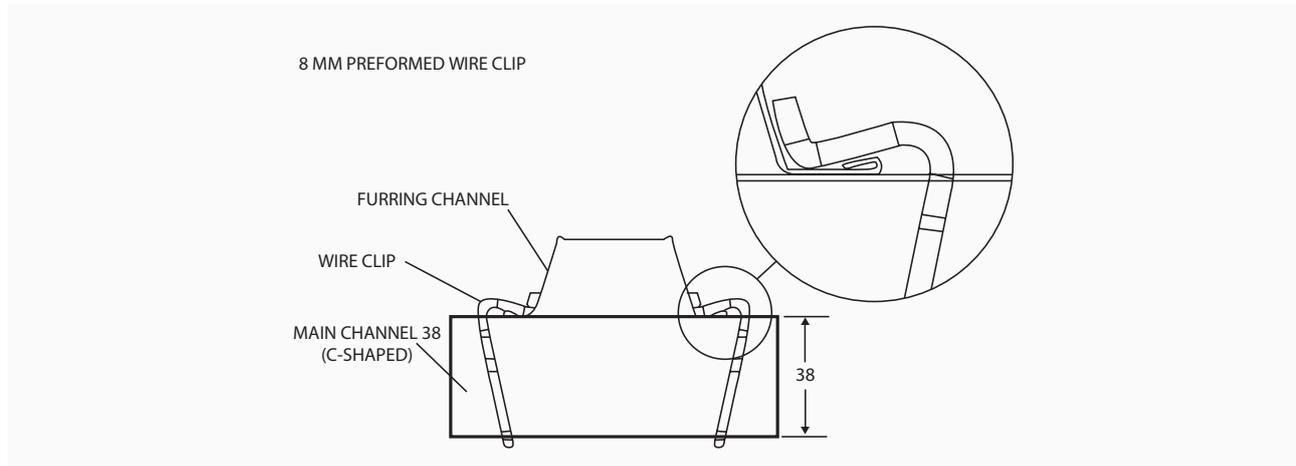
Thickness t	Section modulus w_x cm ³		Moment of Inertia I
	Top	Bottom	
t	cm ³	cm ³	cm ⁴
mm	cm ³	cm ³	cm ⁴
0.45	0.08	0.226	0.147
0.50	0.09	0.250	0.163
0.60	0.104	0.298	0.195
0.90	0.156	0.437	0.293
1.20	0.209	0.571	0.391
1.50	0.261	0.699	0.489



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

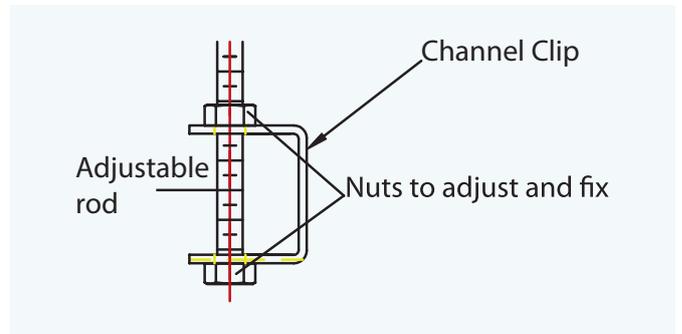
Our 38 mm preformed wire clip conforms to the highest standards. It is made from high quality galvanized steel wire. The galvanized steel wire has a G90 / Z275 coating and confirm to ASTM standards.



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.



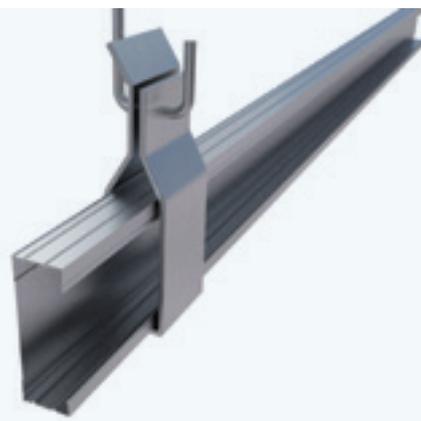
Channel Clamp

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



Universal bracket 50 - 75mm



Framing screw



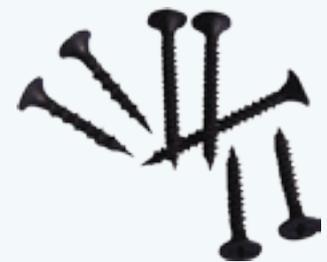
Ready mix joint compound



Chalk line



Adjustable suspension Hanger



Drywall screw



Tie Wire

Tool Kits



Measuring tape



Drywall joint tape



Plumb line



Wire connecting clip



Tinsnips



Wallboard hand saw



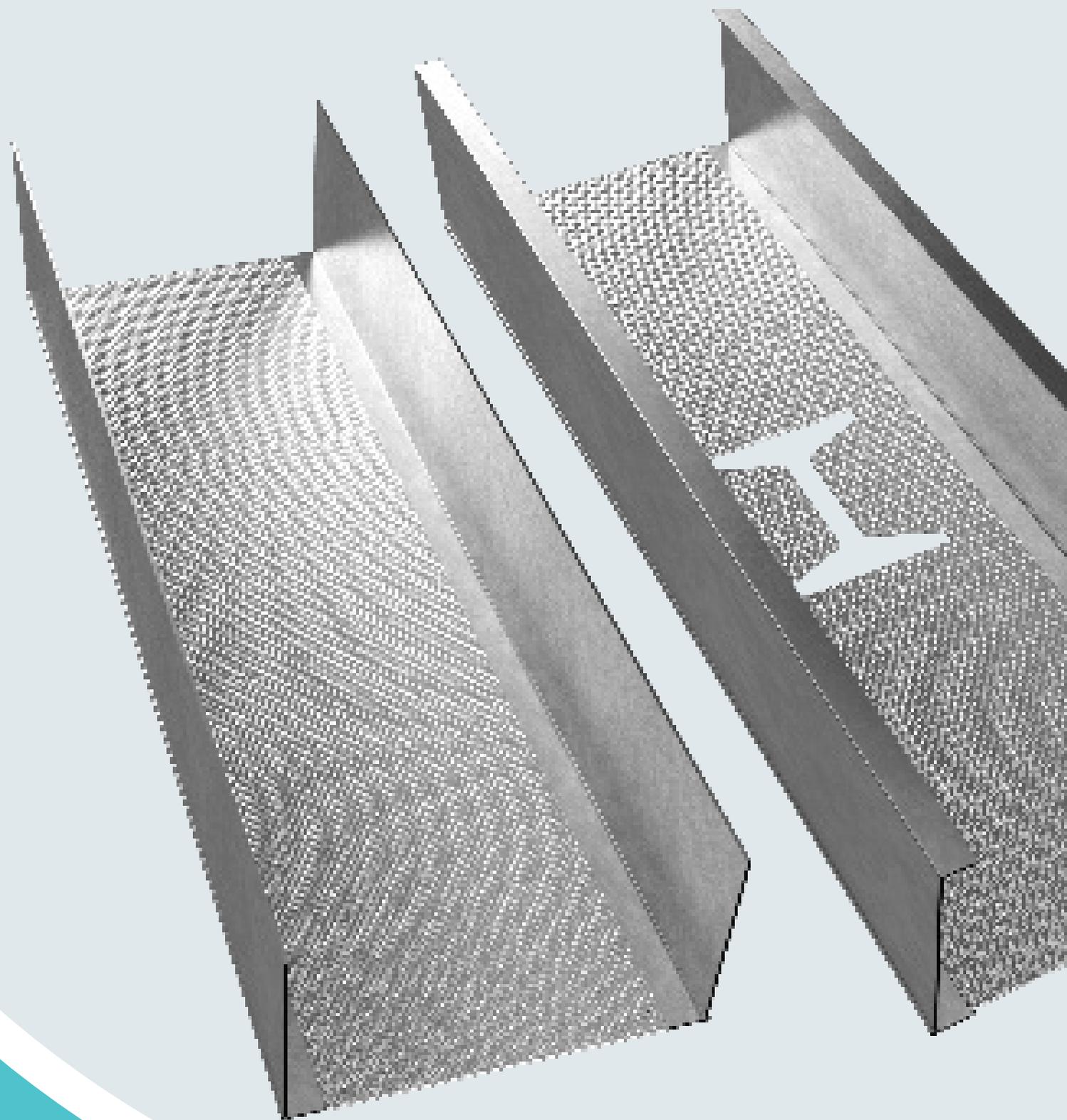
Utility knife

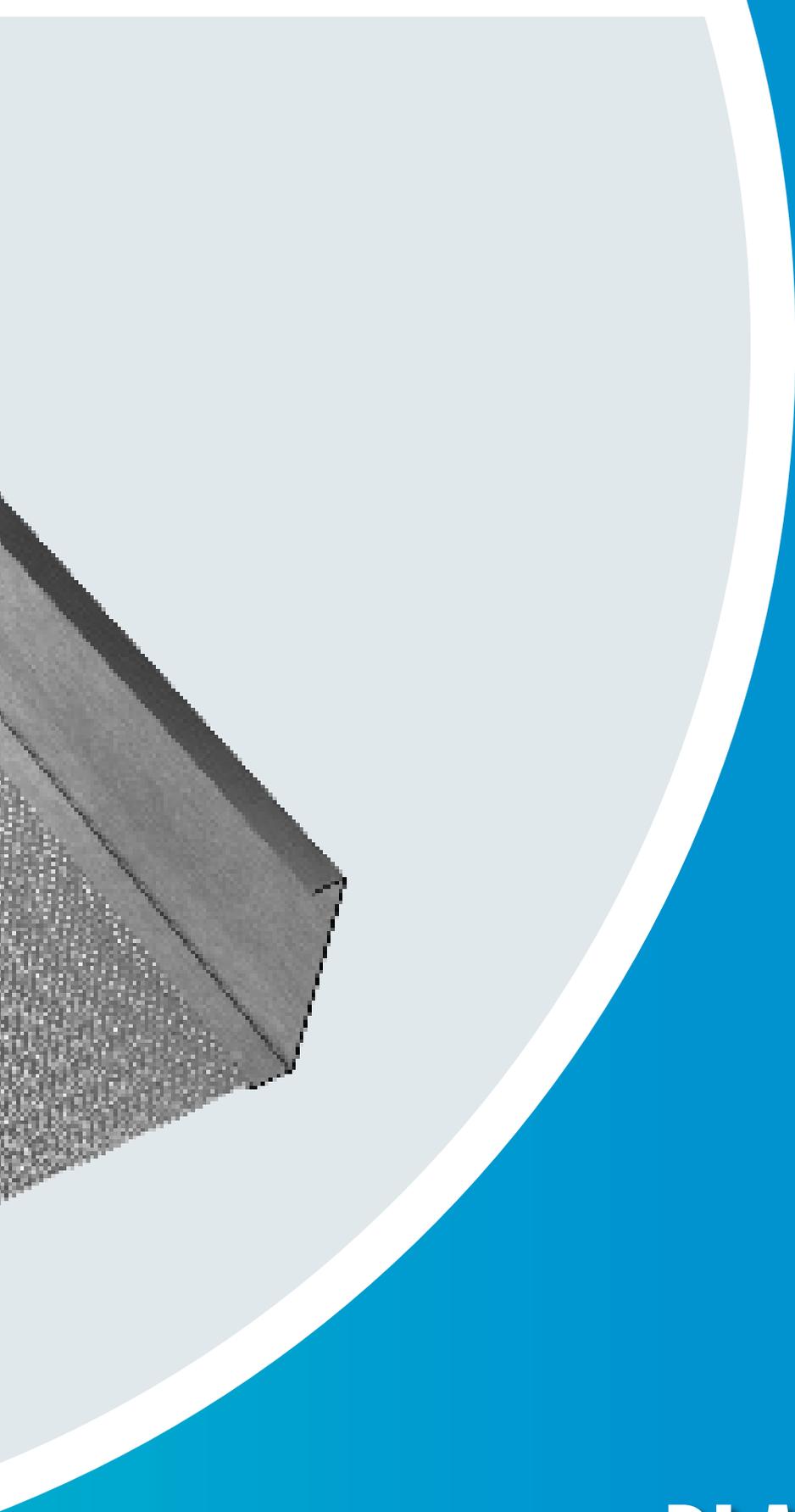


BMI Level



Taping knife





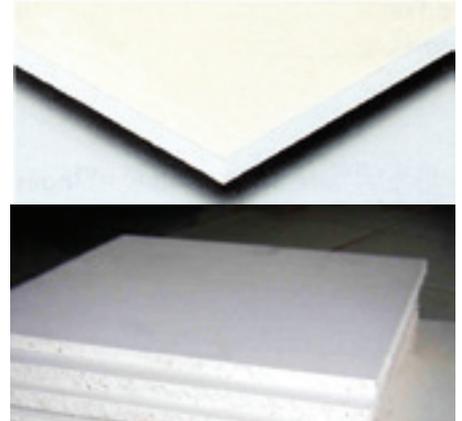
PLASTER BOARD RANGE CEILING

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

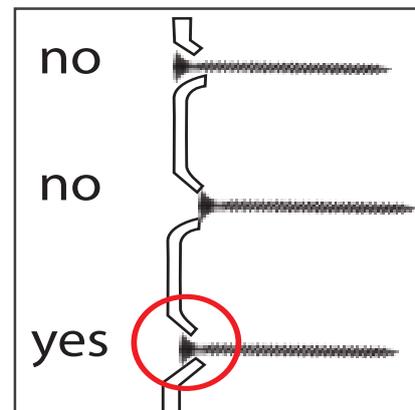
Boards should be carried on edge.

Cutting

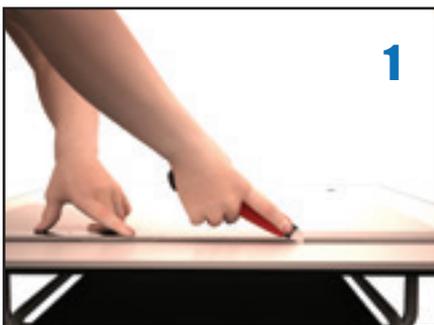
With a knife or cutter. Cutting metal studs and runners is done with tins nips from one flange to the other.

Screwing of Gypsum Boards

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



Bords Working



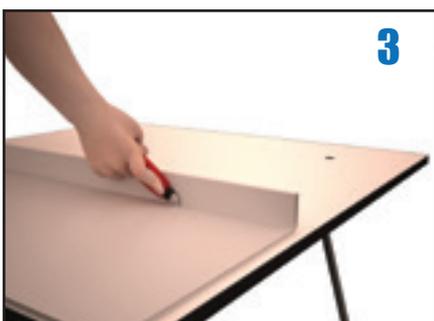
1

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



2

Break it by snapping.



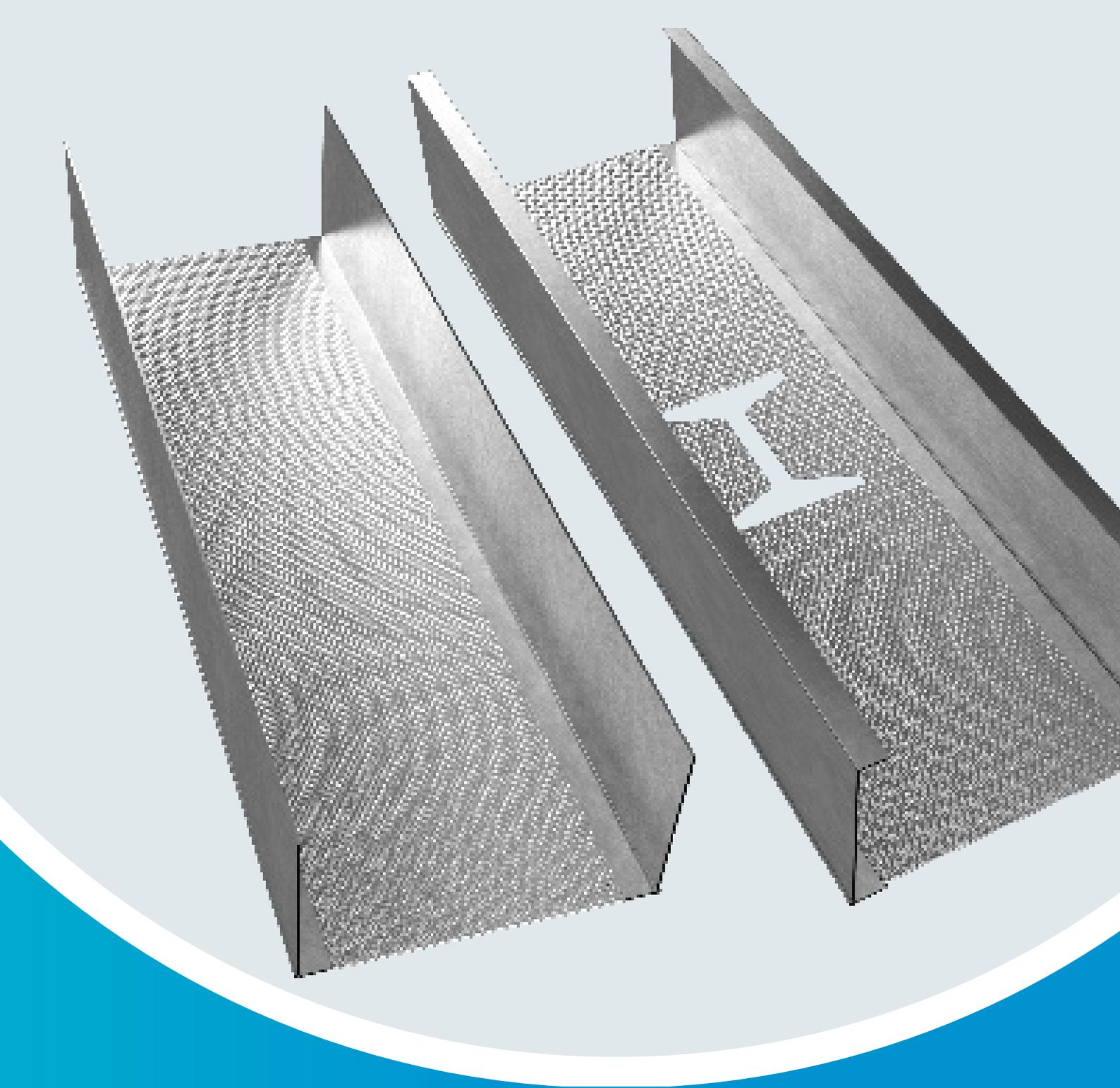
3

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.

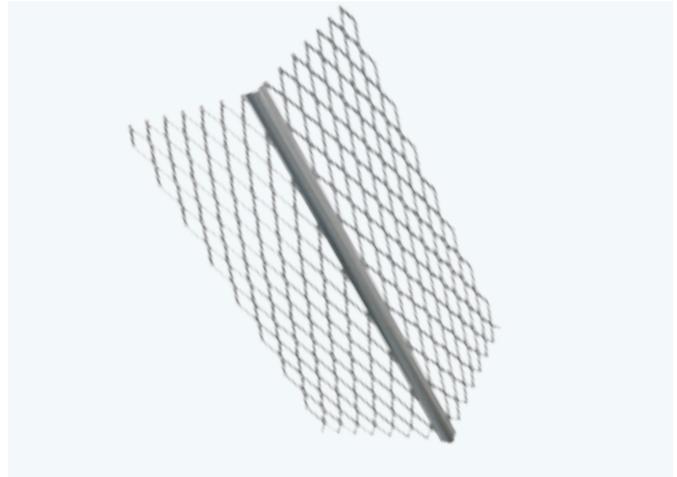
Perforated Corner Bead

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

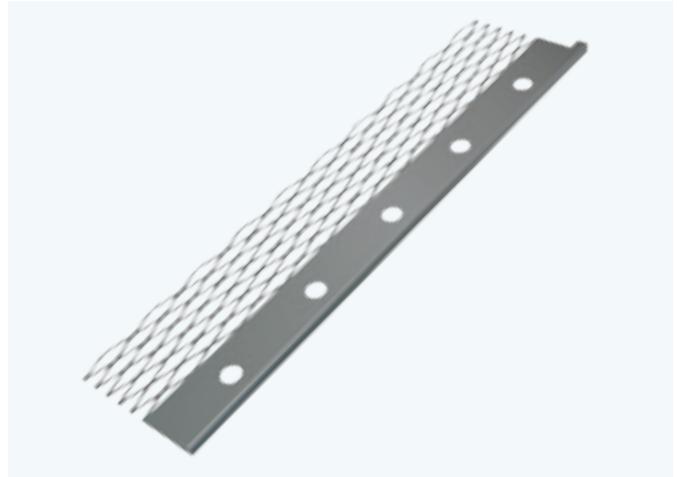
Used as a stucco/plaster stop to provide a screwed edge and protective finish trim while terminating plaster in a clear straight line at doors, windows, and or other openings. Also, recommended as an edge divider between plaster and other dissimilar materials. The board trim is used where an expanded 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

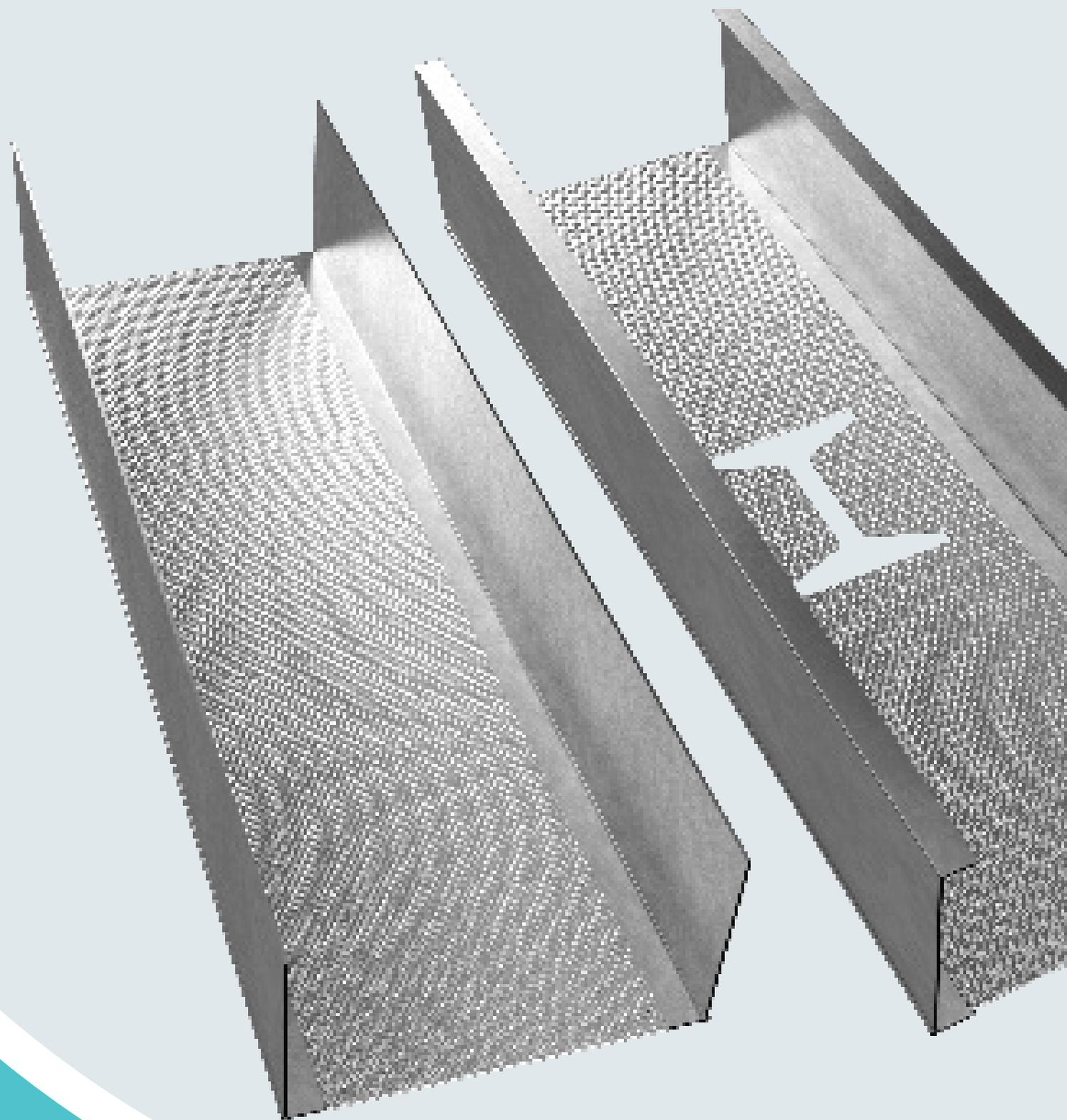


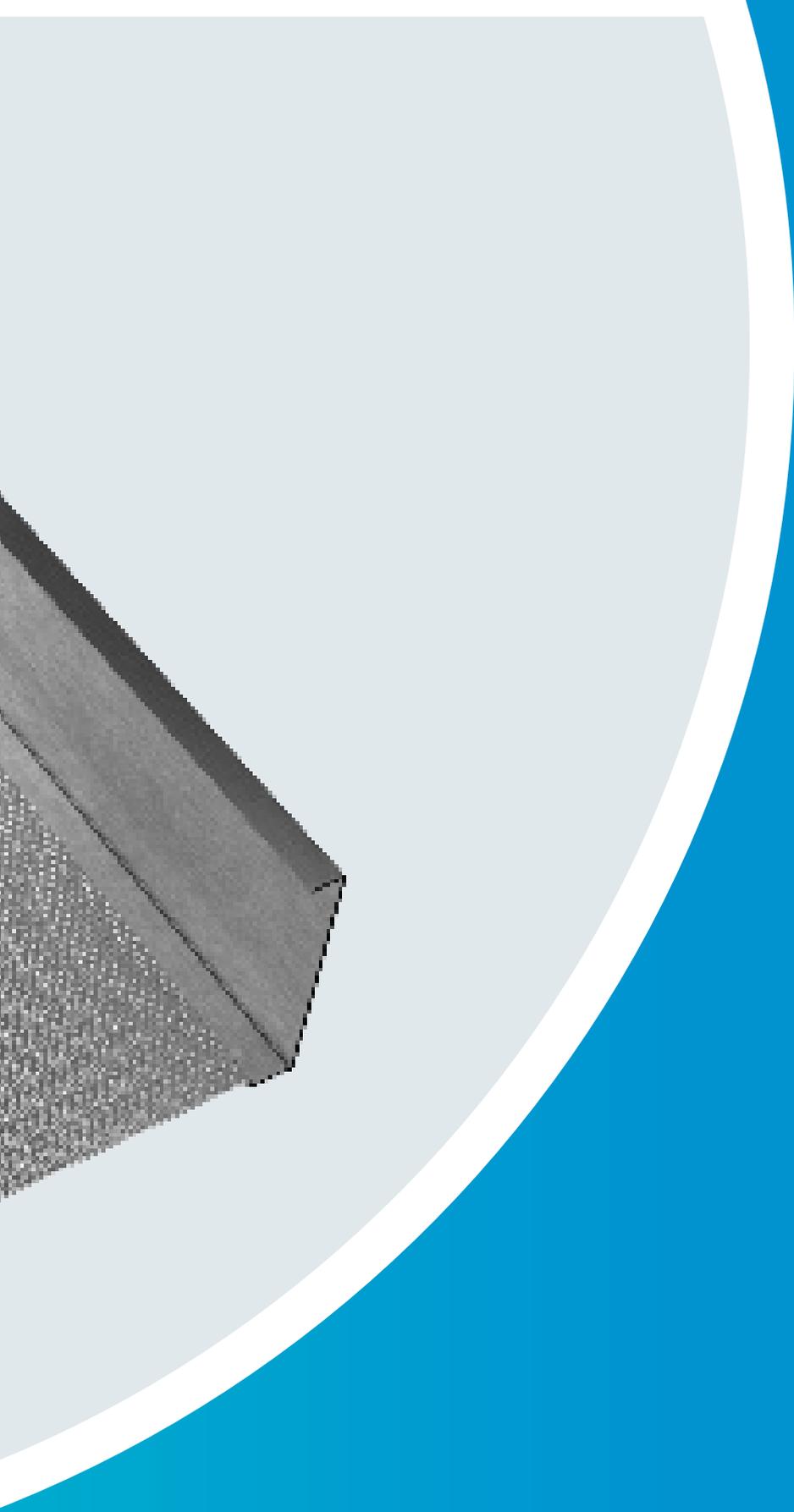
ASTM & Code Standards:

- 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.





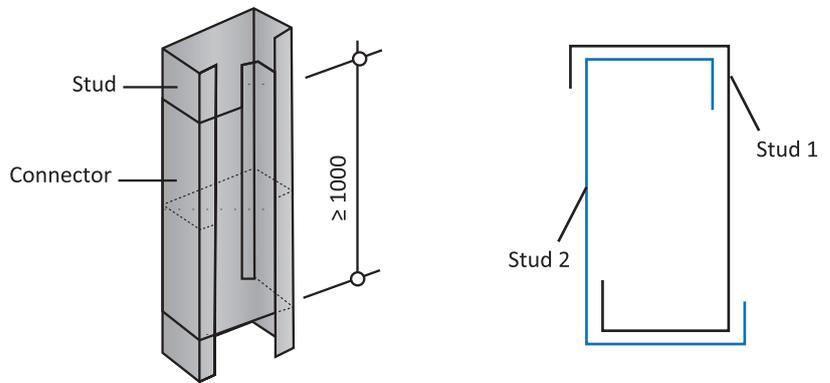
DETAILS

Material requirement per m²

Profile	Profile		Runner	Plaster board (m ²)			Fast screw	Strip joint	Joint filler	Felt strip	Headline dowels	Socket	Mineral fiber
	Stud	Stud spacing		12.5	15	18							
	600(cm)	400(cm)	(m)	(m ²)	20	pieces	(m)	Kg	(m)	pieces	(m)	(m ²)	
	600(cm)	400(cm)	(m)	(m ²)	20	pieces	(m)	Kg	(m)	pieces	(m)	(m ²)	
Single stud, single board													
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	

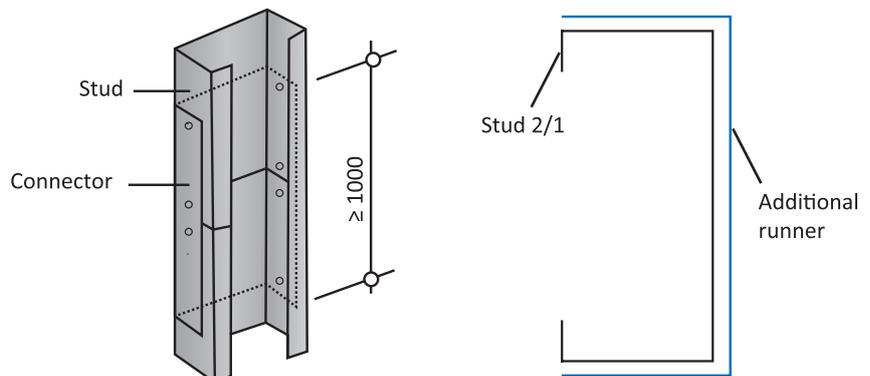
Stud Splicing for wall height > 5m

Stud connection for wall height > 5m



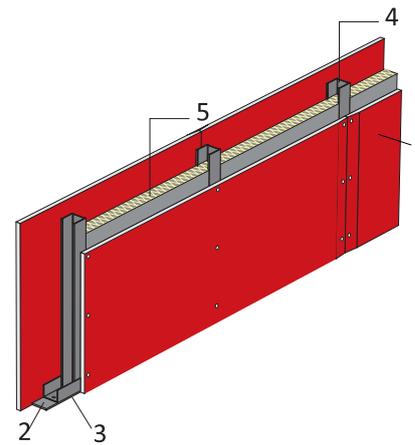
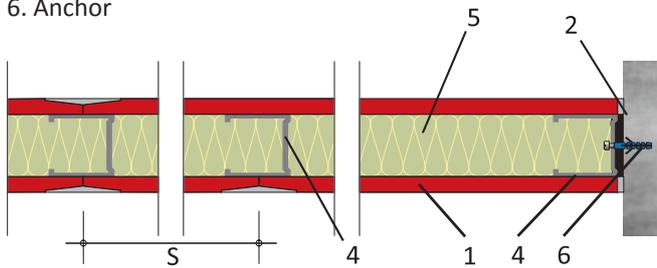
Stud Splicing for wall height < 5m

Stud connection for wall height < 5m



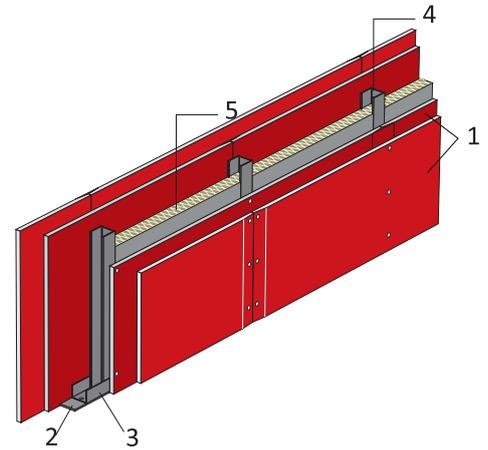
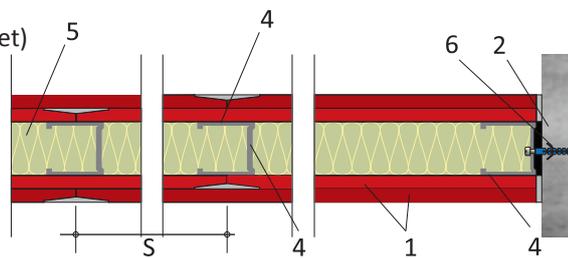
**Wall Detail:
Single Support One Layer Gypsum Board**

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



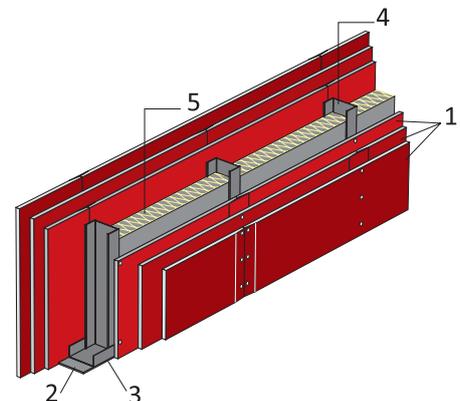
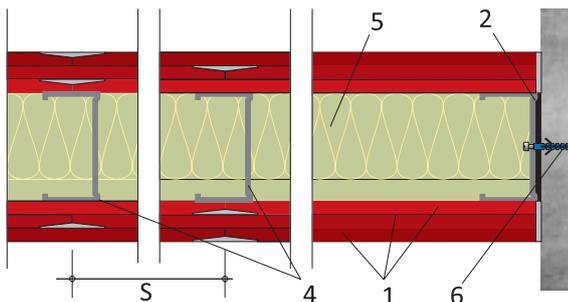
**Wall Detail:
Single Support Two Layers Gypsum Board**

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

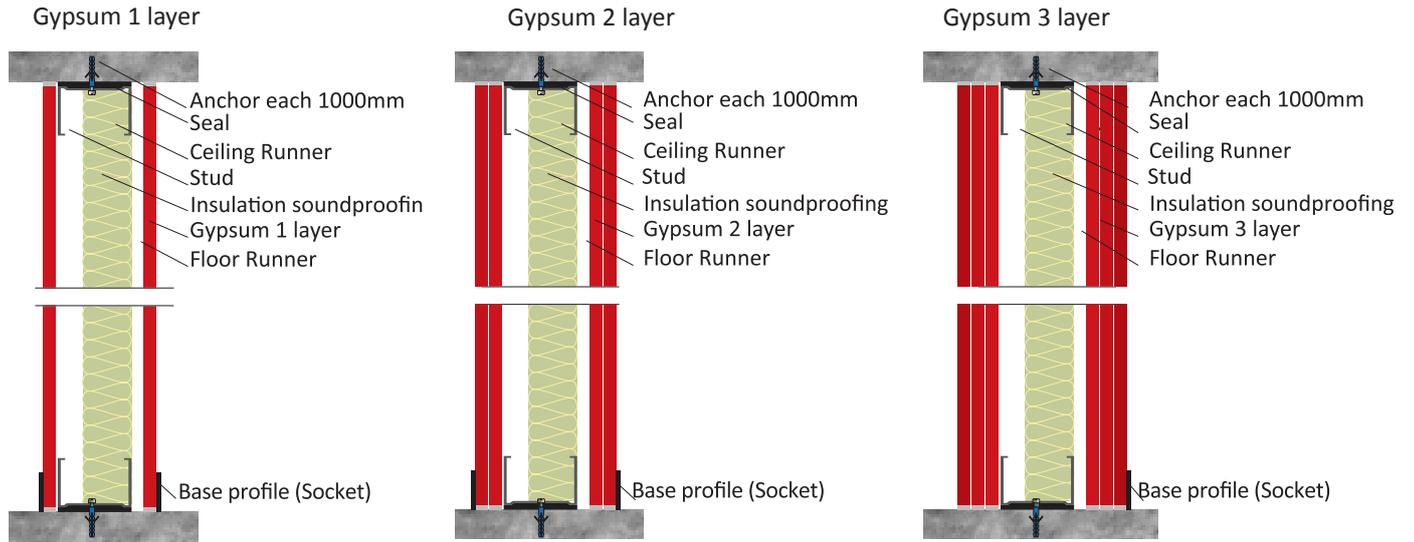


**Wall Detail:
Single Support Three Layers Gypsum Board**

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

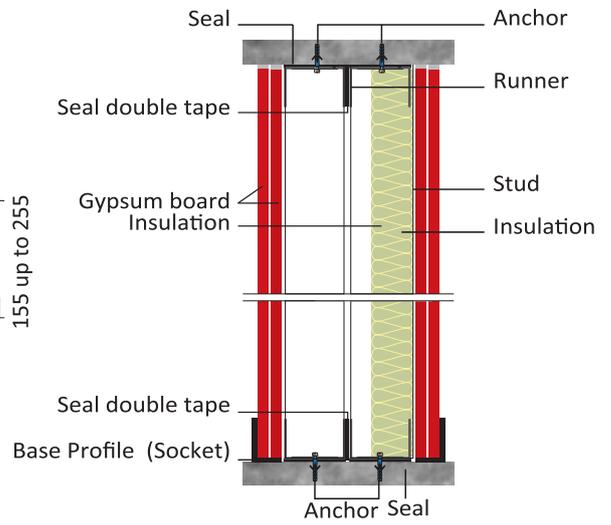
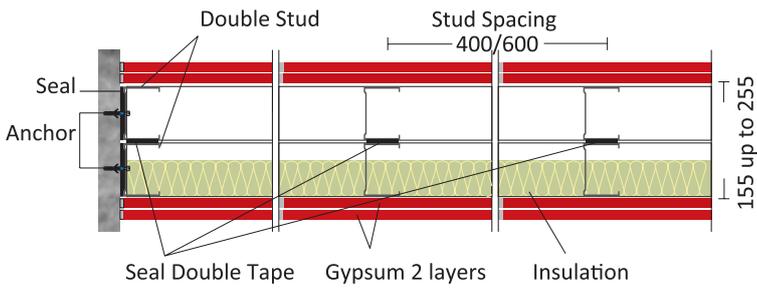


Gypsum Board Cross Section

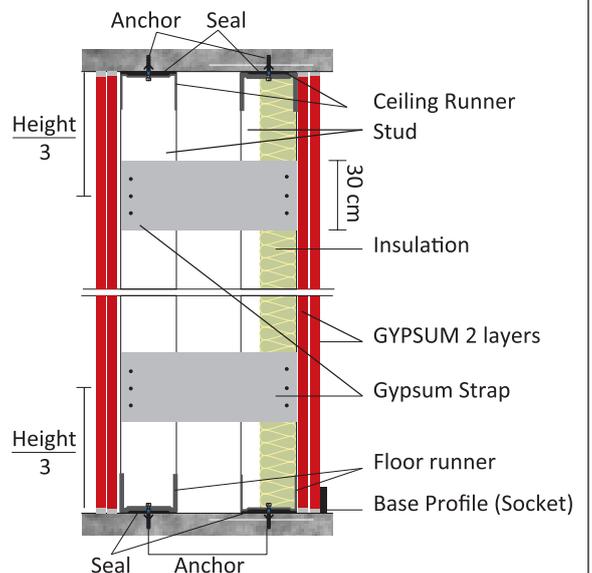
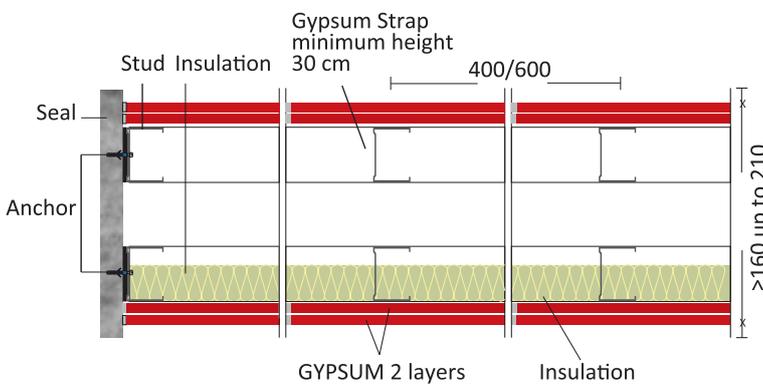


Double Stud

Seal Double Tape



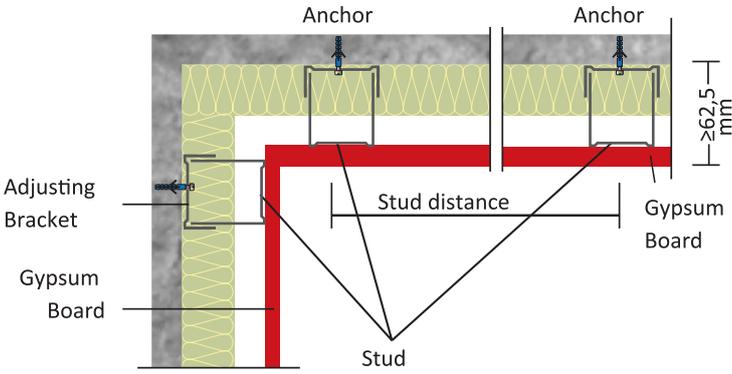
Installation Wall



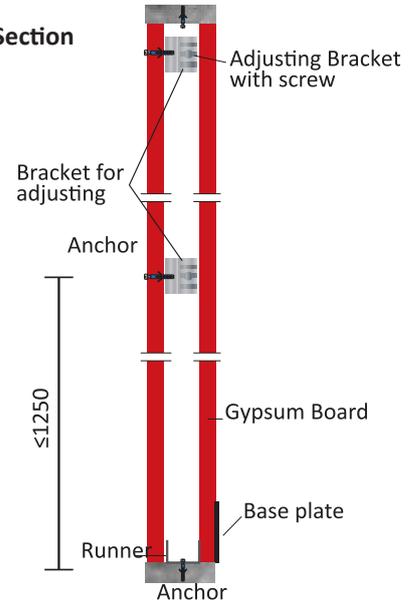
Chase Wall one layer

Plan Section

Gypsum sections with adjusting bracket

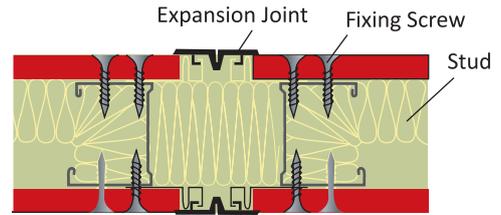
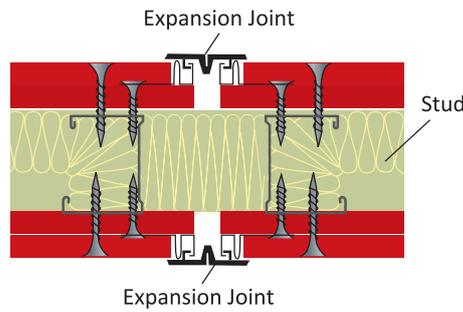
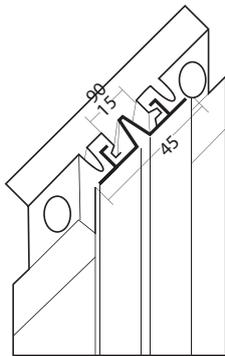


Cross Section

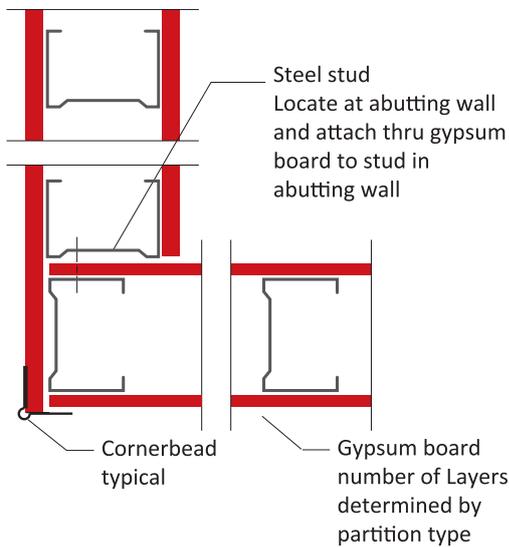


Expansion Joint

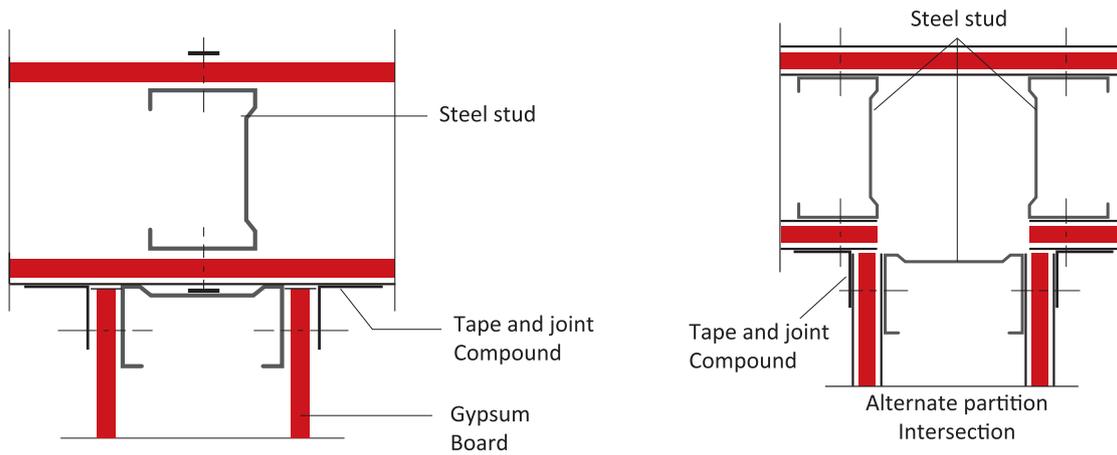
Expansion Joint not fire rated



Corner Detail

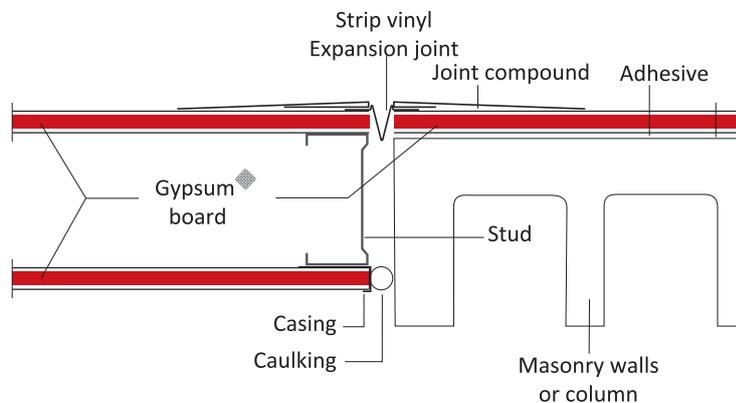


Partition Intersection



Joint where Wall Framing Changes

Expansion Joint not fire rated

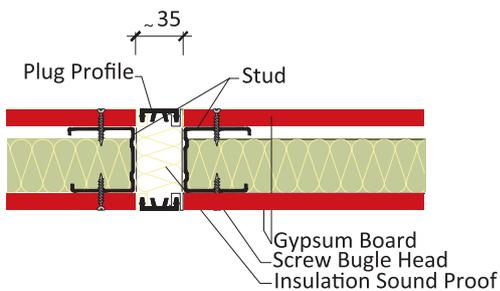


Movement Joint

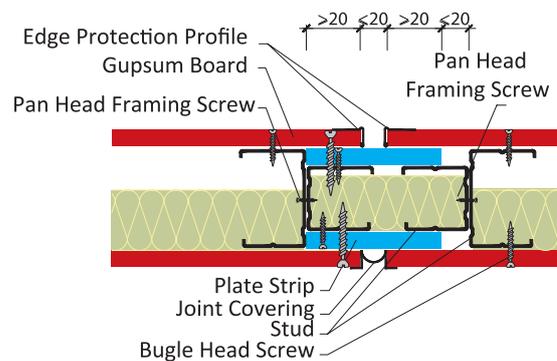
The Arrangement of movement joint is required by dry wall with a length of more than 15.0m (according to DIN 18181).

- 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

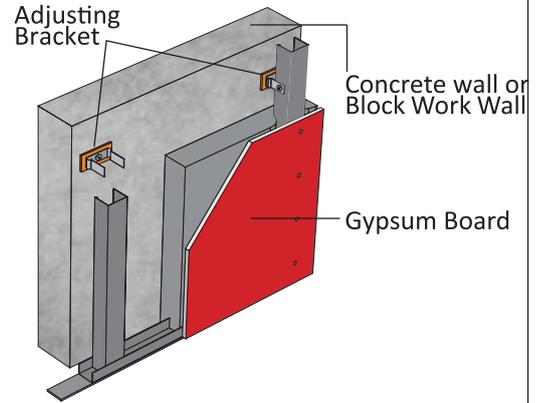
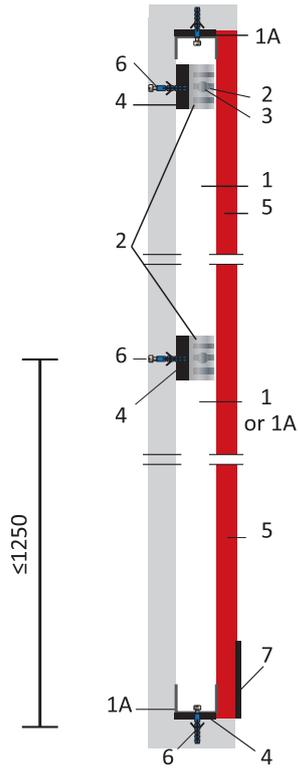
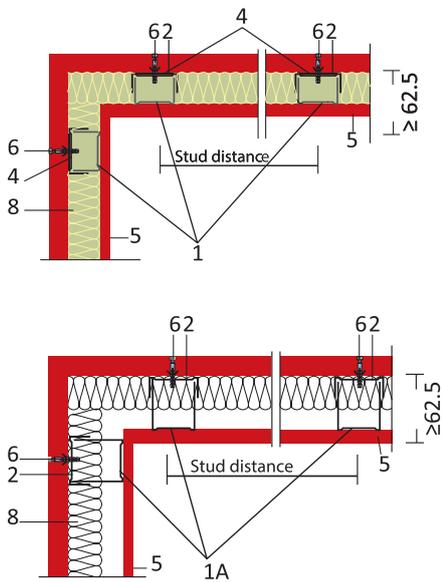


MOVEMENT JOINT WHERE FIRE PROOF IS REQUIRED



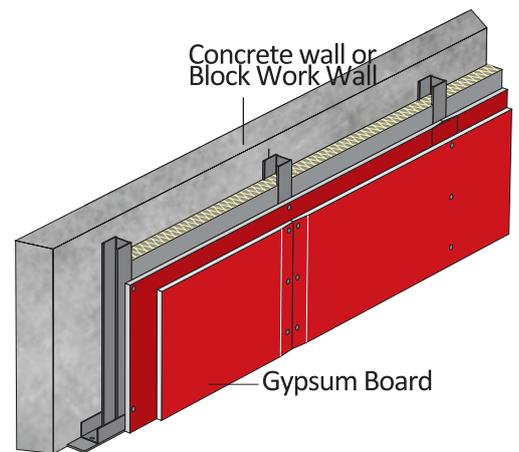
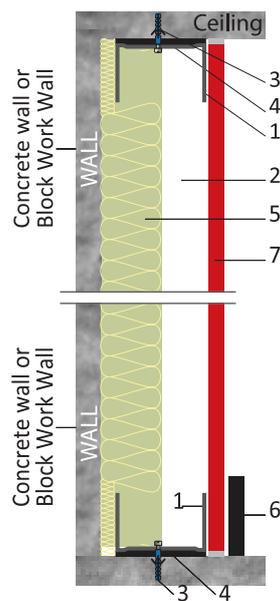
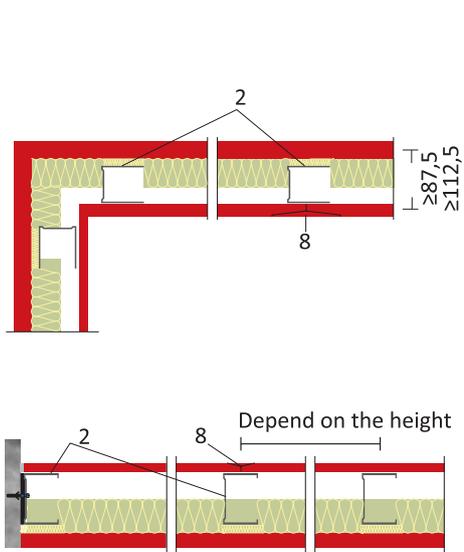
Chase Wall with Adjusting Bracket

- | | |
|----------------------|-----------------|
| 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 | |



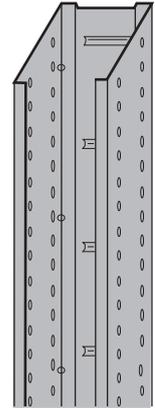
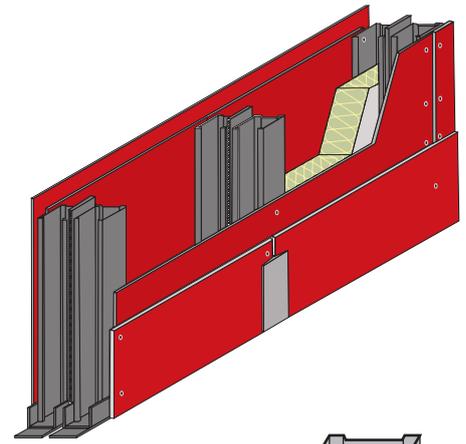
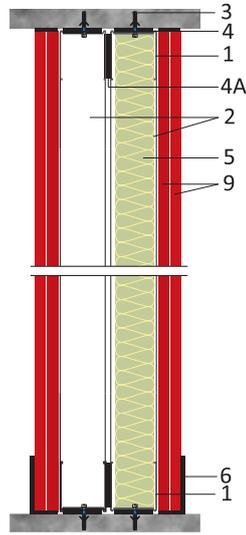
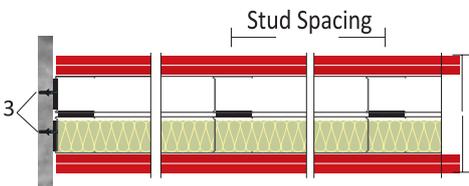
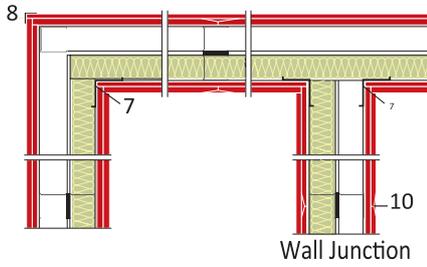
Chase Wall without Adjusting Bracket

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



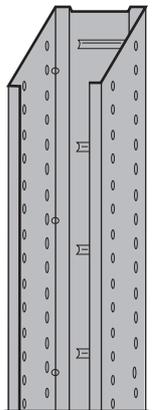
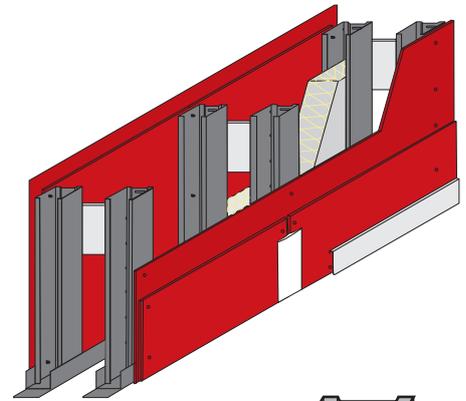
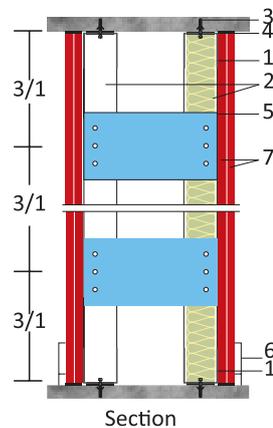
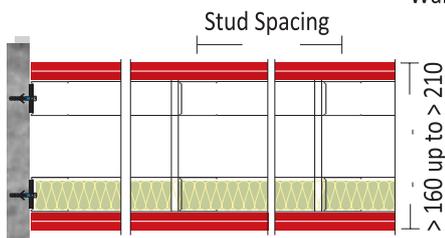
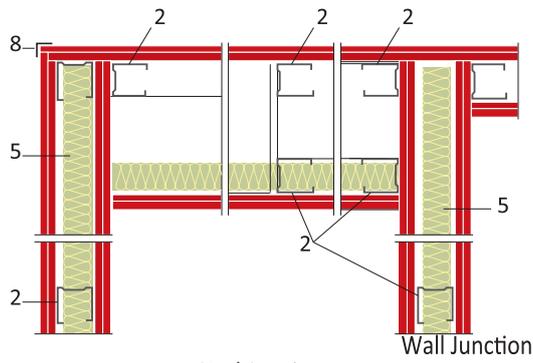
Double Stud for Increased Acoustic (Soundproofing)

- | | |
|----------------------|----------------------------|
| 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

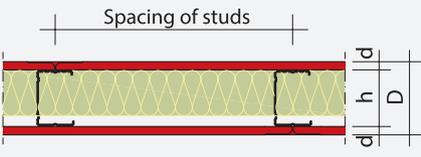
- | | |
|---------------|----------------------------|
| 1. Runner | 6. Base profile (socket) |
| 2. Stud | 7. Gypsum board |
| 3. Anchor | 8. Edge protection profile |
| 4. Seal | |
| 5. Insulation | |



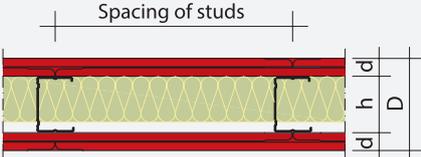
Technical Data / Sound Protection / Thermal Insulation

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

Metal Stud Partiton Single metal stud frame - single layer cladding

	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

	100	50	2 x 12.5	GKB GKF	45	50	40	0.61				
		125				75				51	40	0.60
										52	60	0.47
		150				100				51	40	0.60
										52	60	0.46
						53	80	0.38				

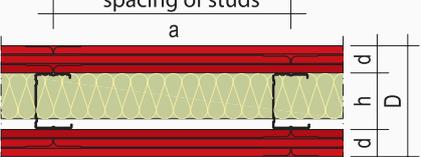
Metal Stud Partiton Double metal stud frame - double layer cladding

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

Technical Data / Sound Protection / Thermal Insulation

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

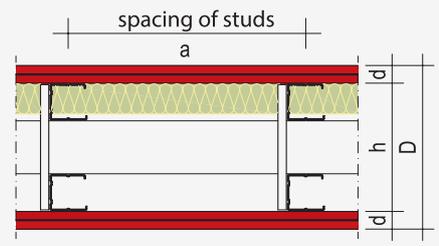
Metal Stud Partiton Single metal stud frame - tripple layer gypsum board

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

GKB: Gypsum Board.

GKF: Gypsum Board Fire Proof (Fire Resistance).

Installation Wall Double metal stud frame - double layer gypsum board

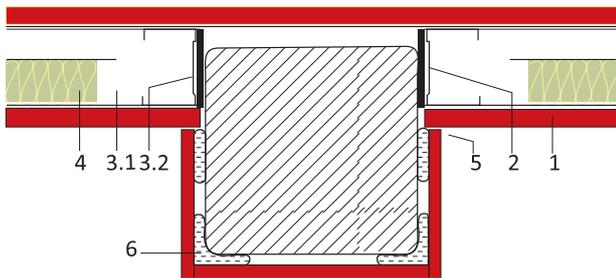
	$\geq 220 \geq 170$	2 x 12.5	GKB GKF	49	52	40	0.60
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GKB: Gypsum Board.

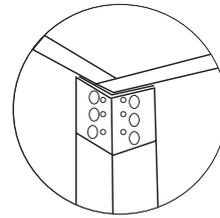
GKF: Gypsum Board Fire Proof (Fire Resistance).

Dry Wall Metal Stud Combined With Columns

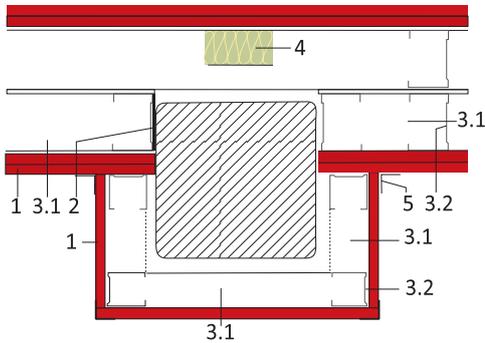
Single Stud One Layer Gypsum Board



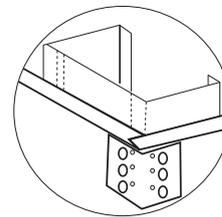
Corner bead leveling on corner



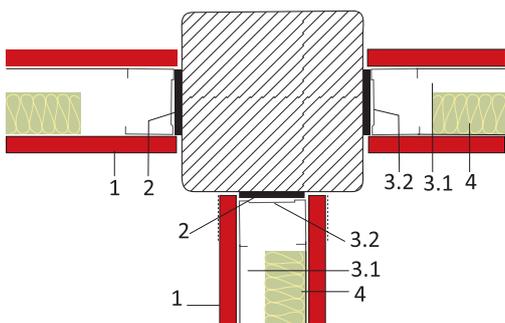
Double Stud Two Layers Gypsum Board



Corner bead leveling on corner



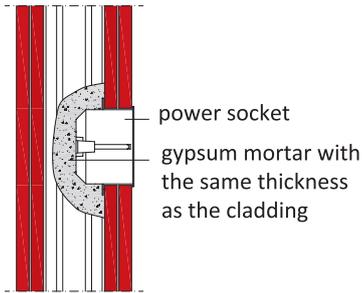
Dry Wall Metal Stud Combined with Columns



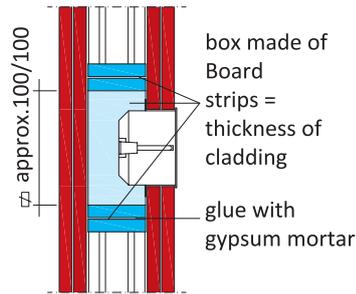
- 1 . Gypsum Board / single stud one or two layer
- 2 . Seal
- 3 . Main profile
 - 3 . 1 Runner
 - 3 . 2 Stud
- 4 . Insulation | Mineral Wool | Sound Proofing
- 5 . Corner mesh (if necessary) | Leveling on corner
- 6 . Binder

Installation of Power Sockets

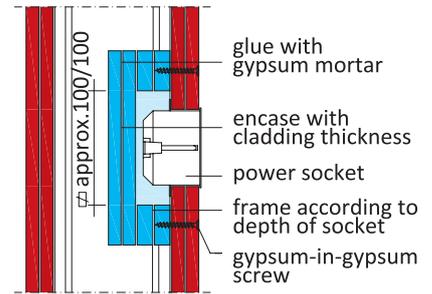
Partitions with insulation min. B2 resp. without insulation



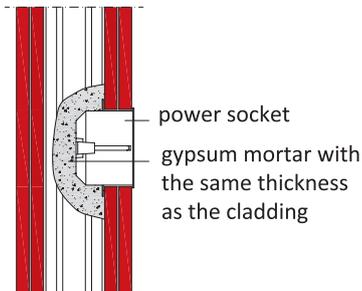
power sockets covering with gypsum mortar



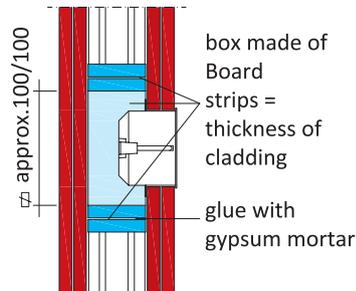
Power sockets covering with gypsum boards



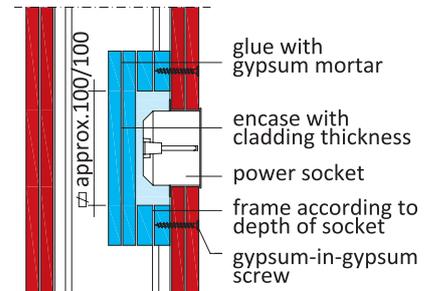
Only for single metal stud partitions



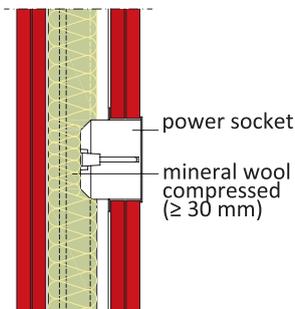
power sockets covering with gypsum mortar



Power sockets covering with gypsum boards



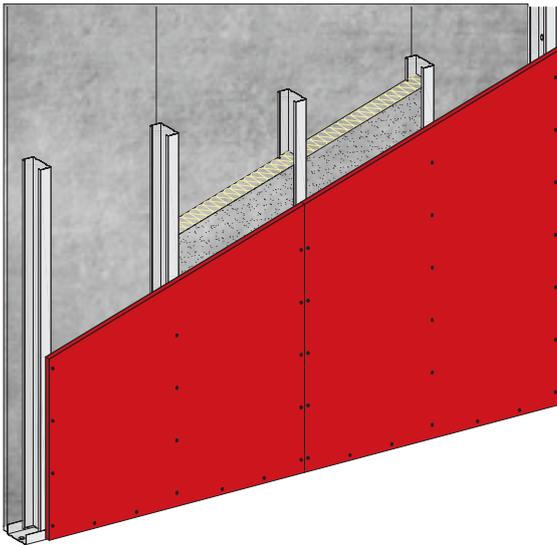
Partitions according to DIN 4102-4 with mineral wool insulation melting point ≥ 10000 c



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,...

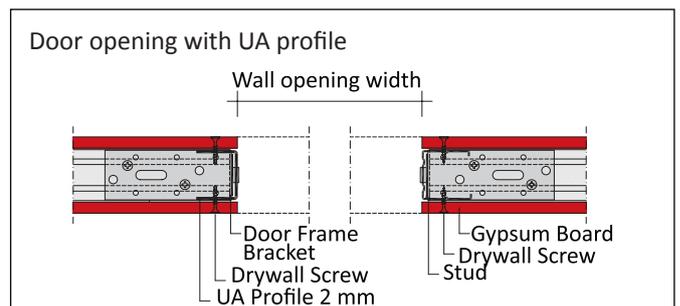
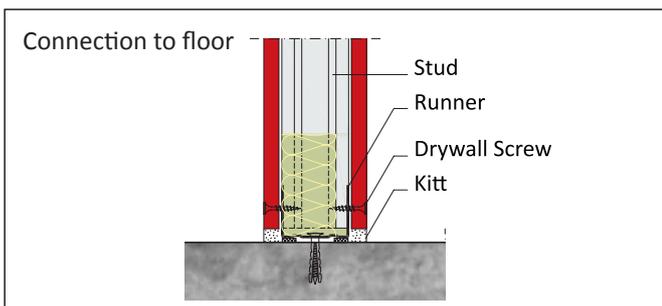
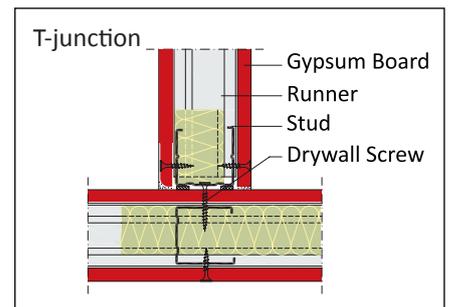
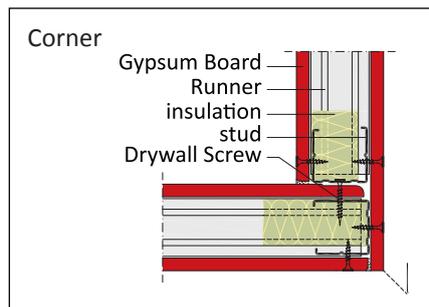
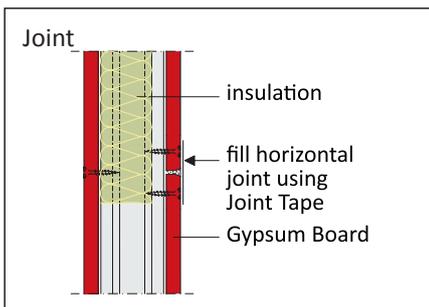
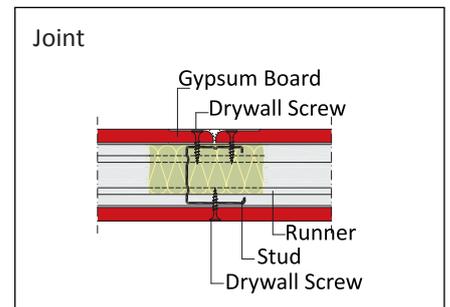
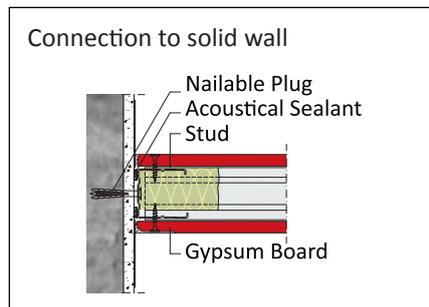
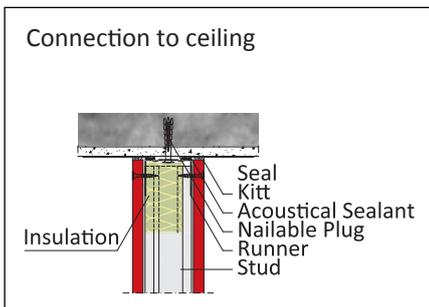
Area B:**
Areas with a large collection of people like school rooms, exhibition halls, selling spaces (mall),...

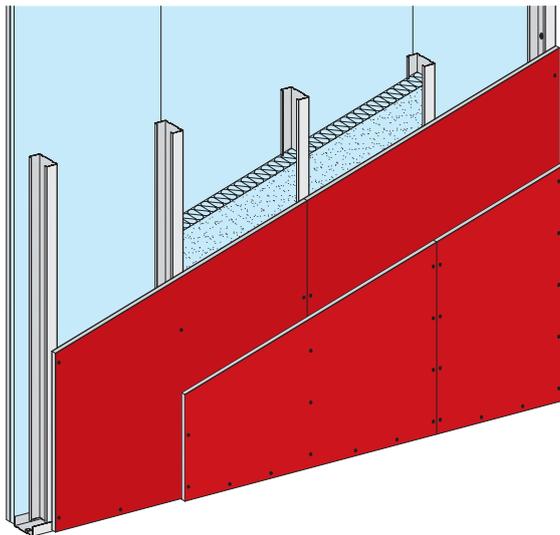
Wall heights

Stud	Spacing of studs (cm)	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone			
Metal Thickness 0.6 mm		I (m)	II (m)	I (m)	II (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





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	(cm)	I (m)	II (m)	I (m)	II (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

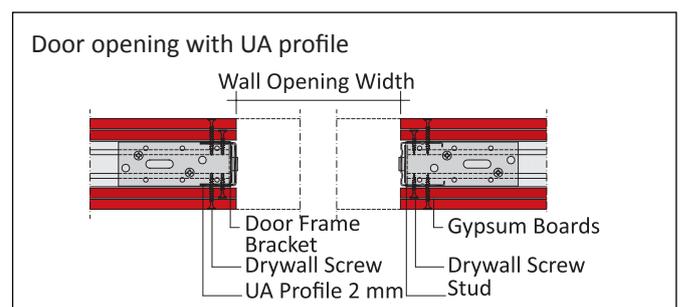
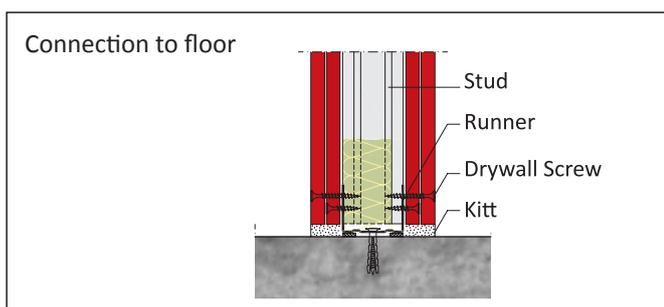
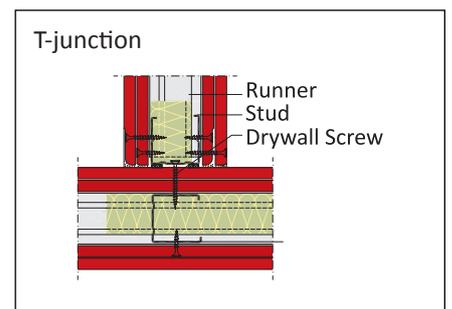
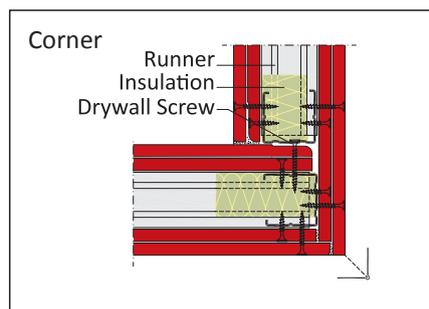
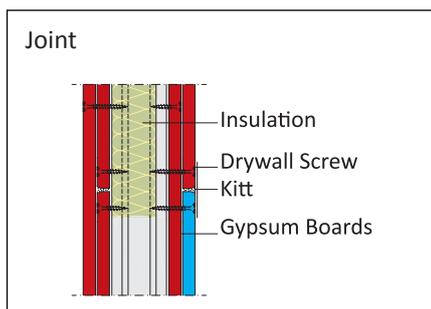
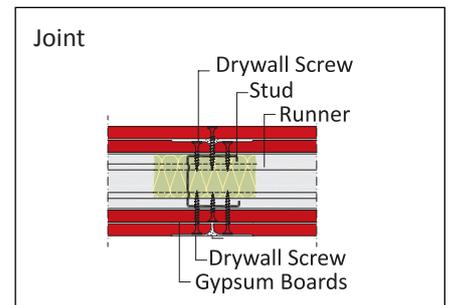
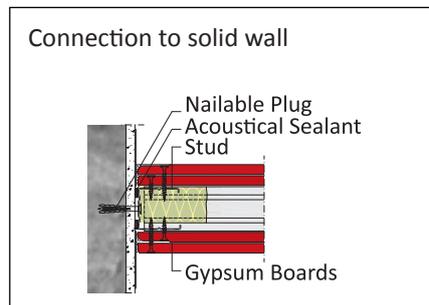
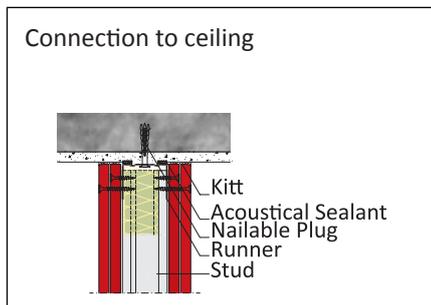
Area A*:

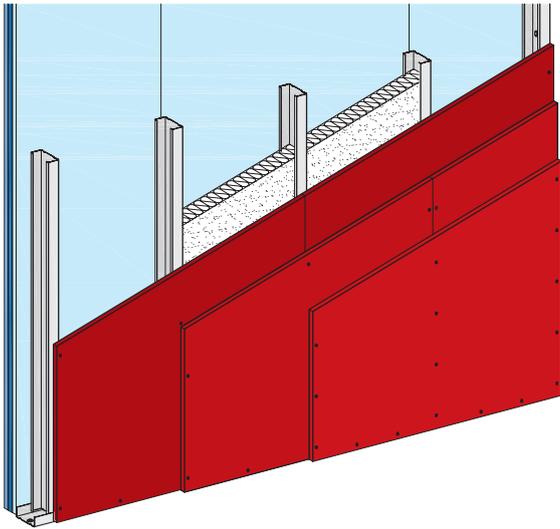
Areas with a low collection of people like homes, hotels, offices,...

Area B**:

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

Details





Wall heights

Stud	Spacing of studs (cm)	Maximum wall heights			
		Without fire protection Installation zone		Incl. fire protect	
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

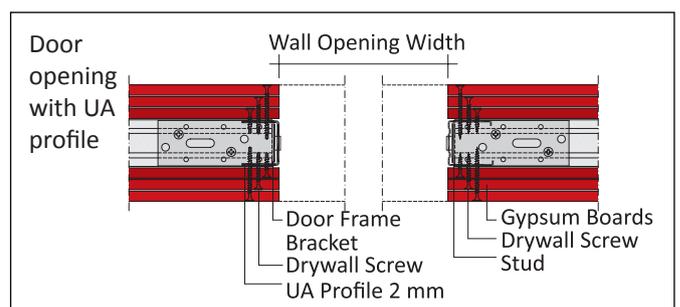
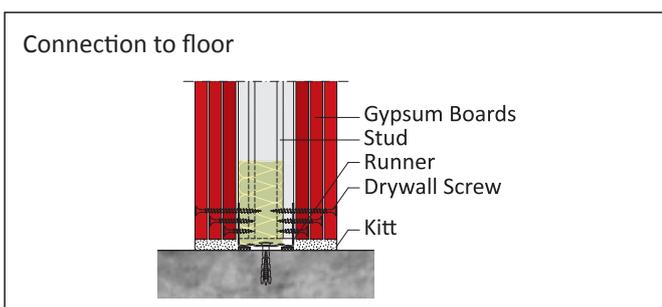
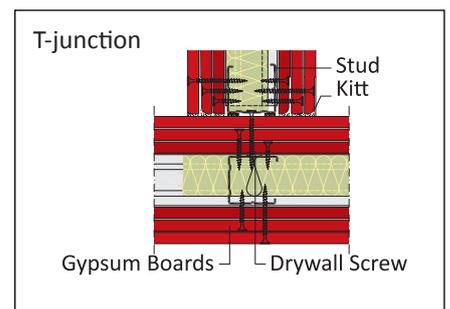
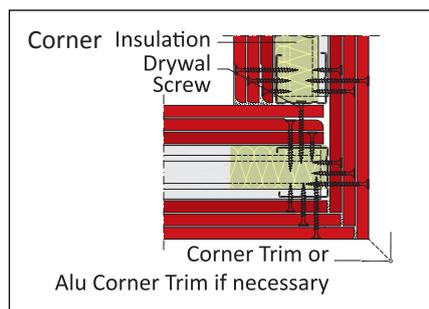
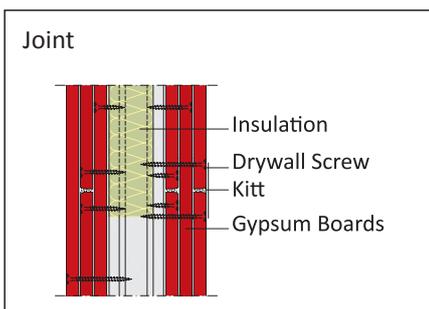
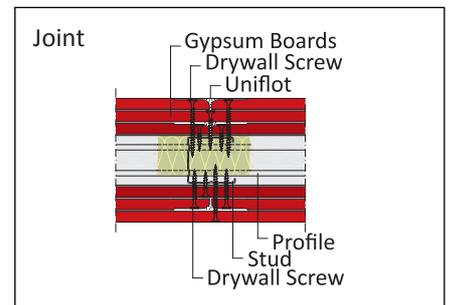
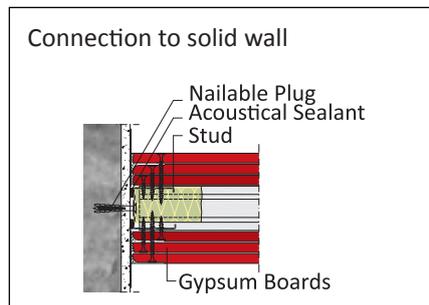
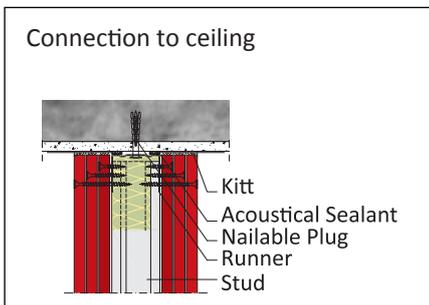
Area A*:

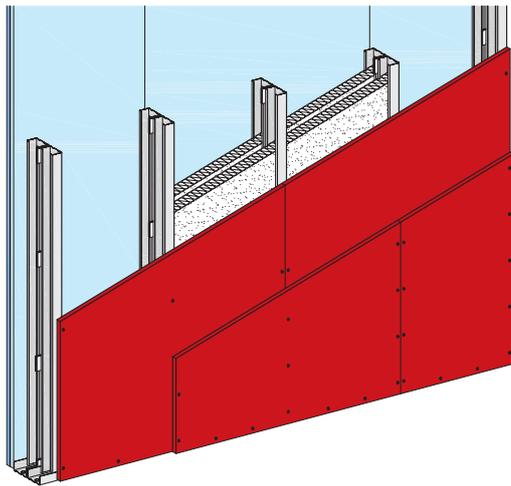
Areas with a low collection of people like homes, hotels, offices,...

Area B**:

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

Details





Wall heights

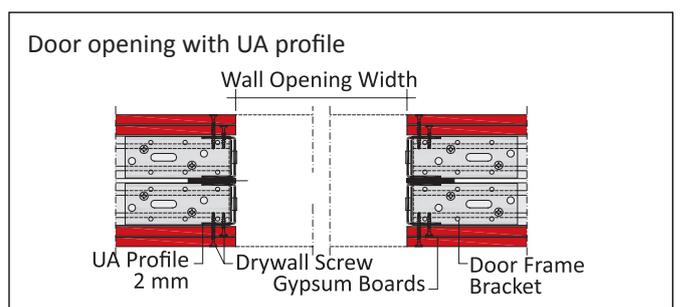
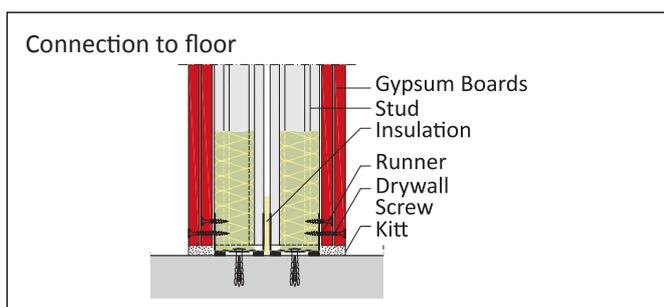
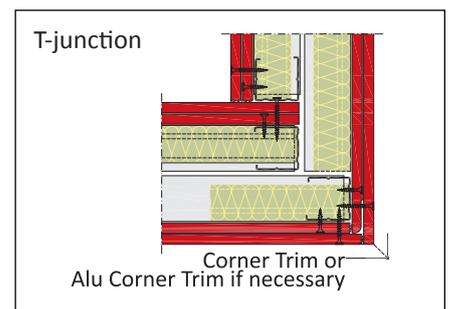
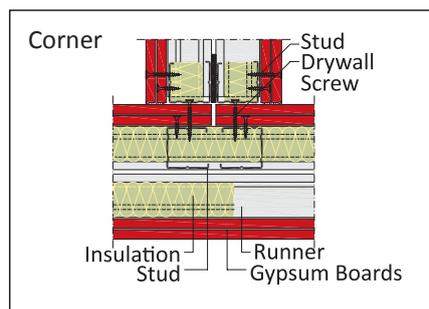
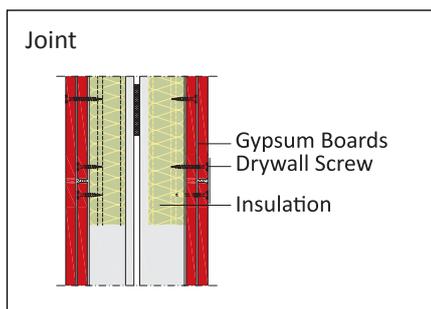
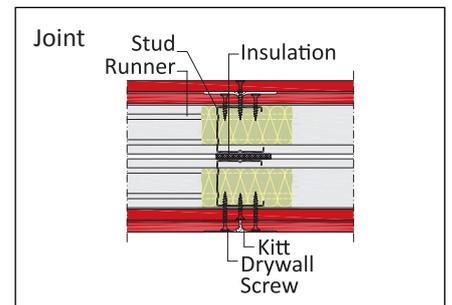
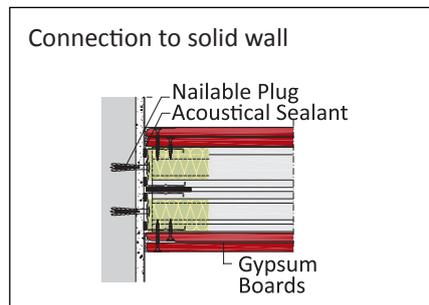
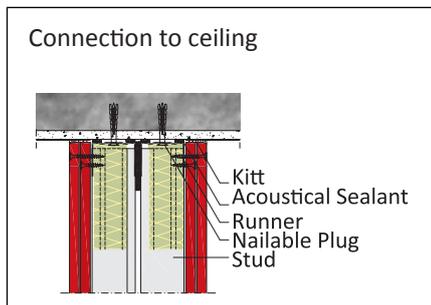
Stud	Spacing of studs (cm)	Maximum wall heights			
		Without fire protection		Incl. fire protect	
		Installation zone		I	II
Metal Thickness 0.6 mm	(cm)	I (m)	II (m)	I (m)	II (m)
Stud 50	62.5	3.3 (4.5)	2.8 (4)	3.3 (4.5)	2.8 (4)
Stud 75	62.5	4.5 (6)	3.3 (5.5)	4.5 (6)	4 (5.5)
Stud 100	62.5	5.5 (6.5)	5 (6)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

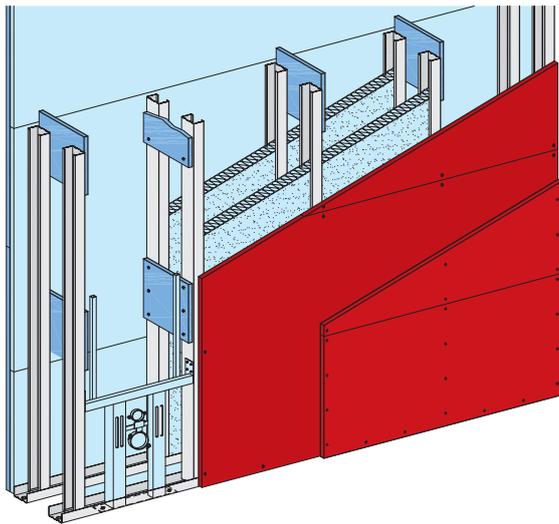
Area A*:
Areas with a low collection of people like homes, hotels, offices,...

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. Installation zone		Incl. fire protect	
		I (m)	II (m)	I (m)	II (m)
Metal Thickness 0.6 mm					
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

Sheet thickness 0.8 mm

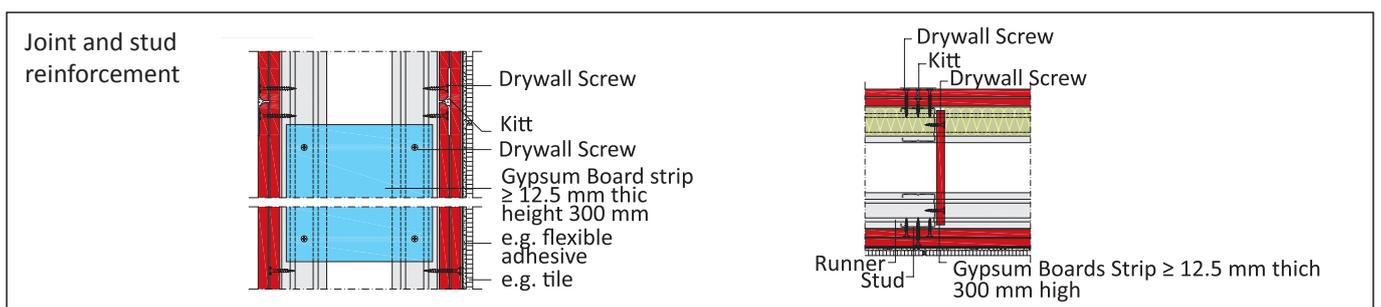
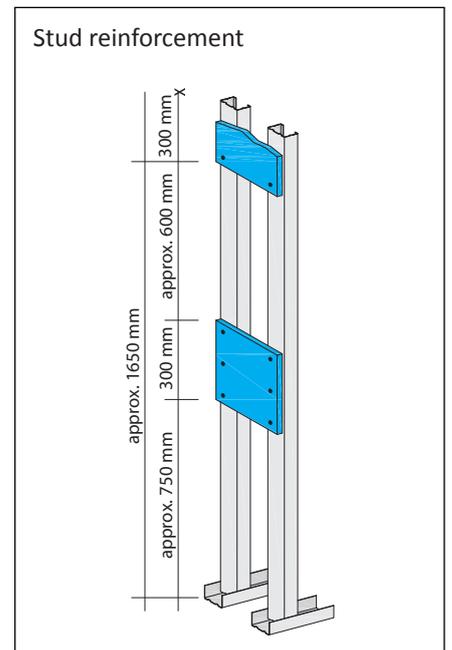
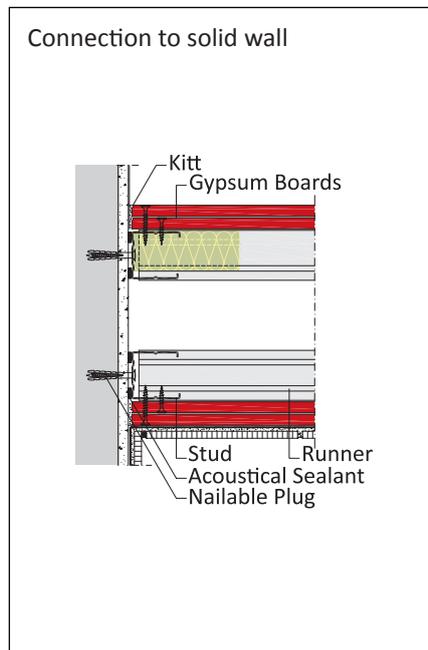
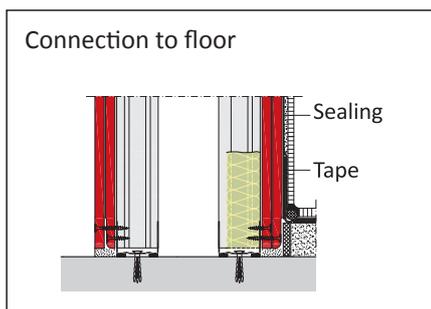
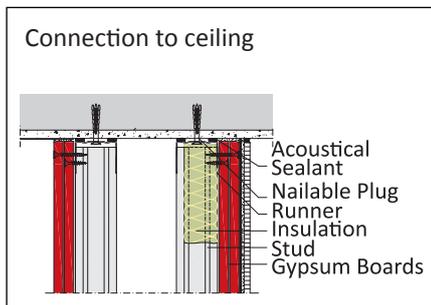
Area A**:

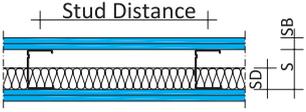
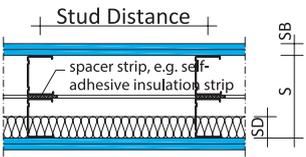
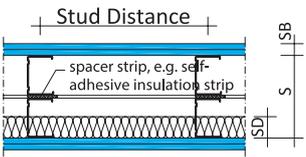
Areas with a low collection of people like homes, hotels, offices,...

Area B**:

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

Details

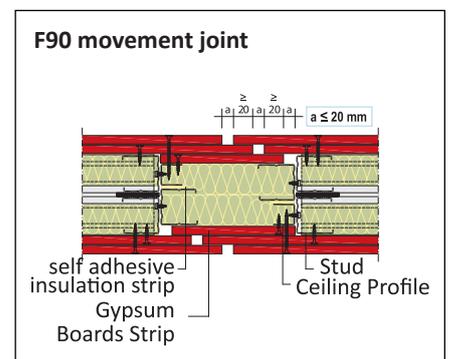
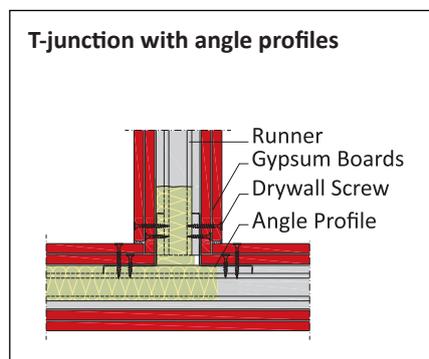
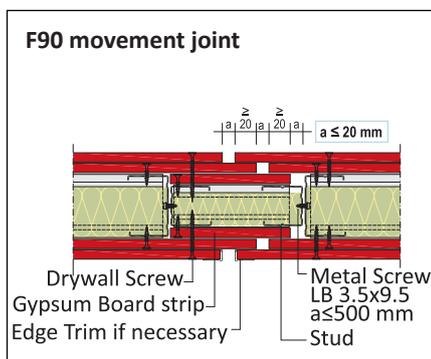
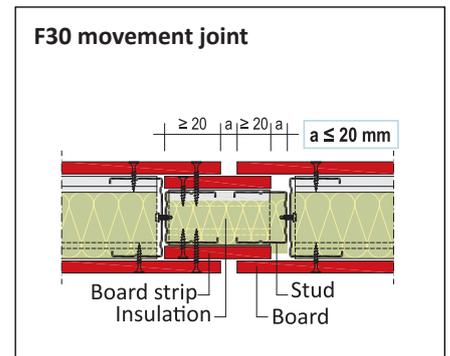
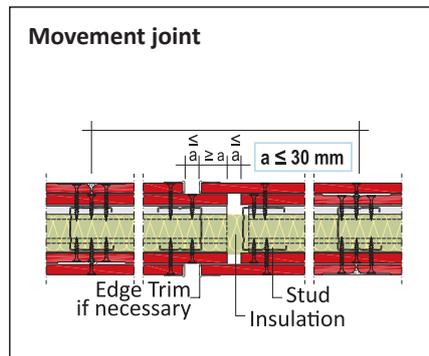
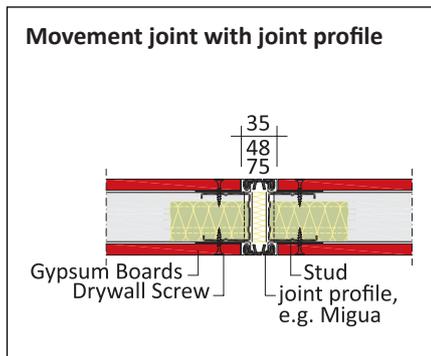


Examples	SB ¹⁾	Stud ²⁾	Minimum clearance between gypsum board	Minimum insulation thickness	R _{w1R}
			S	SD	dB
	12.5	Stud 50 x 0.6	50	40	39
		Stud 75 x 0.6	75	40	39
		Stud 100 x 0.6	100	40	41
				60	42
	2x12.5	Stud 50 x 0.6	50	40	46
		Stud 75 x 0.6	75	40	46
		100x0.6	100	60	49
				40	47
	2x12.5	Stud 50 x 0.6	105	80	58
		Stud 100 x 0.6	205	80	59
				60	49
				80	50

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.

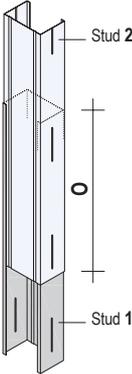
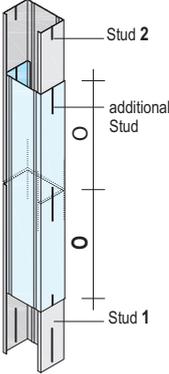
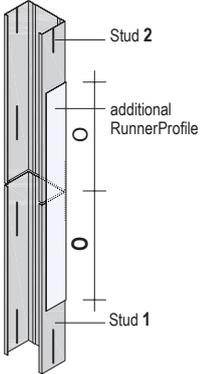
2) Letter symbol for C studs and metal thickness according to DIN 18182-1 dimensions in mm.

Details: Movement Joints / T-Junctions / Corners



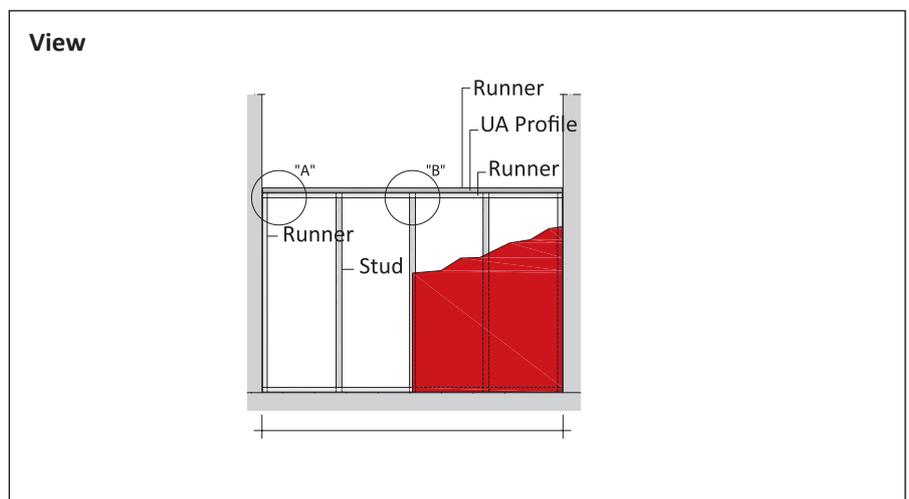
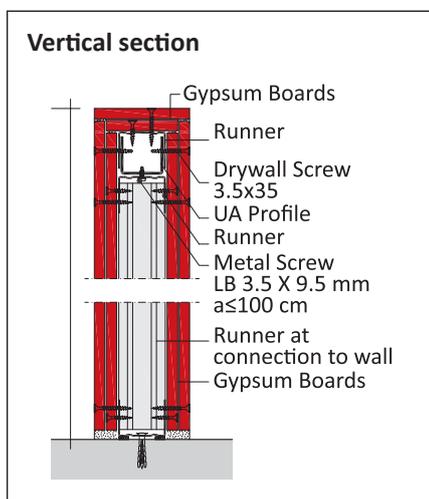
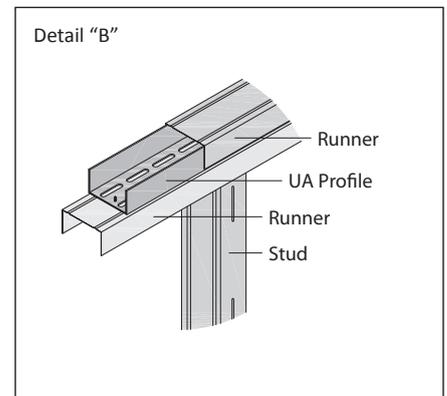
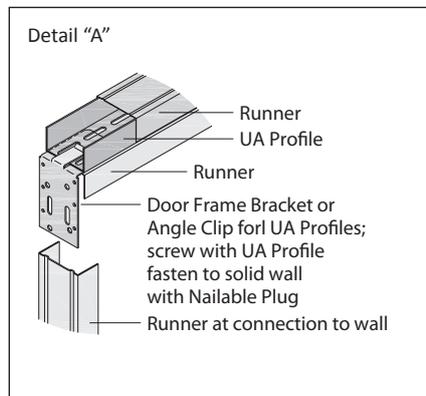
Stud Joints / Partitions without Connection to Ceiling

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				

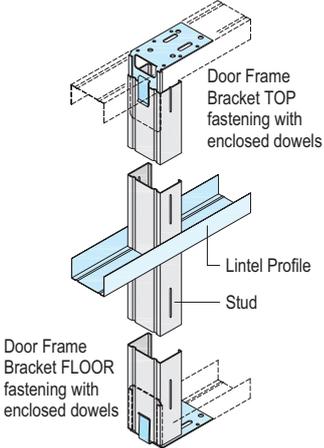
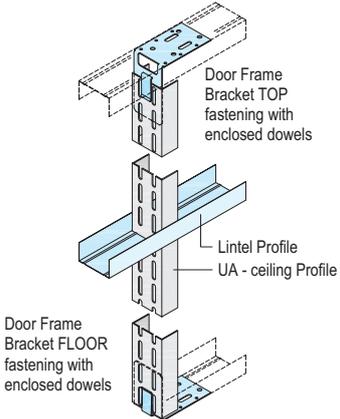
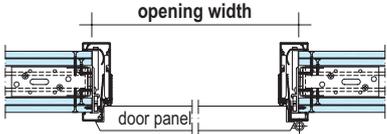
Partitions without connection to ceiling

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

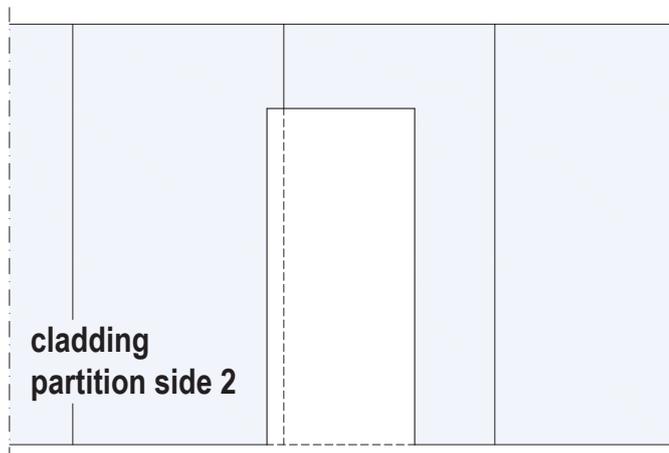
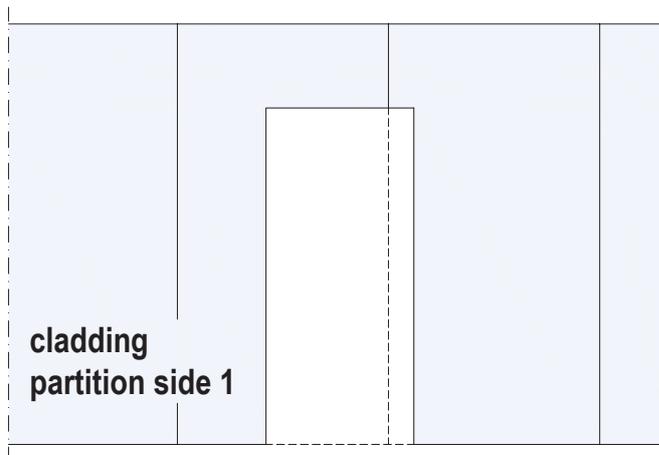
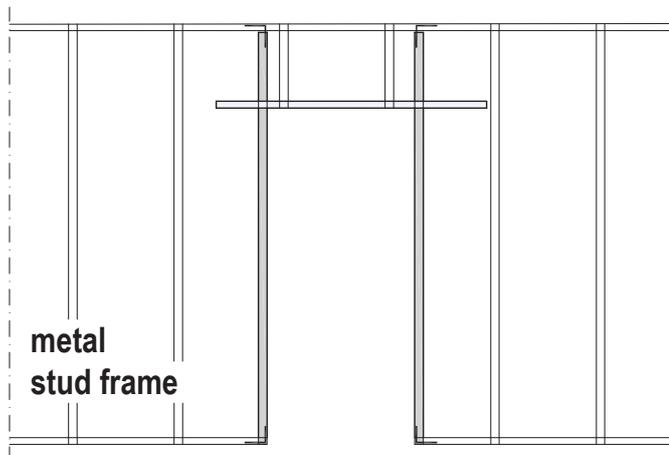


Door Openings: Stud Construction Cladding / Door Panel Weight

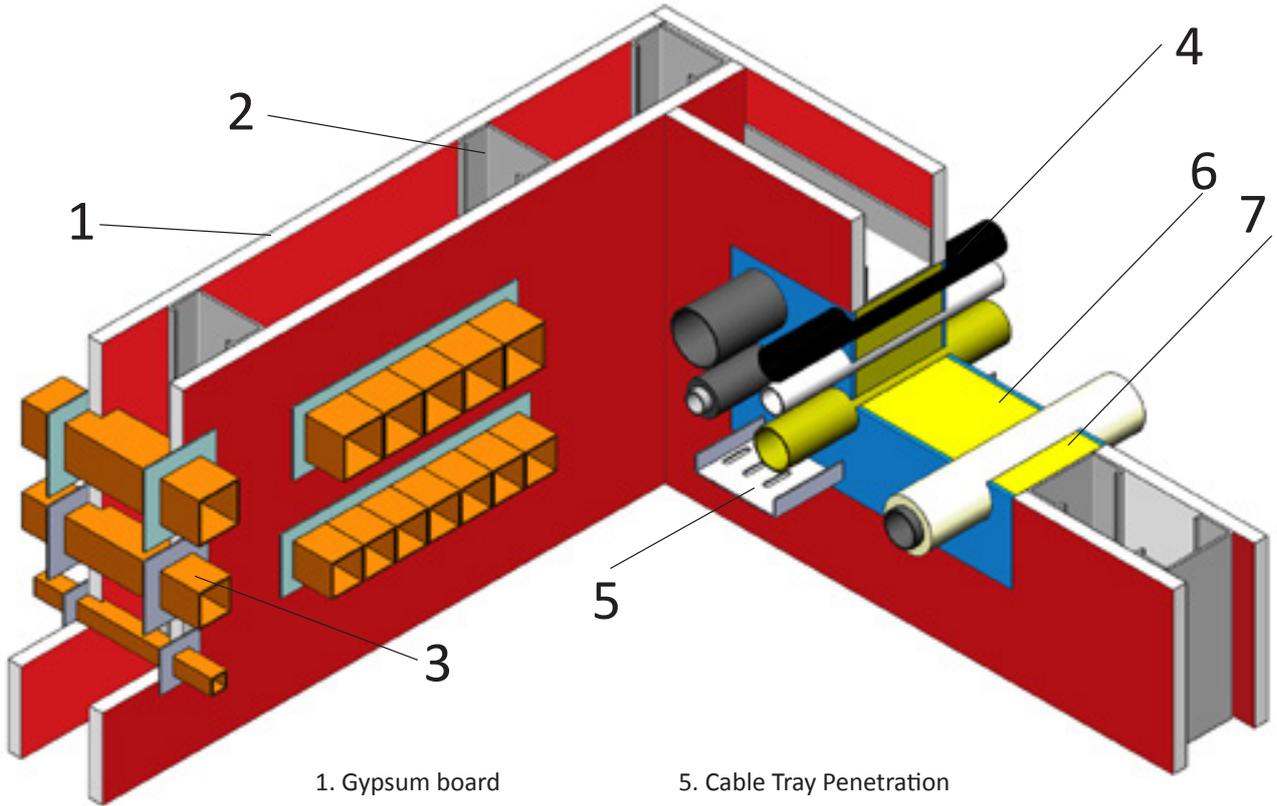
Stud construction

Variation stud	Variation UA	Deflection head
<p>- Acc. to DIN 18340 Wall heights ≤ 2.60 m Door width ≤ 0.885 m Door panel weight ≤ 25 kg</p>  <p>Door Frame Bracket TOP fastening with enclosed dowels</p> <p>Lintel Profile</p> <p>Stud</p> <p>Door Frame Bracket FLOOR fastening with enclosed dowels</p>	<p>Remove plastic strip from Door Frame Bracket</p> <p>- Acc. to DIN 18340 Wall heights ≤ 2.60 m Door width ≤ 0.885 m Door panel weight ≤ 25 kg</p>  <p>Door Frame Bracket TOP fastening with enclosed dowels</p> <p>Lintel Profile</p> <p>UA - ceiling Profile</p> <p>Door Frame Bracket FLOOR fastening with enclosed dowels</p>	<p>Possible with Stud or 4A ceiling profile</p>  <p>opening width</p> <p>door panel</p> <p>Door Frame Bracket TOP fastening with Nailable Plugs "L" 8/100</p> <p>UA Profile or Stud</p>

Scheme Drawings

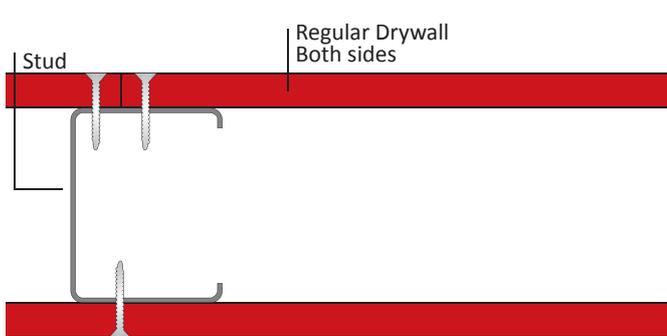


Drywall system with fire stop solutions
 For cabling and wiring installation and the penetration of piping and ducts

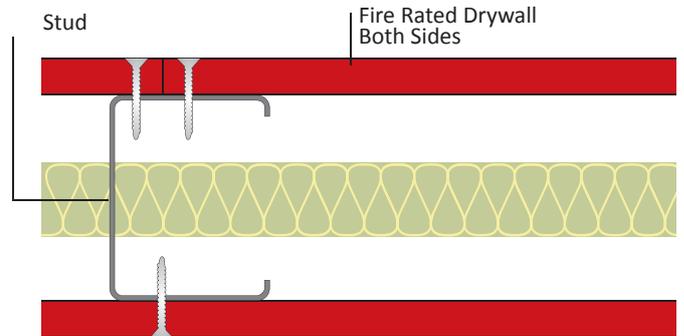


- 1. Gypsum board
- 2. Stud
- 3. Fire Rated Pathways
- 4. Pipe Penetration
- 5. Cable Tray Penetration
- 6. Fire Rated Insulation
- 7. Insulated Pipe

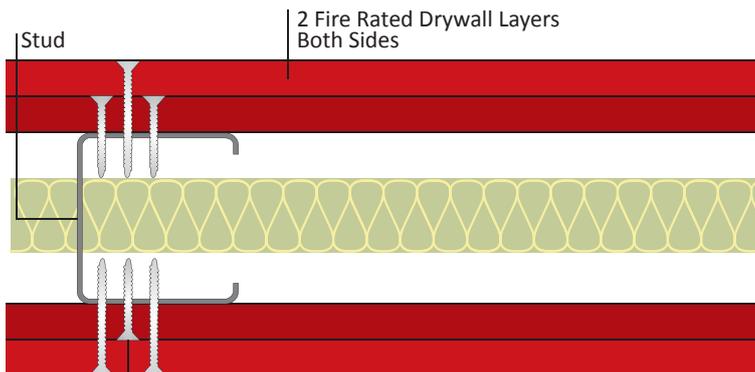
Drywall Design for Fire Safety Partition



Fire Performance



Maximum Fire Performance



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