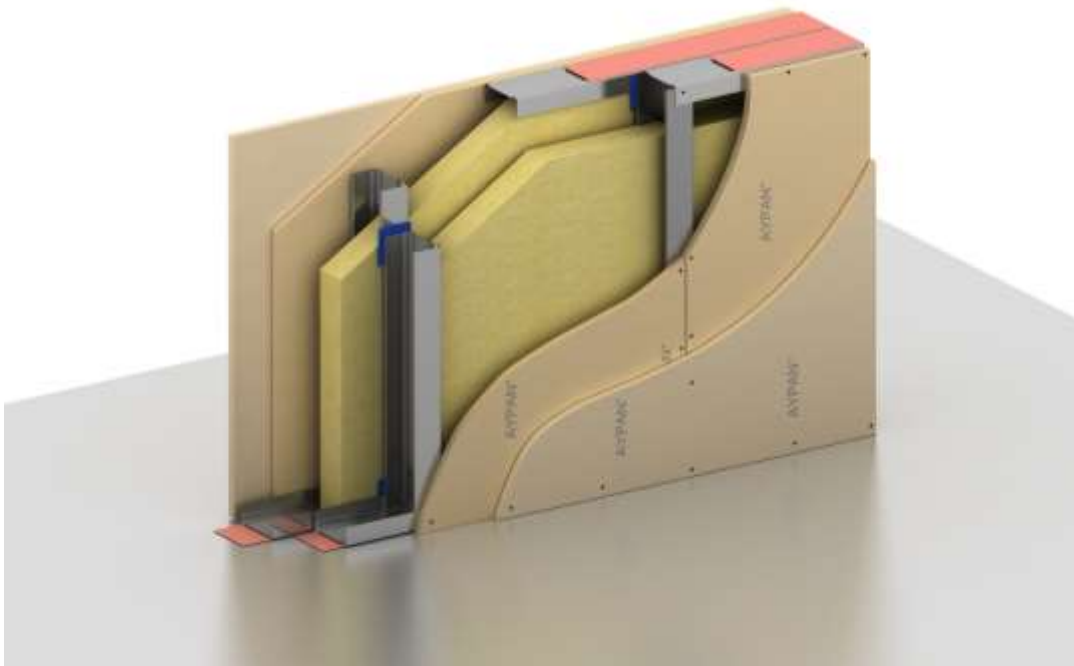
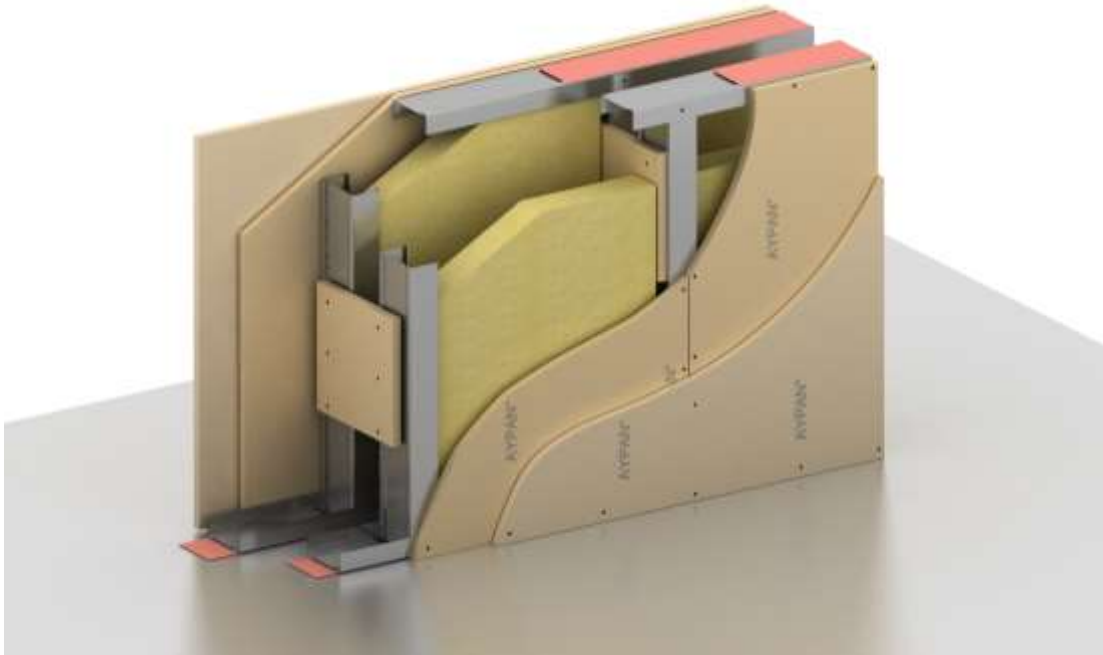


AYSIST® PARTITION WALL SYSTEMS

2 TP 22

(Double Aypan®+ Double Framework + Heat/Sound Insulation + Double Aypan®)

*Wall C Stud



2 TP 22 AYSIST® Partition Wall System is built by screwing double Aypan plasterboards to both sides of a metal double framework (DC) as indicated conditions in its technical specifications. The system contains insulation panels (rock wool divisionboard) inside selected in accordance with the length of the wall and the required insulation properties.

Two different system solutions are possible with use of 2TP22 Aysist® Partition Wall Systems:

- Areas between those high sound insulation values are needed
2 TP 22 High Sound Isolating System.
- Areas those installation cavities are needed through the walls
2 TP 22 Juncture System (Plumbing Wall).

PLACES OF USE

For the cases where higher sound insulation and fire resistance values than 1 TP 22 are needed

- Houses
- Offices and administration buildings
- Business and shopping centers
- Hotels
- Hospitals

2 TP 22 FEATURES

- System is recommended up to a maximum wall height of 6.5 m.
- Average weight of the system is between 56 and 60 kg/m².
- The sound insulation performance of the system is between:
 - 60-63 dB for 2 TP 22 High sound Isolating System.
 - 51-53 dB for 2 TP 22 Juncture System (Plumbing Wall).
- The fire resistance value of this system with the usage of 12,5 mm Aypan® Red is F 90 based on DIN 4102 standards.
- 60 cm axial gap is proper for the application.
- The rockwool within the profiles could be used as single or double layers due to the fire resistance and sound insulation performance requirements
- Aypan noise reduction tape should be applied on the connection points of the floor and ceiling to the existing walls, under the DU-DC (Wall U-Wall C) profiles in order to prevent the passage of vibration and sound through partition wall.
- Carrier system profiles are joined by using rivets.
- The application is easy, fast and economic.

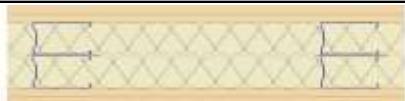
Selecting your plasterboards,


- When the specific requirements do not call for extra strength, Aypan® White
- For applications that require moisture resistance, Aypan® Green
- For applications that require fire resistance, Aypan® Red
- For applications that require impact resistance, Aypan® D White
- If both fire and moisture resistance performance matters, Aypan® More
- For applications requiring fire, moisture, impact resistance with high strength at the areas having busy human traffic with maximum 120 cm height from the floor, Aypan® D More
- For applications requiring higher strength than Aypan® D More at the areas having busy human traffic , Aypan® D Plus having increased core cohesion and strengthened features
- For applications requiring fire, moisture, mold resistance, Aypan® M More
- If both mold and moisture resistance performance matters, Aypan® M Green
- For aesthetic purposes that require acoustic performance, Aysist® Perforated Acoustic
- For applications requiring very high impact, fire, moisture and mold resistance along with A1 fire resistance, Outwear with proper system application should be selected.

	Fire Resistance	Moisture Resistance	Impact Resistance	Sound Resistance	Mold Resistance	Fire Resistance Class
Aypan® White	-	-	-	-	-	-
Aypan® Green	-	√	-	-	-	-
Aypan® Red	√	-	-	-	-	A2 - s1, d0
Aypan® D White	-	-	√	-	-	-
Aypan® More	√	√	-	-	-	A2 - s1, d0
Aypan® D More	√	√	√	-	-	A2 - s1, d0
Aypan® D Plus	√	√	√	-	-	A2 - s1, d0
Aypan® M More	√	√	-	-	√	A2 - s1, d0
Aypan® M Green	-	√	-	-	√	-
Aysist® Perforated Acoustic	-	-	-	√	-	-
Outwear	√	√	√	-	-	A1

Fire Resistance Values of the System according to EN 4102-4:
(double Aypan plasterboards are used for both sides of the system.)

Aypan® Red (mm)	Rockwool Thickness (mm)	Rockwool Density (kg/m³)	Fire Resistance Class
2x12,5	40	40	F60
15+12,5	40	40	F90
2x12,5	80	30	F90
2x12,5	80	50	F90
2x12,5	40	100	F90
2x12,5	80	100	F90
2x18	40	40	F120
2x15	80	50	F120
2x15	60	120	F120
3x12,5	80	50	F180

HIGH SOUND ISOLATING SYSTEM CROSS-SECTION	PROFILE	WALL THICKNESS (mm)
	DC 50 (42x49x42)	151
	DC 75 (42x74x42)	201
	DC 100 (42x99x42)	251

JUNCTURE SYSTEM (INSTALLATION WALL) SYSTEM CROSS-SECTION	PROFILE	WALL THICKNESS (mm)
	DC 50 (42x49x42)	variable
	DC 75 (42x74x42)	201
	DC 100 (42x99x42)	251

*based on 12.5 mm Aypan

SCREW LENGTH*

AYPAN (mm) (Front/Back)	to fix to the Floor	over metal profile	
		Drywall Screw (mm)	Self Drilling Screw (mm)
2x12.5 / 2x12.5	AYPAN Plastic Pan Headed Screw(22x45 mm) + M8 plastic dowel	(3.5 x 25) x2	(3.5 x 25) x2
2x15 / 2x15		(3.5 x 25) x2	(3.5 x 25) x2
2x18 / 2x18		(3.5 x 35) x2	(3.5 x 35) x2

*

AYPAN Drywall Screw should be used at 30 cm height of every 2 meters for 2 TP 22 Juncture System (Plumbing Wall).

AYPAN Drywall Screw; has 3,5 mm diameter, 25,35 or 45 mm length, which is used in fixing Aypan plasterboards to profiles that have max.galvanized sheet thickness as 0.88 mm or metal construction.

AYPAN Self Drilling Screw; has 3,5 mm diameter, 25,35 or 45 mm length, which is used in fixing Aypan plasterboards to profiles that have max.galvanized sheet thickness as 2,2 mm or metal construction.

Screws must be applied perpendicularly without any damage to paper surface.

HIGH SOUND ISOLATING SYSTEM

2 TP 22 AYSIST® High Sound Isolating System is built by screwing double Aypan plasterboards to both sides of a metal double framework (DC) as indicated conditions in its technical specifications. The system contains insulation panels (rock wool divisionboard) inside selected in accordance with the length of the wall and the required insulation properties. Joints of Aypan plasterboards should be filled by Aygips joint filling plaster affixed with Joint Tape. Before painting, Aygips Satin Finishing Plaster should be applied to entire surface of the Aypan plasterboards.

- Aypan noise reduction tape should be applied within DC profiles.
- The sound insulation performance of the system is between 60-63 dB.

WHEN 12.5 mm AYPAN IS USED ON FRONT AND BACK FACES PERFORMANCE VALUES AS PER SYSTEM CROSS-SECTIONS**

Profile	Wall Thickness (cm)	Profile Thickness (mm)	Ax. gap (cm)	Max. height (m)		Avgr. Weight (kg/m ²)	Ins. Material Thickness (mm)	Fire Resistance Class	Sound Ins. Values R _w (dB)
				*A	*B				
DC 50 DU 50	15,5	0,6	60	4,50	4,00	56,85	2x40	F90	60 dB
DC 75 DU 75	20,5	0,6	60	6,00	5,50	58,48	2x40	F90	60 dB
DC 100 DU 100	25,5	0,6	60	6,50	6,00	59,87	2x80	F90	63 dB

PERFORMANCE VALUES IN ACCORDANCE WITH INSULATION MATERIALS**

Profile	Wall Thickness (cm)	Insulation Material Thickness (mm)	Fire Resistance Class	Sound Ins. Values R _w (dB)	Heat Conductivity Coefficient (W/m ² K)
DC 50 DU 50	15,5	40	F 60	59 dB	0.624
DC 50 DU 50	15,5	2X40	F 90	60 dB	0.364
DC 75 DU 75	20,5	40	F 60	57 dB	0.624
DC 75 DU 75	20,5	2X40	F 90	60 dB	0.364
DC 100 DU 100	25,5	80	F 60	60 dB	0.364
DC 100 DU 100	25,5	2X80	F 90	63 dB	0.199

**

- *A - As per DIN 4103/DIN 18183-1, this height is used for places where pedestrian traffic is low e.g. commercial buildings (hotels, hospitals) and residences.
- *B - As per DIN 4103/DIN 18183-1, this height is used for places where there is high pedestrian traffic, eg. Showrooms, theaters, cinemas, schools etc.
- SPEC NOs are in compliance with T.R. Ministry of Environment and Urbanization spec numbers defined for Aypan White.
- Fire Resistance Class is in compliance with DIN 4102. For fire resistance and sound insulation calculations, rock wool divisionboard that has 5 cm thickness and 52 kg/m³ density is used. Values should be recalculated, if the parameters would change. Values given for Fire Resistance Class at the table are valid only when Aypan Red, Aypan More, Aypan D Plus or Outwear is used on both sides of the partition wall.
- Sound Insulation values are in compliance with DIN 4109.
- Average weight calculations assume 12,5 mm Aypan White + Aypan Profile + 5 cm 52 kg/m³ rock wool divisionboard. Other Aypan products would add 0.5-1 kg.

2 TP 22 HIGH SOUND ISOLATING SYSTEM TECHNICAL SPECIFICATIONS

Based on T.R. Ministry of Environment and Urbanization regulations and rules, steps should be as follows for the project and details approved by administration;
(Aypan Wall U Track shall be referred to as DU 75 whereas Aypan Wall C Stud as DC 75.)

- Double row DU 75 tracks should be fixed onto the floor and ceiling by using Aypan screws and plastic dowels with 60 cm intervals.
- 75 mm AYPAN Noise reduction tape should be affixed to rear parts of the DU 75 and DC 75 Profiles that will be fixed to side walls.
- DC 75 studs should be cut off.
- DC 75 studs should be installed with 60 cm intervals through both DU 75 tracks to create double framework.
- Aypan high noise reduction tape should be affixed along vertical intervals with max. 50 cm.
- rock wool panels of proper thickness and densities should be mounted onto the backs of the DC studs.
- For one side of the wall; first layers of 12, 5 mm Aypan plasterboard should be placed by 25 mm Aypan drywall screws, and second layers by 35 mm(or 38 mm) Aypan drywall screws to the DU 75 and DC 75 profiles.
- Former step should be repeated for the other side of the wall.
- Aypan plasterboards should be cut off and sized where needed.
- For the cavities larger than 3mm, a preliminary filling should be applied by using Aygips joint filling plaster.
- Screw heads should be covered by using Aygips joint filling plaster.
- Joints of Aypan plasterboards should be affixed with Joint Tape.
- Partition wall system should be completed by applying Aygips joint filling plaster on Joint Tape.

Including all kinds of material and losses, labour, loading at the construction site, horizontal and vertical transport, unloading, contractor mark up and overhead expenses, total costs for 1 m².

Measurements: Calculated in m² based on sizes depicted in the project.

P.S. Cavities smaller than 0,50 m² are not excluded from quantities.

JUNCTURE SYSTEM (PLUMBING WALL)

2 TP 22 AYSIST® Juncture System (Plumbing Wall) is built by screwing double Aypan plasterboards to both sides of a metal double framework (DC) as indicated conditions in its technical specifications. The system contains insulation panels (rock wool division board) inside selected in accordance with the length of the wall and the required insulation properties.

Installation gap should be arranged by spacing the frameworks. The frameworks should be fixed to each other with defined intervals at 30 cm height by Aypan plasterboard. Joints of Aypan plasterboards should be filled by Aygips joint filling plaster affixed with Joint Tape. Before painting, Aygips Satin Finishing Plaster should be applied to entire surface of the Aypan plasterboards.

ANALYSIS OF MATERIALS for 1M² of 2 TP 22 PARTITION WALL SYSTEM***

	axial gap (cm)	UNIT
	60	
AYPAN Plasterboard (12,5 mm)	4,20	m ²
AYPAN Plasterboard Fragment (30 cm)	0,10	m ²
AYPAN DC 75 Profile (42X49X42 mm)	4,60	mt
AYPAN DU 75 Profile (27X50X27 mm)	1,80	mt
AYPAN Noise Reduction Tape	2,00	mt
AYPAN Plastic Dowel and Pan Headed Screw Set	5,20	pieces
AYPAN Drywall Screw 3,5 x 25 mm	25,00	pieces
AYPAN Drywall Screw 3,5 x 35 mm	25,00	pieces
AYPAN Joint Tape	3,20	mt
AYGIPS Joint Filling Plaster	0,80	kg/m ²
AYGIPS Satin Finishing Plaster	each 10 mm; 0,3	kg/m ²
Rock Wool Divisionboard	2,10	m ²
AYPAN Perforated Corner Bead	As per project	mt

- DU (Wall U) Profile amount is calculated by dividing the total wall surface to the height and multiplying by 2.
- Material analysis of Aypan plastic dowel and screw set is valid for 60 cm axial gap.
- Material analysis of Aypan pointed screw is valid for vertical 30 cm axial gap.
- Material analysis table assumes 2.5 m height for the system.
- Gaps on the wall (windows, doors) as per the project are not included in the calculation.
- AYPAN self drilling screw must be preferred with the use of metal profile thicker than 0,88 mm instead of AYPAN drywall screw.
- In the case, when 15 mm AYPAN Plasterboard is used, 3,5x25 mm AYPAN drywall screw must be used.
- In the case, when 18 mm AYPAN Plasterboard is used, 3,5x35 mm AYPAN drywall screw must be used.
- As per the requirements of the project, DC 50 (42x49x42 mm) - DU 50 (27x50x27 mm) or DC 100 (42X99X42 mm) - DU 100 (27x100x27 mm) Profile should be selected.

2 TP 22 JUNCTURE SYSTEM (INSTALLATION WALL) SYSTEM TECHNICAL SPECIFICATIONS

Based on T.R. Ministry of Environment and Urbanization regulations and rules, steps should be as follows for the project and details approved by administration;
(Aypan Wall U Track shall be referred to as DU 75 whereas Aypan Wall C Stud as DC 75.)

- DU 75 tracks should be fixed onto the floor and ceiling by using Aypan screws and plastic dowels with 60 cm intervals.
- 75 mm AYPAN Noise reduction tape should be affixed to rear parts of the DU 75 and DC 75 Profiles that will be fixed to side walls.

- DC 75 studs should be cut off.
- DC 75 studs should be installed with 60 cm intervals through both DU 75 profiles to create double framework.
- Two frameworks should be connected to each other by Aypan connection fragment (h=30 cm with 2 meter intervals).
- Rock wool panels of proper thickness and densities should be mounted onto the backs of the DC studs.
- For one side of the wall; first layers of 12, 5 mm Aypan plasterboard should be placed by 25 mm Aypan drywall screws, and second layers by 35 mm(or 38 mm) Aypan drywall screws to the DU 75 and DC 75 profiles.
- Former step should be repeated for the other side of the wall.
- Aypan plasterboards should be cut off and sized where needed.
- For the cavities larger than 3mm, a preliminary filling should be applied by using Aygips joint filling plaster.
- Screw heads should be covered by using Aygips joint filling plaster.
- Joints of Aypan plasterboards should be affixed with Joint Tape.
- Partition wall system should be completed by applying Aygips joint filling plaster on Joint Tape.

Including all kinds of material and losses, labour, loading at the construction site, horizontal and vertical transport, unloading, contractor mark up and overhead expenses, total costs for 1 m².

Measurements: Calculated in m² based on sizes depicted in the project.

P.S. Cavities smaller than 0,50 m² are not excluded from quantities.

**WHEN 12.5 mm AYPAN IS USED ON FRONT AND BACK FACES
PERFORMANCE VALUES AS PER SYSTEM CROSS-SECTIONS******

Profile	Space within frame works (cm)	Wall Thick ness (cm)	Profile Thickn ess (mm)	Ax. gap (cm)	Max. height (m)		Avgr. Weight (kg/m ²)	Fire Resistance Class	Sound Ins. Values R _w (dB)	Spec. No
					*A	*B				
DC 50 DU 50	105	15,5	0,6	60	4,50	4,00	56,85	F90	51	
DC 75 DU 75	155	20,5	0,6	60	6,00	5,50	58,48	F90	52	18.138/A17
DC 100 DU 100	205	25,5	0,6	60	6,50	6,00	59,87	F90	53	

PERFORMANCE VALUES IN ACCORDANCE WITH INSULATION MATERIALS****

Profile	Space within frameworks (cm)	Wall Thickness (cm)	Insulation Material Thickness (mm)	Fire Resistance Class	Sound Ins. Values R _w (dB)	Heat Conductivity Coefficient (W/m ² K)
DC 50 DU 50	105	15,5	40	F 90	51 dB	0.624
DC 75 DU 75	155	20,5	50	F 90	52 dB	0.530
DC 75 DU 75	155	20,5	60	F 90	52 dB	0.460
DC 100 DU 100	205	25,5	80	F 90	53 dB	0.364

- *A - As per DIN 4103/DIN 18183, this height is used for places where pedestrian traffic is low e.g. commercial buildings (hotels, hospitals) and residences.
- *B - As per DIN 4103/DIN 18183, this height is used for places where there is high pedestrian traffic, eg. Showrooms, theaters, cinemas, schools etc.
- SPEC NOs are in compliance with T.R. Ministry of Environment and Urbanization spec numbers defined for Aypan White.

- Fire Resistance Class is in compliance with DIN 4102. For fire resistance and sound insulation calculations, rock wool divisionboard that has 5 cm thickness and 52 kg/m³ density is used. Values should be recalculated, if the parameters would change. Values given for Fire Resistance Class at the table are valid only when Aypan Red, Aypan More, Aypan D Plus or Outwear is used on both sides of the partition wall.
- Sound Insulation values are in compliance with DIN 4109.
- Average weight calculations assume 12,5 mm Aypan White + Aypan Profile + 5 cm 52 kg/m³ rock wool divisionboard. Other Aypan products would add 0.5-1 kg.
- Aypan Profiles (mm): DC 50 (42x49x42) DU 50 (27x50x27), DC 75 (42x74x42) DU 75 (27x75x27), DC 100 (42x99x42) DU 100 (27x100x27)

RELATED SPECIFICATIONS IN THE TECHNICAL SPECIFICATIONS**** (for Installation Wall)

Spec No	Description
18.138/A 17	Building high partition wall system (>4,5 m) by using plasterboards (TS EN 520+A1) with double frameworks and rock wool divisionboard (Single profile-60 cm axial gap-12.5 mm+12.5 mm double layers of plasterboard on both sides of the wall)
18.138/B 17	Building high partition wall system (>4,5 m) by using moisture resistant plasterboards (TS EN 520+A1) with double frameworks and rock wool divisionboard (Single profile-60 cm axial gap-12.5 mm+12.5 mm double layers of moisture resistant plasterboard on both sides of the wall)
18.138/C 17	Building high partition wall system (>4,5 m) by using fire resistant plasterboards (TS EN 520+A1) with double frameworks and rock wool divisionboard (Single profile-60 cm axial gap-12.5 mm+12.5 mm double layers of fire resistant plasterboard on both sides of the wall)
18.138/D 17	Building high partition wall system (>4,5 m) by using both moisture and fire resistant plasterboards (TS EN 520+A1) with single framework and rock wool divisionboard (Single profile-60 cm axial gap-12.5 mm+12.5 mm double layers of both moisture and fire resistant plasterboard on both sides of the wall)

T.R. Ministry of Environment and Urbanization

Related Standards and References:

- TS EN 520– Gypsum Plasterboards-Definitions, Requirements and Testing Methods
- TS EN 14195- Metal framing components for gypsum board systems- Definitions, Requirements and Testing Methods
- TS EN 15283-1 Gypsum boards with fibrous reinforcement- Definitions, Requirements and Testing Methods- Part 1: Gypsum boards with mat reinforcement
- TS EN 13963 Jointing Materials for gypsum board- Definitions, Requirements and Testing Methods
- Aygips Aypan Plasterboard Application Manual
- Aygips Aypan Product Catalogue
- DIN-EN norms:
 - DIN 4103
 - DIN 18181
 - DIN 18182
 - DIN 4102
 - DIN 18180
 - DIN 14353
 - DIN 18183-1
 - DIN 4109
 - EN 14566.