

Ecophon Focus™ Ds

For applications where a suspended ceiling with a concealed grid is required, but individual tiles must be easily demountable. Ecophon Focus™ Ds has a concealed grid and symmetrical edge design, allowing easier assembly, integration of light fittings and ventilation. The ceiling has an even appearance, with the bevelled edges forming a discreet groove between the tiles. The tiles are easily demountable.

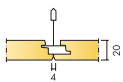
tile is covered with glass tissue. The edges are painted. To improve absorption in the low frequency range, Ecophon Extra Bass can be installed on top of the suspended ceiling. For best performance and system quality, use Connect™ grid and accessories. The grid is manufactured from galvanized steel. The system is patented.

The systems consist of Ecophon Focus™ Ds tiles and Connect™ grid systems, with an approximate weight of 3-4 kg/m² (4-5 kg/m² with Ecophon Extra Bass). The tiles are manufactured from high density glass wool. The visible surface has an Akutex™ FT coating and the back of the



Plantronics, Hoofddorp, Netherlands

SYSTEM RANGE



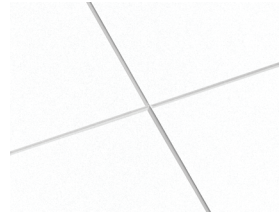
Size, mm	600x600	1200x600	1200x1200	XL 1600x600	XL 1800x600	XL 2000x600	XL 2400x600
T24	•	•	•	•	•	•	•
Thickness (THK)	20	20	20	20	20	20	20
Inst. Diag.	M206, M208, M394, M400	M206, M208, M394, M400	M207	M206, M208, M238	M206, M208, M238	M206, M208, M238	M206, M208, M238



Focus Ds tile



Section of Focus Ds system with Connect T24 Main runner HD



Focus Ds system



The individual tiles are easily demountable

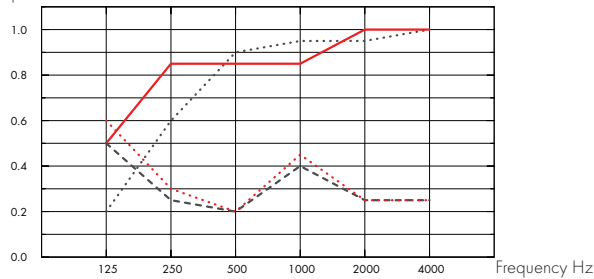


Acoustic

Sound Absorption:

Test results according to EN ISO 354. Classification according to EN ISO 11654, and the single value ratings for Noise Reduction Coefficient, NRC and Sound Absorption Average, SAA according to ASTM C 423.

α_p Practical sound absorption coefficient



- ... Focus Ds 20 mm, 65 mm o.d.s.
- Focus Ds 20 mm, 200 mm o.d.s.
- Focus Ds gamma 20 mm, 200 mm o.d.s.
- · - Focus Ds gamma 20 mm + Extra Bass 50 mm, 200 mm o.d.s.

o.d.s = overall depth of system

	THK mm	o.d.s. mm	α_p Practical sound absorption coefficient						α_w	Sound absorption class
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz		
	20	65	0.20	0.60	0.90	0.95	0.95	1.00	0.90	A
	20	200	0.50	0.85	0.85	0.85	1.00	1.00	0.90	A
gamma	20	200	0.50	0.25	0.20	0.40	0.25	0.25	0.25	E
gamma + Extra Bass	70	200	0.60	0.30	0.20	0.45	0.25	0.25	0.25	E

	THK mm	o.d.s. mm	NRC	SAA
	20	65	0.90	0.89
gamma	20	200	0.30	0.28
gamma + Extra Bass	70	200	0.30	0.29
	20	400	0.80	0.82

THK mm	AC(1.5) Articulation Class, ASTM E1111, ASTM E1110	D_{nfw} Weighted normalized flanking level difference, ISO 10848-2	CAC dB Ceiling Attenuation Class, ASTM 1414, ASTM E413
20	180	24	25



Accessibility

The tiles in size 600x600 and 1200x600 are easily demountable. The tiles in size 1200x1200 and XL sizes are demountable. Minimum demounting depth according to installation diagrams.



Cleanability

Daily dusting and vacuum cleaning. Weekly wet wiping.



Visual appearance

White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd/(m²lx). Gloss < 1.



Influence of climate

The tiles withstand a permanent ambient RH up to 70% at 25°C following the test standard in EN 13964. The tiles are also available for especially demanding conditions. Please contact Ecophon for specifying your project.



Indoor Climate

Certificate / Label	
Finnish M1	•
French VOC, A+	•
Danish Indoor Climate Label	•
California Emission Regulation, CDPH	•



Environmental influence

Fully recyclable



CO₂

Kg CO ₂ equiv/m ²	
	4,25

From EPD in conformity with ISO 14040



Fire safety

Country	Standard	Class
Europe	EN 13501-1	A2-s1,d0

The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003.



Mechanical properties

See table about Max live load and Min load bearing capacity and Functional demands, Mechanical properties at www.ecophon.com.



Installation

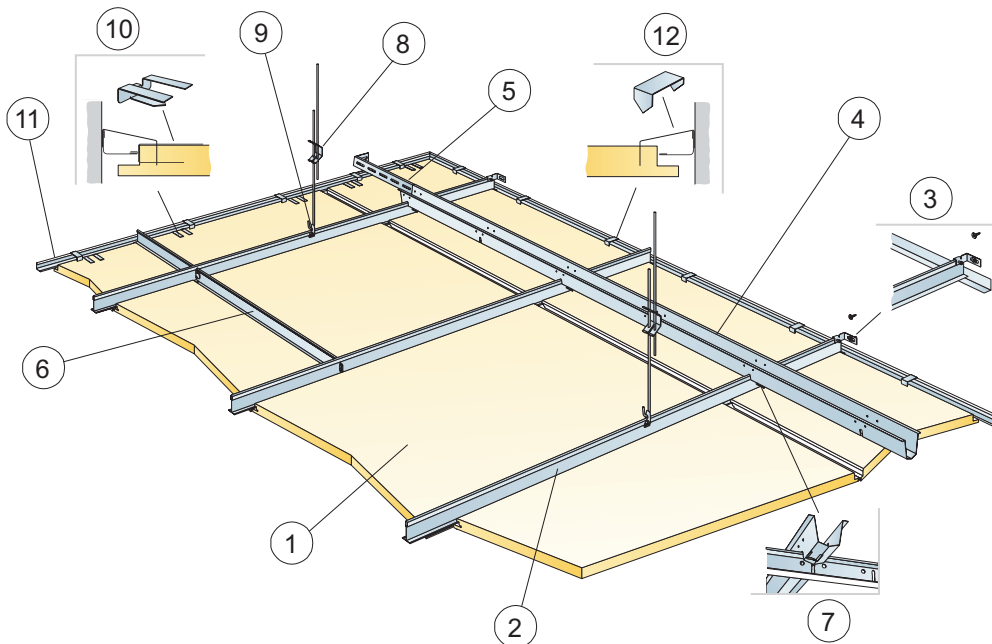
Installed according to installation diagrams, installation guides and drawing aid. For information regarding minimum overall depth of system see quantity specification. The systems are not recommended for small rooms (approximately 2x2 m²). Ceilings with a large amount of integrations require careful planning, design and installation.



CE

The CE marking confirms important product performance such as sound absorption, emissions, fire safety and load bearing capacity. All Ecophon ceiling products are CE marked according to European standard EN13964, and individual product performance is declared in Declaration of Performance (DoP) documents.

INSTALLATION DIAGRAM (M206) FOR ECOPHON FOCUS DS 600X600, 1200X600 MM AND ECOPHON FOCUS DS XL. SUSPENDED INSTALLATION

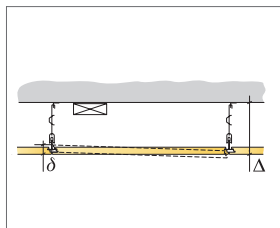


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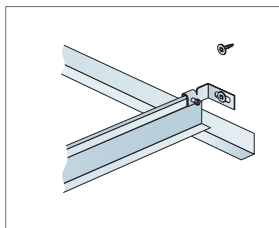
QUANTITY SPECIFICATION (EXCL. WASTAGE)

	Size, mm					
	600x600	1200x600	1600x600	1800x600	2000x600	2400x600
1 Focus Ds	2,8/m ²	1,4/m ²	1,05/m ²	0,95/m ²	0,85/m ²	0,7/m ²
2 Connect T24 Main runner HD, installed at 600 mm centres	1,7/m ²	1,7/m ²	1,7/m ²	1,7/m ²	1,7/m ²	1,7/m ²
3 Connect Wall bracket for T-profiles	1/suspended row of Main runner					
4 Connect Space bar, installed at 1500 mm centres (max. distance from wall 300 mm)	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²
5 Connect Wall bracket, L=700 mm, for Space bar	1/row of Space bar					
6 Connect T24 Cross tee, L=600 mm	2/row of Main runner					
7 Connect Space bar winch, installed one per joint Main runner/ Space bar	1,4/m ²	1,4/m ²	1,4/m ²	1,4/m ²	1,4/m ²	1,4/m ²
8 Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²
9 Connect Hanger clip (not to be used in swimming hall environments)	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²	0,7/m ²
10 Connect Support clip Dg20	1pc/300-400 mm on every cut perimeter tile with only 1 supporting edge					
11 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required	as required	as required	as required	as required
12 Connect Perimeter tile clip	1/300-400mm on any cut edge					
Δ Min. overall depth of system: 105 mm						
δ Min. demounting depth: 30 mm						

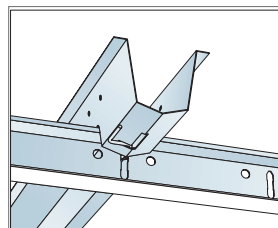
For luminaire integration in panels use Connect Bridging



See Quantity Specification



Secured Main runner at wall with Connect Wall bracket

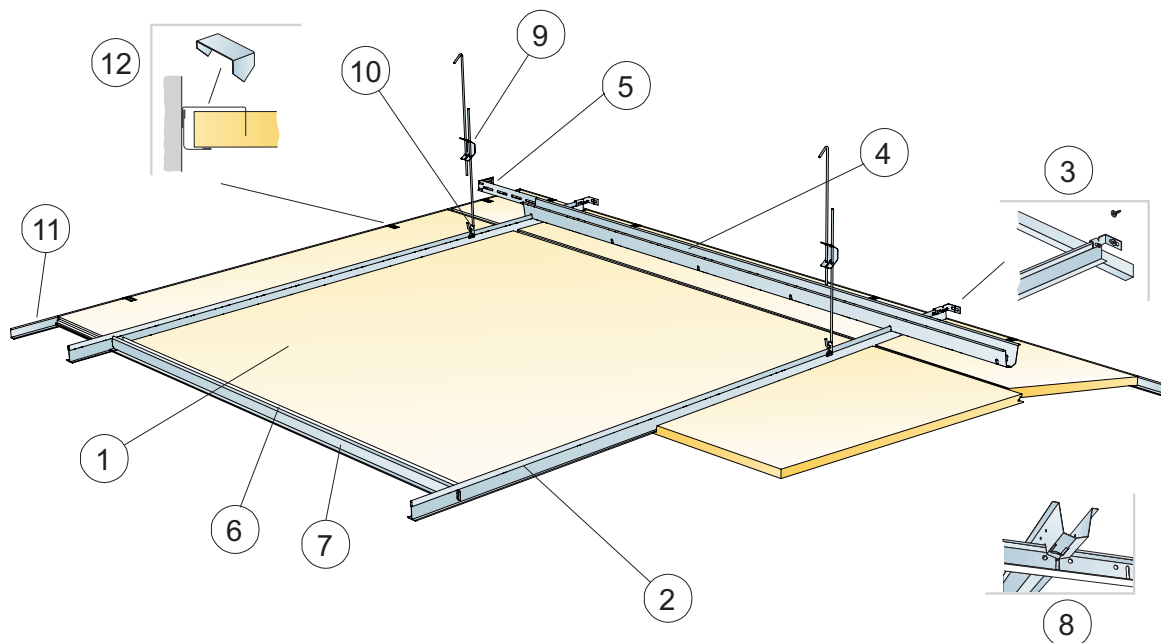


Connection between profiles with space bar winch

Size, mm	Max live load [N]	Min load bearing capacity [N]
600x600	50	160
1200x600	50	160
1600x600	50	160
1800x600	50	160
2000x600	50	160
2400x600	50	160

Live load/load bearing capacity

INSTALLATION DIAGRAM (M207) FOR ECOPHON FOCUS DS 1200X1200 MM



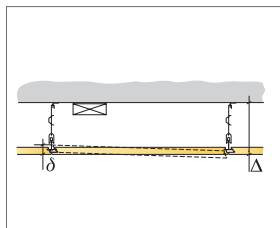
QUANTITY SPECIFICATION (EXCL. WASTAGE)

		Size, mm
		1200x1200
1	Focus Ds	0,7/m ²
2	Connect T24 Main runner HD, installed at 1200 mm centres (max. distance from wall 600 mm, can be extended up to 1200 mm if no live load between Main runner and wall).	0,9m/m ²
3	Connect Wall bracket for T-profiles	1/suspended row of Main runner
4	Connect Space bar, installed at 1500 mm centres (max. distance from wall 300 mm)	0,7m/m ²
5	Connect Wall bracket, L=700 mm, for Space bar	1/row of Space bar
6	Connect Edge stiffener	1,4/m ²
7	Connect T24 Cross tee, L=1200 mm	2/row of Main runner
8	Connect Space bar winch, installed one per joint Main runner/Space bar	0,7/m ²
9	Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m ²
10	Connect Hanger clip (not to be used in swimming hall environments)	0,7/m ²
11	Connect Angle trim 15/22, fixed at 300 mm centres	as required
12	Connect Perimeter tile clip	1/300-400mm on any cut edge

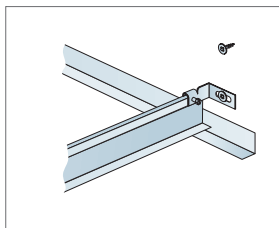
Δ Min. overall depth of system: 105 mm

δ Min. demounting depth: 50 mm

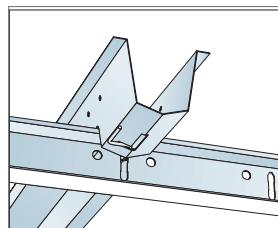
For luminaire integration in panels use Connect Bridging



See Quantity specification



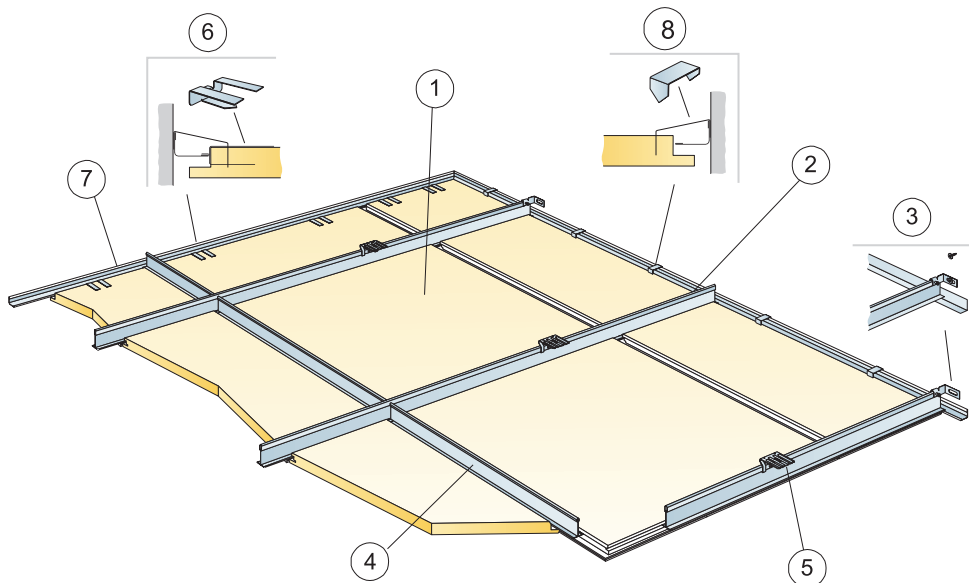
Secured Main runner at wall with Connect Wall bracket



Connection between profiles with space bar winch

Size, mm	Max live load [N]	Min load bearing capacity [N]
1200x1200	50	160

Live load/load bearing capacity

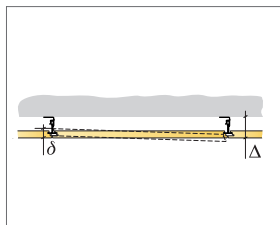


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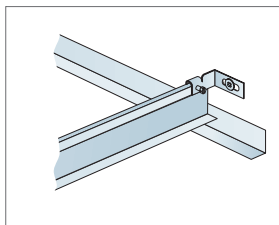
QUANTITY SPECIFICATION (EXCL. WASTAGE)

	Size, mm					
	600x600	1200x600	1600x600	1800x600	2000x600	2400x600
1 Focus Ds	2,8/m ²	1,4/m ²	1,05/m ²	0,95/m ²	0,85/m ²	0,7/m ²
2 Connect T24 Main runner HD, installed at 600 mm centres	1,7m/m ²	1,7m/m ²	1,7m/m ²	1,7m/m ²	1,7m/m ²	1,7m/m ²
3 Connect Wall bracket for T-profiles	1/suspended row of Main runner					
4 Connect T24 Cross Tee, l=600	2/row of Main runner					
5 Connect Direct bracket, installed at 1500 mm centres	1,1/m ²	1,1/m ²	1,1/m ²	1,1/m ²	1,1/m ²	1,1/m ²
6 Connect Support clip Dg20	1/300-400mm on any cut edge					
7 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required	as required	as required	as required	as required
8 Connect Perimeter tile clip can be used if sufficient space is available.	1pc/300-400 mm on every cut perimeter tile with only 1 supporting edge					
Δ Min. overall depth of system: 65 mm	-	-	-	-	-	-
δ Min. demounting depth: 30 mm	-	-	-	-	-	-

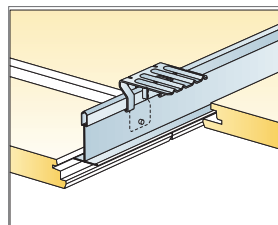
For luminaire integration in panels use Connect Bridging



See Quantity specification



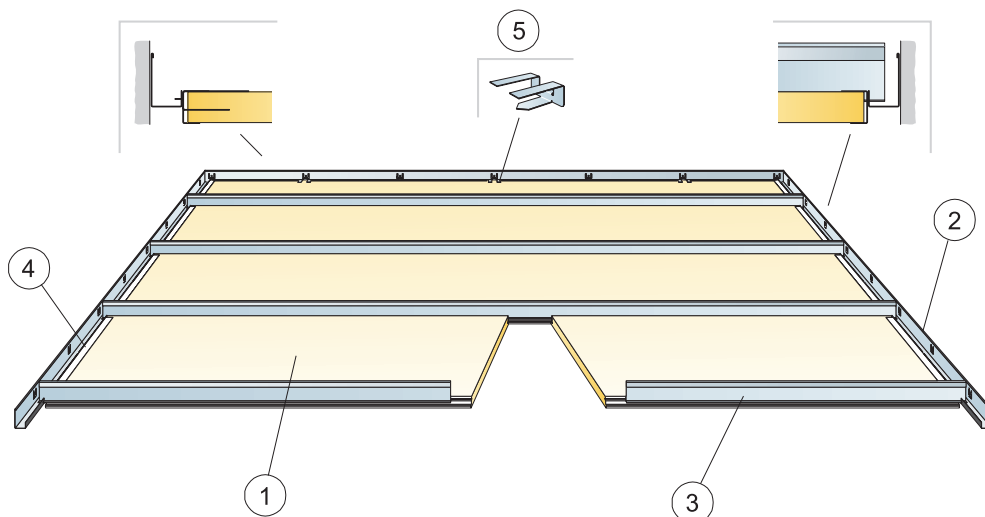
Secured Main runner at wall with Connect Wall bracket



Suspension with direct fix bracket

Size, mm	Max live load [N]	Min load bearing capacity [N]
600x600	50	160
1200x600	50	160
1600x600	50	160
1800x600	50	160
2000x600	50	160
2400x600	50	160

Live load/load bearing capacity



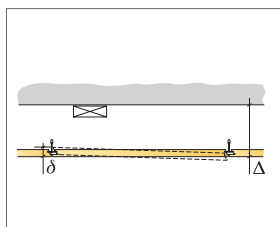
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QUANTITY SPECIFICATION (EXCL. WASTAGE)

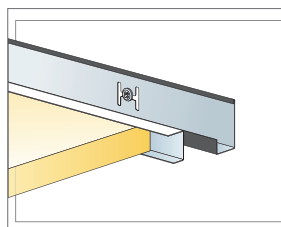
		Size, mm			
		1600x600	1800x600	2000x600	2400x600
1	Focus Ds XL	1,05/m ²	0,95/m ²	0,85/m ²	0,7/m ²
2	Connect Modular Wall trim	as required	as required	as required	as required
3	Connect T24 Corridor profile	1,05/m ²	0,95/m ²	0,85/m ²	0,7/m ²
4	Connect Cover trim Ds	2/tile plus end tiles			
5	Connect Support clip Dg 20	1 pc/300-400 mm on every cut perimeter tile with only 1 supporting edge			

Δ Min. overall depth of system: 55 mm

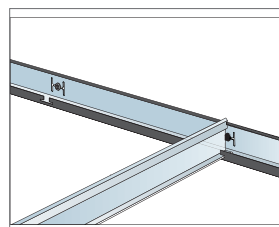
δ Min. demounting depth: 30 mm



See Quantity specification



Tile and Connect Cover trim Ds

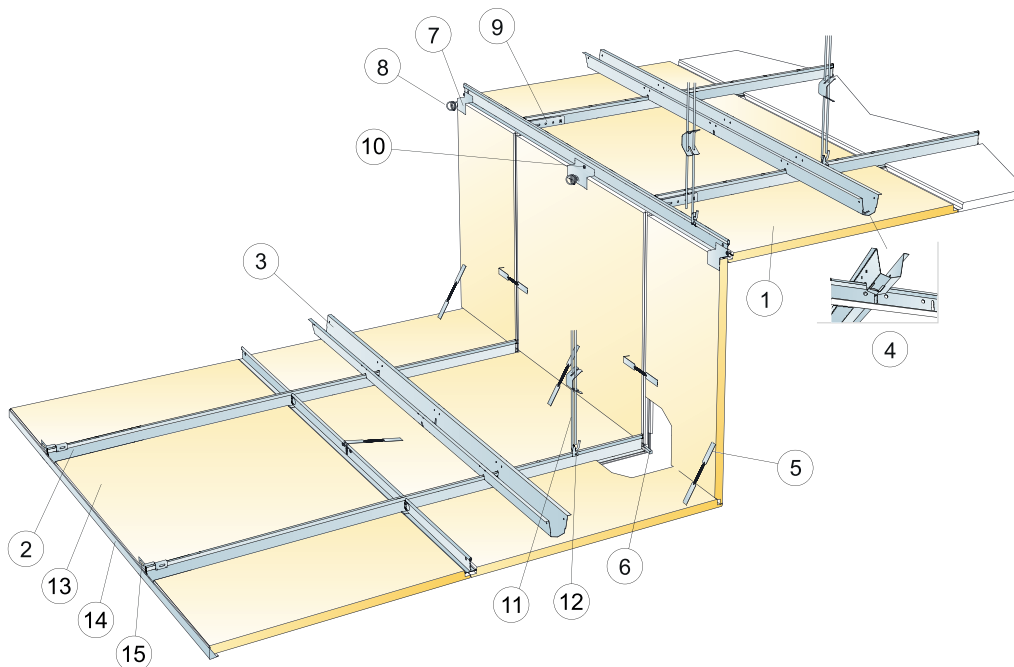


Corridor profile positioned by Modular wall trim

Size, mm	Max live load [N]	Min load bearing capacity [N]
1600x600	40	-
1800x600	20	-
2000x600	10	-
2400x600	0	-

Live load/load bearing capacity

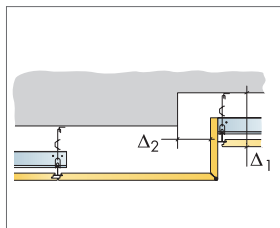
INSTALLATION DIAGRAM (M394) FOR ECOPHON FOCUS DS LEVEL CHANGE



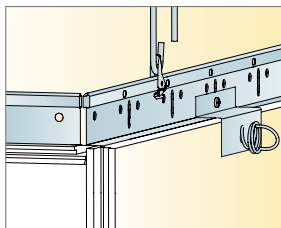
QUANTITY SPECIFICATION (EXCL. WASTAGE)

	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m ²	1,4/m ²
2 Connect T24 Main runner HD, installed at 600 mm centres	1,7m/m ²	1,7m/m ²
3 Connect Space bar, installed at 1500 mm centres (max. distance from Vertical tile 450 mm)	0,7m/m ²	0,7m/m ²
4 Connect Space bar winch, installed one per joint Main runner/Space bar	1,4/m ²	1,4/m ²
5 Connect Hook	3/panel	3/panel
6 Connect Distance Ds (included in Level change Ds kit)	1/panel	1/panel
7 Connect level clip Ds (included in Level change Ds kit)	1/panel	1/panel
8 Connect Spiral anchor	1/panel	1/panel
9 Connect L-coupling	1/row of Main runner HD	
10 Connect Installation screw BR	as required	as required
11 Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m ²	0,7/m ²
12 Connect Hanger clip (not to be used in swimming hall environments)	0,7/m ²	0,7/m ²
13 Focus Ds Perimeter tile L=300-600	as required	as required
14 Connect Wall bracket for T-profiles	1/suspended row of Main runner	
15 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required
Δ Min. overall depth of system: Δ1=165 mm and Δ2=80 mm from upper level		
δ Min. demounting depth: Individual ceiling tiles are non-demountable		

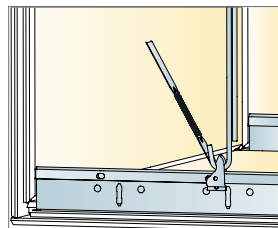
Dimension: c=600 mm, h<530 mm



See Quantity specification



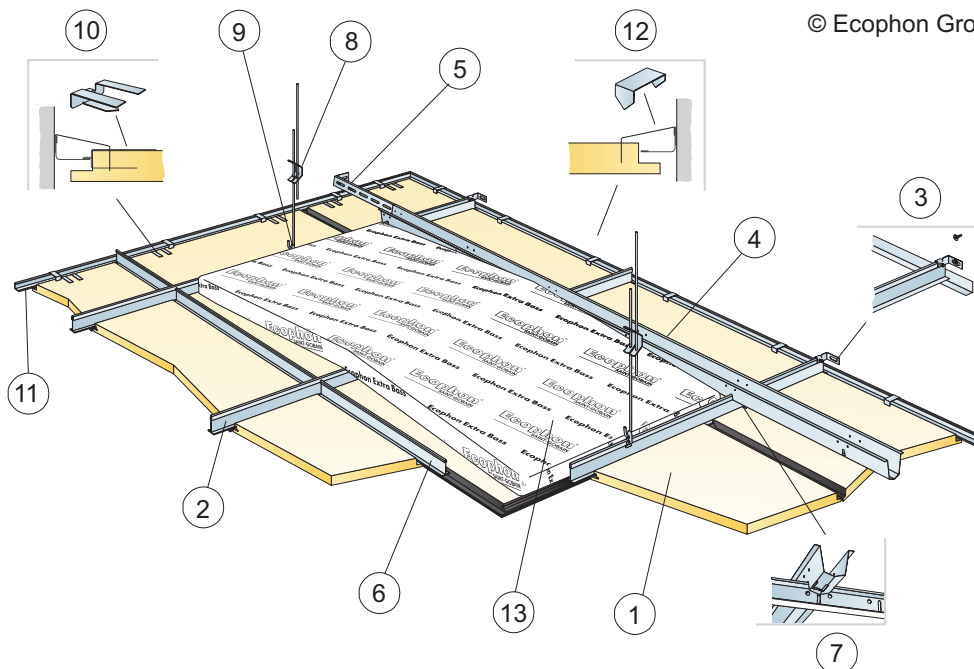
Distance between Focus Lp tiles



Lower level connection fixed with Hook

Size, mm	Max live load [N]	Min load bearing capacity [N]
600x600	0	160
1200x600	0	160

Live load/load bearing capacity

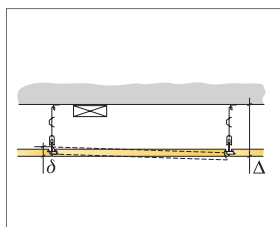


QUANTITY SPECIFICATION (EXCL. WASTAGE)

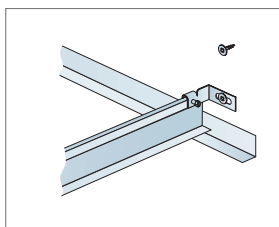
	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m ²	1,4/m ²
2 Connect T24 Main runner HD, installed at 600 mm centres	1,7m/m ²	1,7m/m ²
3 Connect Wall bracket for T-profiles	1/suspended row of Main runner	
4 Connect Space bar, installed at 1500 mm centres (max. distance from wall 300 mm)	0,7m/m ²	0,7m/m ²
5 Connect Wall bracket, L=700 mm, for Space bar	1/row of Space bar	
6 Connect T24 Cross tee, L=600 mm	2/row of Main runner HD	
7 Connect Space bar winch, installed one per joint Main runner/Space bar	1,4/m ²	1,4/m ²
8 Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m ²	0,7/m ²
9 Connect Hanger clip (not to be used in swimming hall environments)	0,7/m ²	0,7/m ²
10 Connect Support clip Dg20	1/300-400mm on any cut edge	
11 Connect Angle trim black, (fixed at 300 mm centres)	as required	as required
12 Connect Perimeter tile clip	1/300-400mm on any cut edge	
13 Extra Bass (1200x600x50 mm)	0,7/m ²	0,7/m ²

Δ Min. overall depth of system: 105 mm

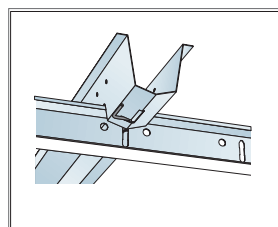
δ Min. demounting depth: 30 mm



See Quantity specification



Connection between profiles with split pin



Connection between profiles with space bar winch

Size, mm	Max live load [N]	Min load bearing capacity [N]
600x600	50	160
1200x600	50	160

Live load/load bearing capacity