

# ECOPHON FOCUS™ DS

Ecophon Focus™ Ds is ideal when looking for a modular acoustic ceiling with discreet edge design. It has a concealed grid and bevelled edges with a narrow groove between each tile. Easy to install with the possibility to integrate light fittings and ventilation. For applications with high demand on both acoustics and design, and where individual tiles must be easily demountable.

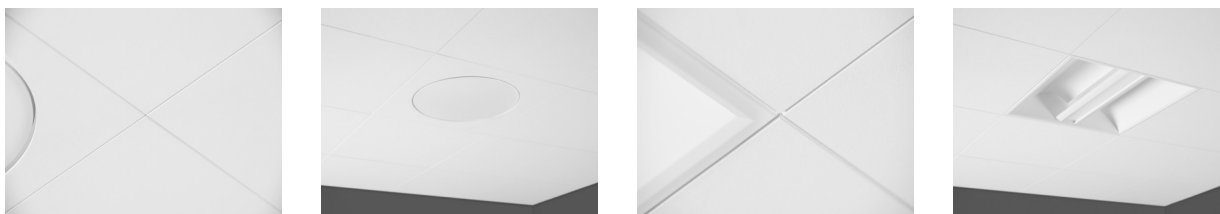


# Ecophon Focus™ Ds

## SYSTEM RANGE



Size, mm	XL 600x600	XL 1200x600	1200x1200	XL 1600x600	XL 1800x600	XL 2000x600	XL 2400x600
T24	•	•	•	•	•	•	•
Thickness	20	20	20	20	20	20	20
Inst. Diagr.	M581, M583, M584, M613, M614	M581, M583, M584, M613, M614	M582	M581, M238	M581, M238	M581, M238	M581, M238



## TYPE OF APPLICATION

- Healthcare
- Education
- Office
- Additional areas

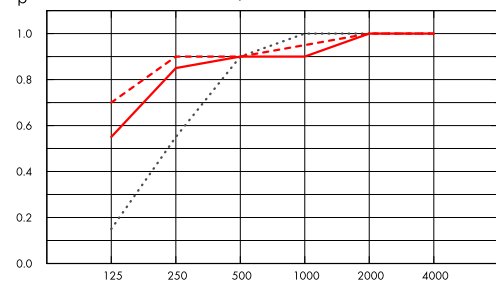


## ACOUSTIC

### 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.

$\alpha_p$ , Practical sound absorption coefficient



..... Focus Ds 20 mm, 65 mm o.d.s.

— Focus Ds 20 mm, 200 mm o.d.s.

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

o.d.s = overall depth of system

	THK mm	o.d.s. mm	$\alpha_p$ , Practical sound absorption coefficient						$\alpha_w$	Sound absorption class
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz		
-	20	65	0.15	0.55	0.90	1.00	1.00	1.00	0.85	B
-	20	200	0.55	0.85	0.90	0.90	1.00	1.00	0.95	A
+ Extra Bass	70	200	0.70	0.90	0.90	0.95	1.00	1.00	0.95	A

	THK mm	o.d.s. mm	NRC	SAA
-	20	65	0.85	0.86
-	20	200	0.90	0.93
+ Extra Bass	70	200	0.95	0.95

THK mm	AC(1.5) Articulation Class, ASTM E1111, ASTM E1110	D <sub>nfw</sub> Weighted normalized flanking level difference, ISO 10848-2	CAC dB Ceiling Attenuation Class, ASTM 1414, ASTM E413
20	180	24	23



## INDOOR AIR QUALITY

Certificate / Label	Akutex FT White Frost	
Eurofins Indoor Air Comfort®	IAC Gold	IAC
French VOC	A+	A+



## CRADLE TO CRADLE CERTIFIED®

This product is Cradle to Cradle Certified® at Bronze level (version 4.0).



## MATERIAL HEALTH

This product has received a C2C Certified Material Health Certificate™ at the Silver level (standard version 4.0). The C2C Certified Material Health Certificate™ is a verification of the health and safety of a product's composition using the Material Health requirements of the Cradle-to-Cradle Certified Product Standard.



## CARBON FOOTPRINT

Life-cycle stages A1 to C4 from EPD, in conformity with ISO 14025 / EN 15804

	kg CO <sub>2</sub> equiv/m <sup>2</sup>
Focus Ds (EN 15804+A2)	3,72



## CIRCULARITY

Minimum post-consumer recycled content	54%
Recyclability	Fully recyclable



## FIRE SAFETY

The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182.

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



## HUMIDITY RESISTANCE

Class C, relative humidity 95% and 30°C, according to EN 13964:2014



## VISUAL APPEARANCE

White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance. Gloss < 1.



## CLEANABILITY

Daily dusting and vacuum cleaning. Weekly wet wiping.



## 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.



## 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 m<sup>2</sup>). Ceilings with a large amount of integrations require careful planning, design and installation.



## PACKAGING INFORMATION

Information is indicative and subject to change.

	Edge	Panels / crt	m <sup>2</sup> / crt
600x600x20	Ds	20	7.20
1200x600x20	Ds	10	7.20
1200x1200x20	Ds	6	8.64
1600x600x20	Ds	6	5.76
1800x600x20	Ds	6	6.48
2000x600x20	Ds	6	7.20
2400x600x20	Ds	6	8.64



## SYSTEM WEIGHT

Weight information is indicative and subject to variation.

	kg/m <sup>2</sup>
Focus Ds	2
Focus Ds + Connect grid system	2,9



## MECHANICAL PROPERTIES

See table about Max live load and Min load bearing capacity and Functional demands, Mechanical properties at [www.ecophon.com](http://www.ecophon.com).

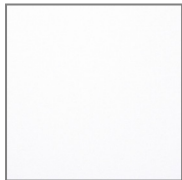


## CE

Ecophon ceiling systems are CE marked according to the European harmonized standard EN13964:2014. CE marked construction products are covered by a Declaration of Performance (DOP) which enables customers and users to easily compare performance of products available on the European market.

## COLOURS AND DESIGN

### Akutex™ FT



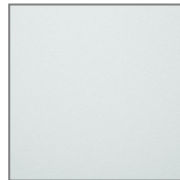
White Frost



Deep Sea



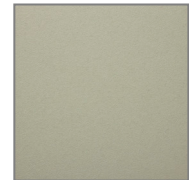
Sage Mist



Morning Rain



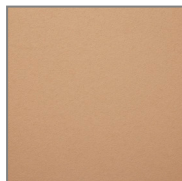
Scallop Shells



Spring Leaf



Pine Green



Wet Sand



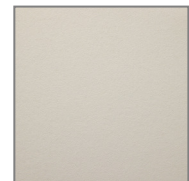
Silent Steam



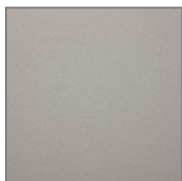
Dark Diamond



Cloudy Day



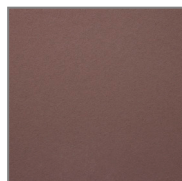
Volcanic Ash



Silver Stone



Silk Slate

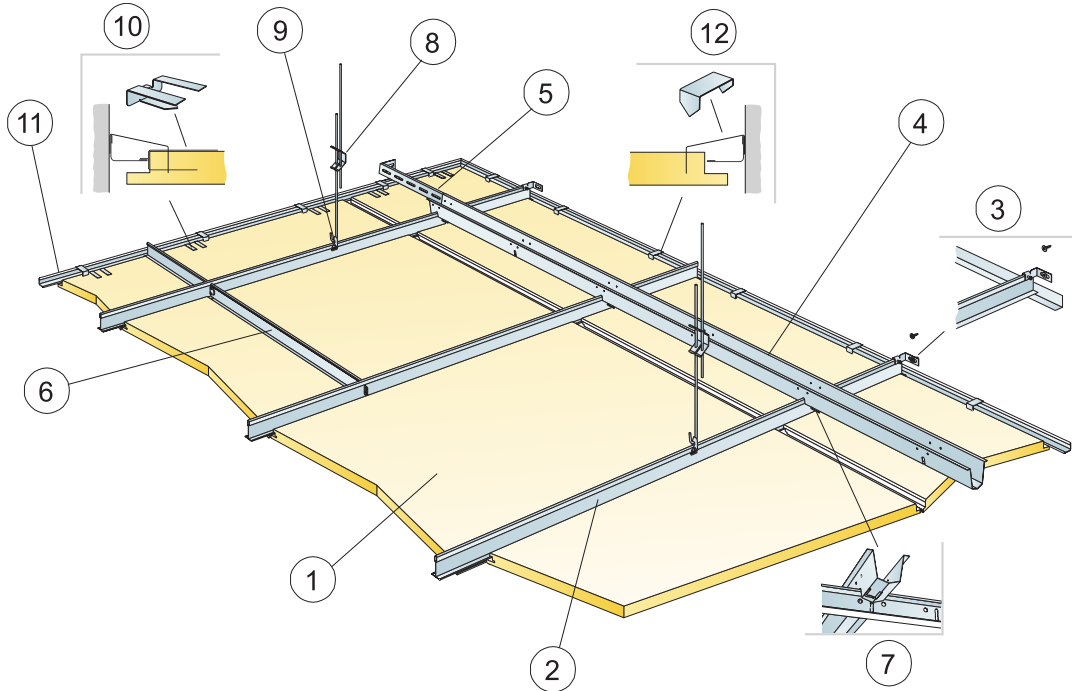


Dark Chestnut



Basalt Rock

Suspended with Space bar

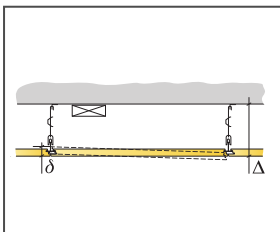


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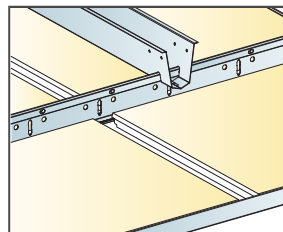
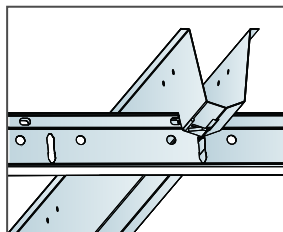
Installation diagram (M581) for Ecophon Focus Ds 600x600, 1200x600 mm and Ecophon Focus Ds XL. Suspended installation

Quantity specification (excl. wastage)

	Size, mm					
	600x600	1200x600	1600x600	1800x600	2000x600	2400x600
1 Focus Ds	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>	1,05/m <sup>2</sup>	0,95/m <sup>2</sup>	0,85/m <sup>2</sup>	0,7/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
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 <sup>2</sup>	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>
5 Connect Wall Bracket, L=700 mm, for Connect 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 Connect Main Runner/Connect Space Bar	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>
8 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
9 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	1,1/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
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: 120 mm						
δ Min. demounting depth: 30 mm						
For luminaire integration in panels use Connect Bridging	as required	as required	as required	as required	as required	as required



See Quantity Specification

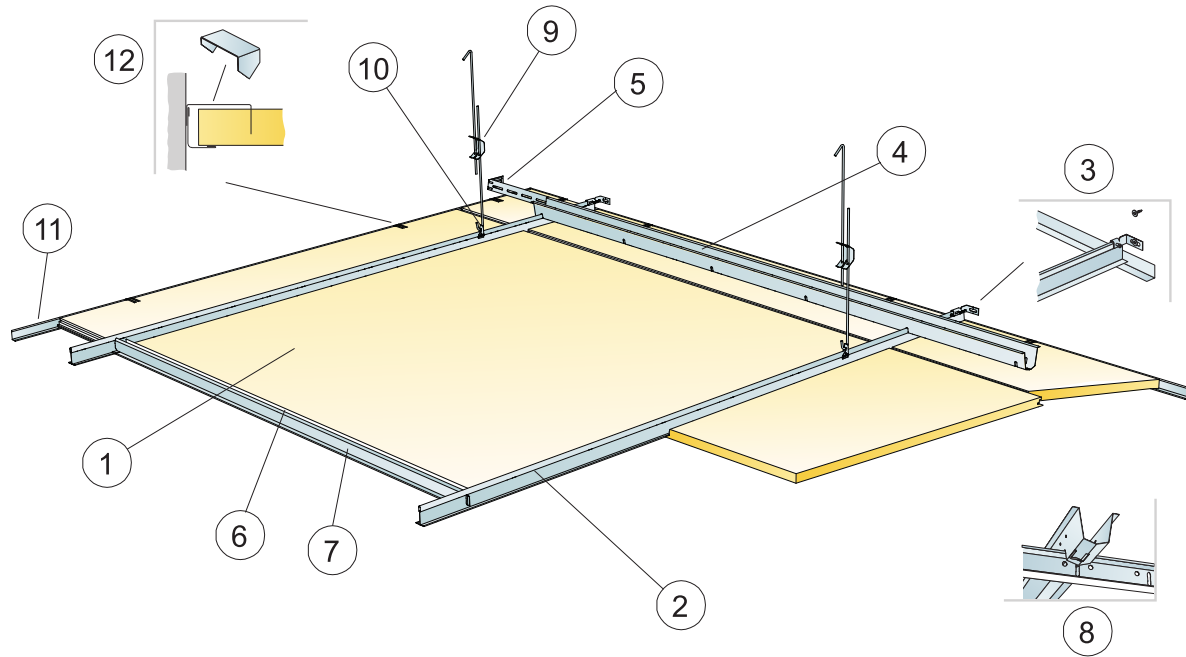


Installation with Main runner PL and space bar

Size, mm	Max live load (N)	Min load bearing capacity (N)
600x600x20	35	160
1200x600x20	35	160
1600x600x20	35	160
1800x600x20	35	160
2000x600x20	35	160
2400x600x20	35	160

Live load/load bearing capacity

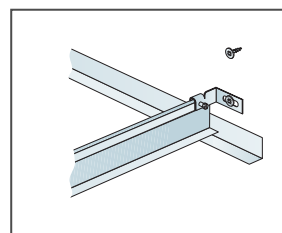
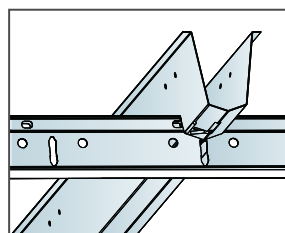
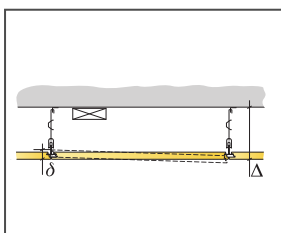
Suspended with Space bar, 1200x1200



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Installation diagram (M582) for Ecophon Focus Ds 1200x1200 mm. Suspended installation

Quantity specification (excl. wastage)

	Size, mm
	<b>1200x1200</b>
1 Focus Ds	0,7/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 1200 mm centres	0,9m/m <sup>2</sup>
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 <sup>2</sup>
5 Connect Wall Bracket, L=700 mm, for Connect Space Bar	1/row of Space bar
6 Connect Edge stiffener	1,4/m <sup>2</sup>
7 Connect T24 Cross tee, L=1200 mm	2/row of Main runner
8 Connect Space Bar Winch, installed one per joint Connect Main Runner/Connect Space Bar	0,8/m <sup>2</sup>
9 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>
10 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m <sup>2</sup>
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: 120 mm	
δ Min. demounting depth: 50 mm	
For luminaire integration in panels use Connect Bridging	

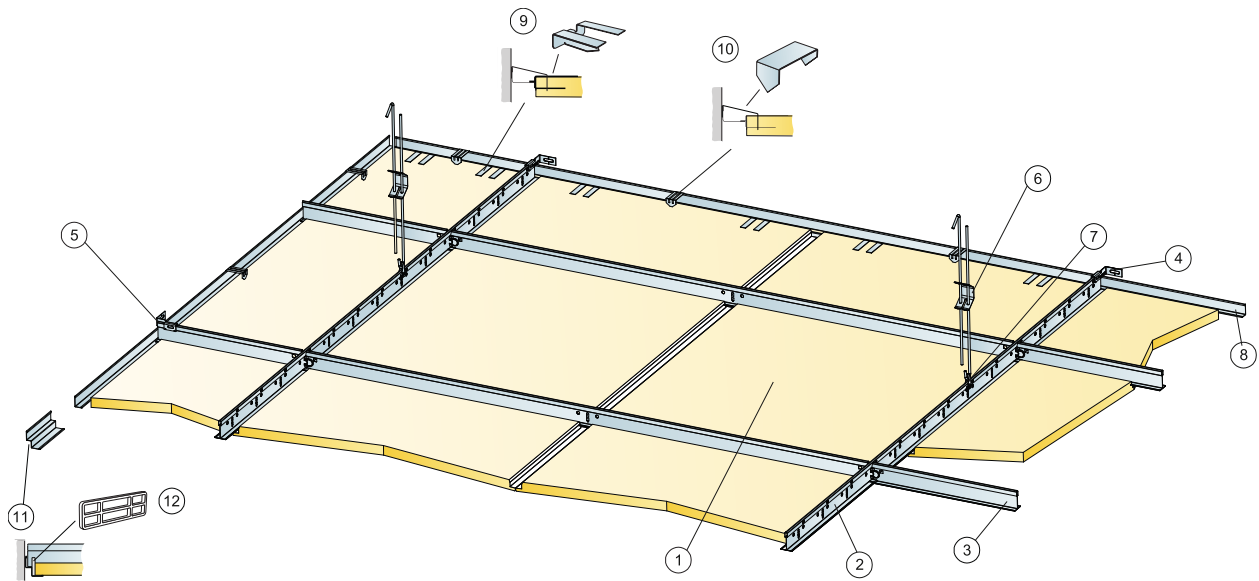


Secured Main runner at wall with Connect Wall bracket

Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x1200x20	50	160

Live load/load bearing capacity

Suspended, single layer system

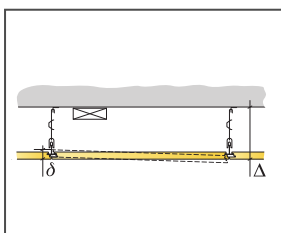


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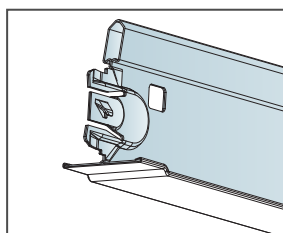
Installation diagram (M583) for Ecophon Focus Ds 600x600, 1200x600 mm. Suspended installation

Quantity specification (excl. wastage)

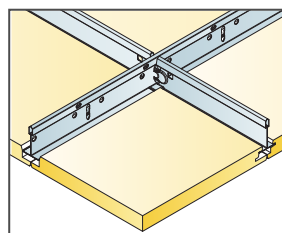
	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 1200 mm centres	0,9m/m <sup>2</sup>	0,9m/m <sup>2</sup>
3 Connect T24 Cross Tee PL, L=1200 mm, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
4 Connect Wall Bracket, fixed 1200mm centres for Main runner	2/suspended row of Main runner	
5 Connect Wall Bracket, fixed 1200mm centres for Cross tee	1/row of cross tee	
6 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
7 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
8 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required
9 Connect Support clip DG20	1pc/300-400 mm on every cut perimeter tile with only 1 supporting edge	
10 Connect Perimeter tile clip	1/perimeter tile	
11 Connect Shadow-line trim, fixed at 300 mm centres	as required	as required
12 Connect Wall spacer 5	1on the long side of every cut perimeter tile	
Δ Min. overall depth of system: 120 mm		
δ Min. demounting depth: 30 mm		
For luminaire integration in panels use Connect Bridging	as required	as required



See Quantity Specification



Cross tee PL

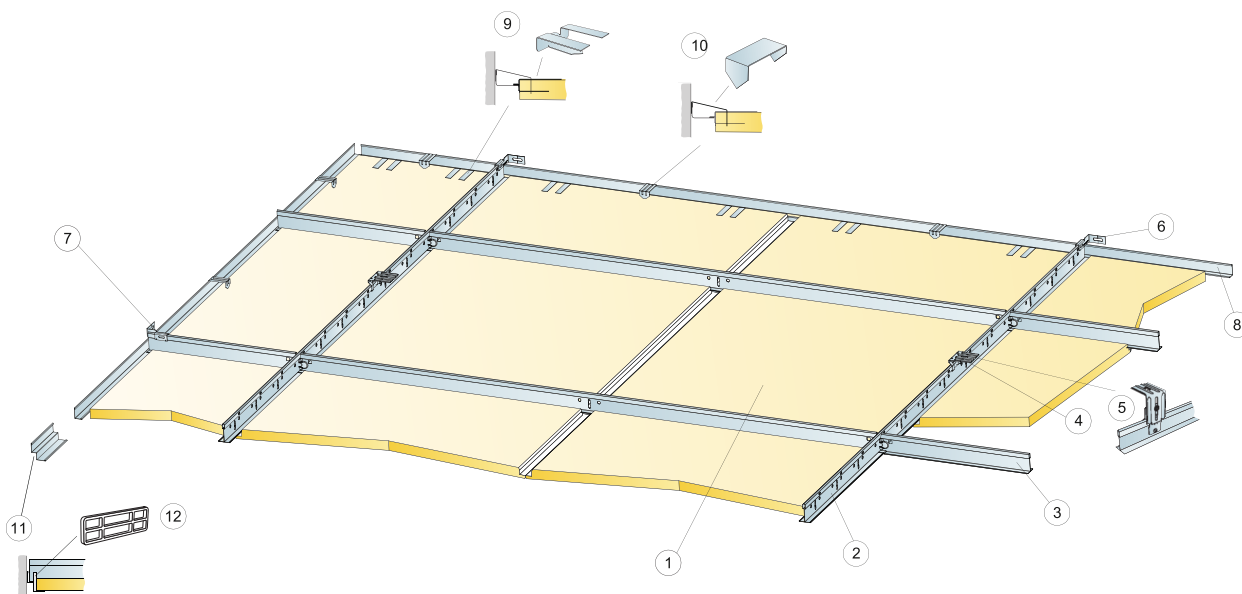


Installation with Main runner PL and Cross tee PL

Size, mm	Max live load (N)	Min load bearing capacity (N)
600x600x20	50	160
1200x600x20	50	160

Live load/load bearing capacity

Direct, single layer system

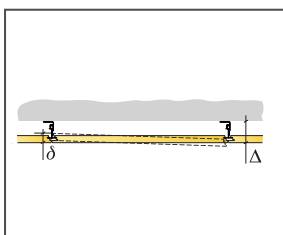


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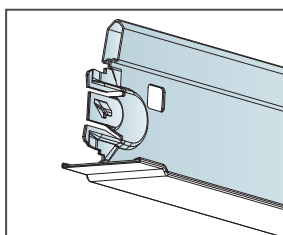
Installation diagram (M584) for Ecophon Focus Ds 600x600, 1200x600 mm. Direct installation

Quantity specification (excl. wastage)

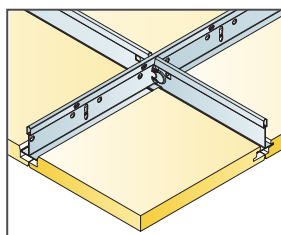
	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 1200 mm centres	0,9m/m <sup>2</sup>	0,9m/m <sup>2</sup>
3 Connect T24 Cross Tee PL, L=1200 mm, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
4 Connect Direct bracket, installed at 1200 mm centres	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
5 Alt. Connect Adjust direct bracket, installed at 1200 mm centres	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
6 Connect Wall Bracket, fixed 1200mm centres for Main runner	2/suspended row of Main runner	
7 Connect Wall Bracket, fixed 1200mm centres for Cross tee	1/row of cross tee	
8 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required
9 Connect Support clip DG20	1pc/300-400 mm on every cut perimeter tile with only 1 supporting edge	
10 Connect Perimeter tile clip	1/perimeter tile	
11 Connect Shadow-line trim, fixed at 300 mm centres	as required	as required
12 Connect Wall spacer 5	1on the long side of every cut perimeter tile	
Δ Min. overall depth of system: 65 mm		
δ Min. demounting depth: 30 mm		
For luminaire integration in panels use Connect Bridging	as required	as required



See Quantity Specification



Cross tee PL

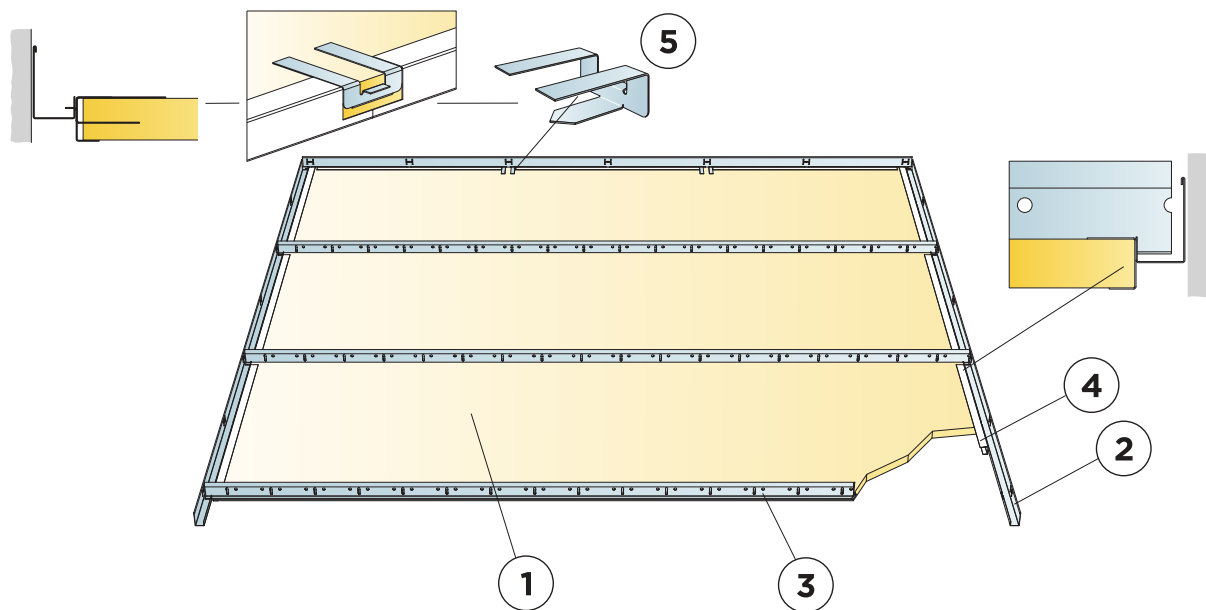


Installation with Main runner PL and Cross tee PL

Size, mm	Max live load (N)	Min load bearing capacity (N)
600x600x20	50	160
1200x600x20	50	160

Live load/load bearing capacity

Corridor installation

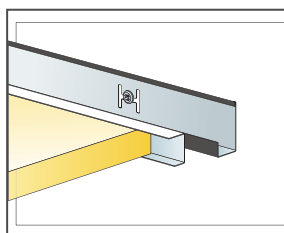
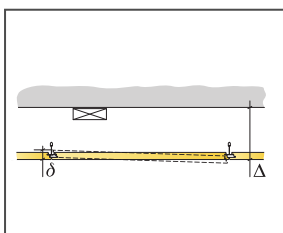


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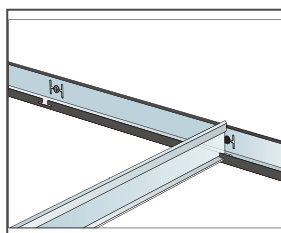
Installation diagram (M238) for Ecophon Focus Ds XL in corridors

Quantity specification (excl. wastage)

	Size, mm			
	1600x600	1800x600	2000x600	2400x600
1 Focus Ds XL	1,05/m <sup>2</sup>	0,95/m <sup>2</sup>	0,85/m <sup>2</sup>	0,7/m <sup>2</sup>
2 Connect Modular Wall trim	as required	as required	as required	as required
3 Connect T24 Corridor profile	1,05/m <sup>2</sup>	0,95/m <sup>2</sup>	0,85/m <sup>2</sup>	0,7/m <sup>2</sup>
4 Connect Cover trim Ds	2/tile plus end tiles			
5 Connect Support clip Dg 20 0547	1pc/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				



Tile and Connect Cover trim Ds

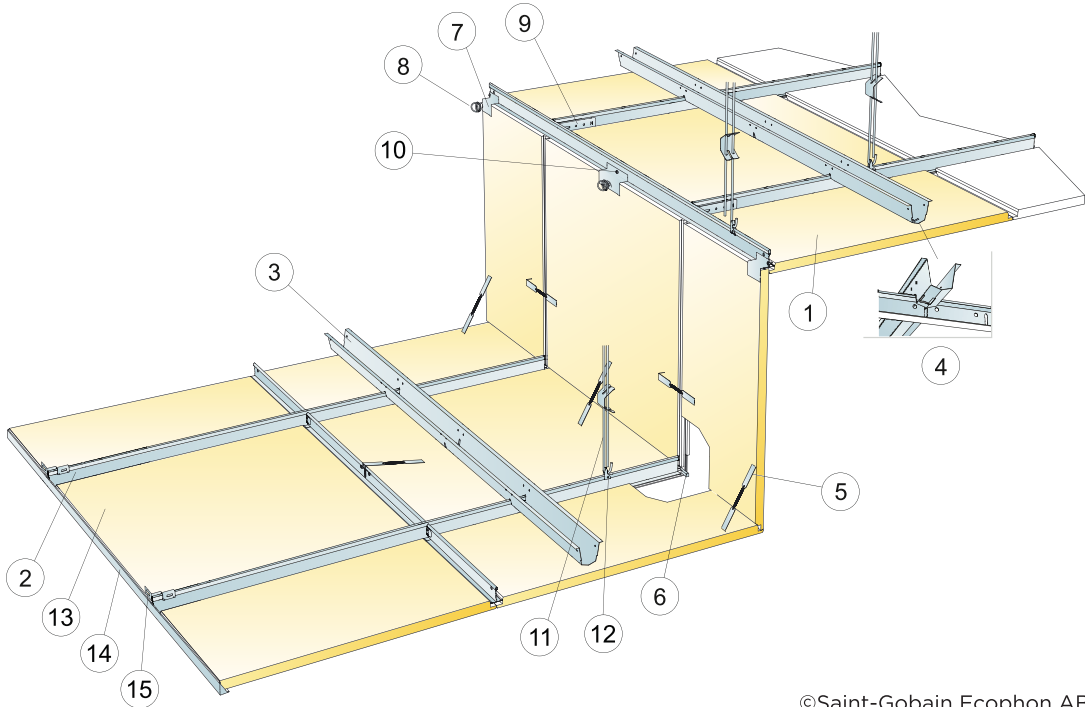


Corridor profile positioned by Modular wall trim

Size, mm	Max live load (N)	Min load bearing capacity (N)
1600x600x20	40	-
1800x600x20	20	-
2000x600x20	10	-
2400x600x20	0	-

Live load/load bearing capacity

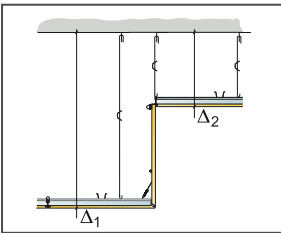
90 degree level change



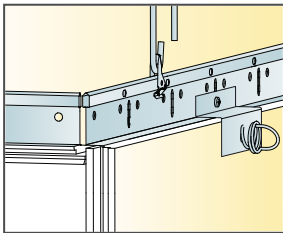
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Installation diagram (M613) for Ecophon Focus Ds Level change. Suspended installation

Quantity specification (excl. wastage)

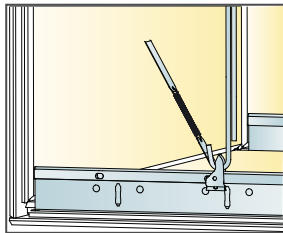
	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
3 Connect Space bar, installed at 1500 mm centres (max. distance from Vertical tile 450 mm)	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>
4 Connect Space Bar Winch, installed one per joint Connect Main Runner/Connect Space Bar	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>
5 Connect Hook	3/panel	3/panel
6 Connect Level Clip 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	
10 Connect Installation screw BR (2000 pcs)	as required	as required
11 Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
12 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
13 Focus Ds Perimeter tile L=300-600	as required	as required
14 Connect Angle trim 15/22, fixed at 300 mm centres	as required	as required
15 Connect Wall Bracket for T-profiles	1/suspended row of Main runner	
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



Upper level connection to Main runner PL

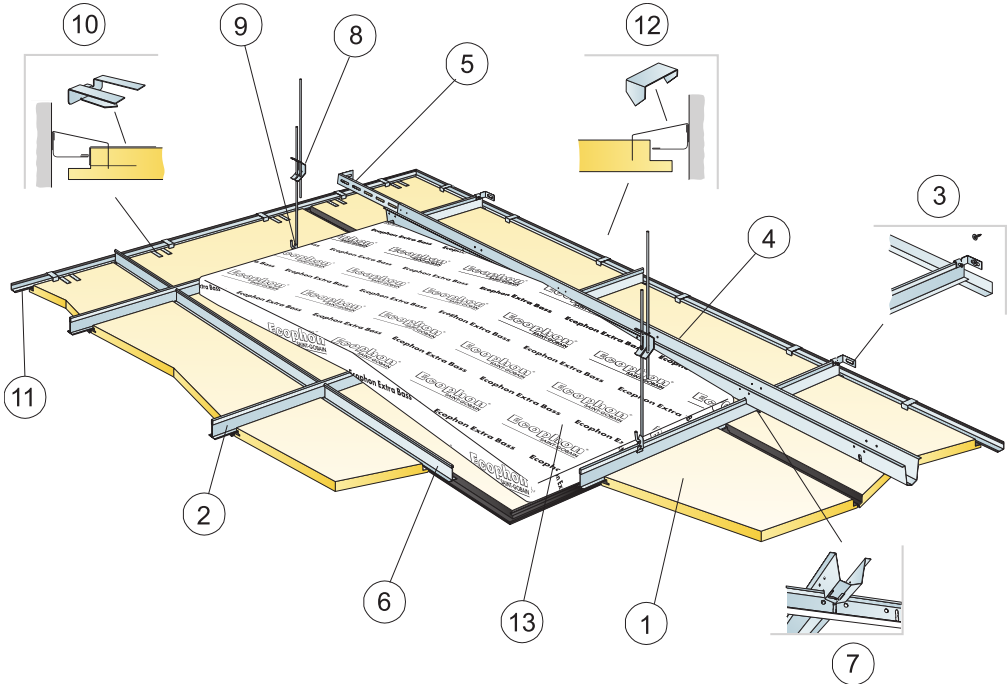


Lower level connection fixed with Hook

Size, mm	Max live load (N)	Min load bearing capacity (N)
600x600x20	0	160
1200x600x20	0	160

Live load/load bearing capacity

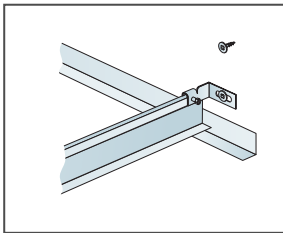
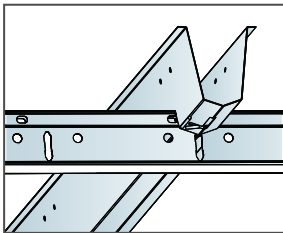
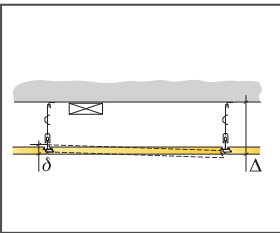
Suspended ceiling with Extra Bass



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 Installation diagram (M614) for Ecophon Focus Ds + Extra Bass. Suspended installation

Quantity specification (excl. wastage)

	Size, mm	
	600x600	1200x600
1 Focus Ds	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>
2 Connect T24 Main Runner PL, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
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 <sup>2</sup>	0,7m/m <sup>2</sup>
5 Connect Wall Bracket, L=700 mm, for Connect 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 Connect Main Runner/Connect Space Bar	1,6/m <sup>2</sup>	1,6/m <sup>2</sup>
8 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
9 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
10 Connect Support clip DG20	1/300-400mm on any cut edge	
11 Connect Angle trim, 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 <sup>2</sup>	0,7/m <sup>2</sup>
Δ Min. overall depth of system: 120 mm		
δ Min. demounting depth: 30 mm		



Connection between profiles with split pin

Size, mm	Max live load (N)	Min load bearing capacity (N)
600x600x20	25	160
1200x600x20	25	160

Live load/load bearing capacity