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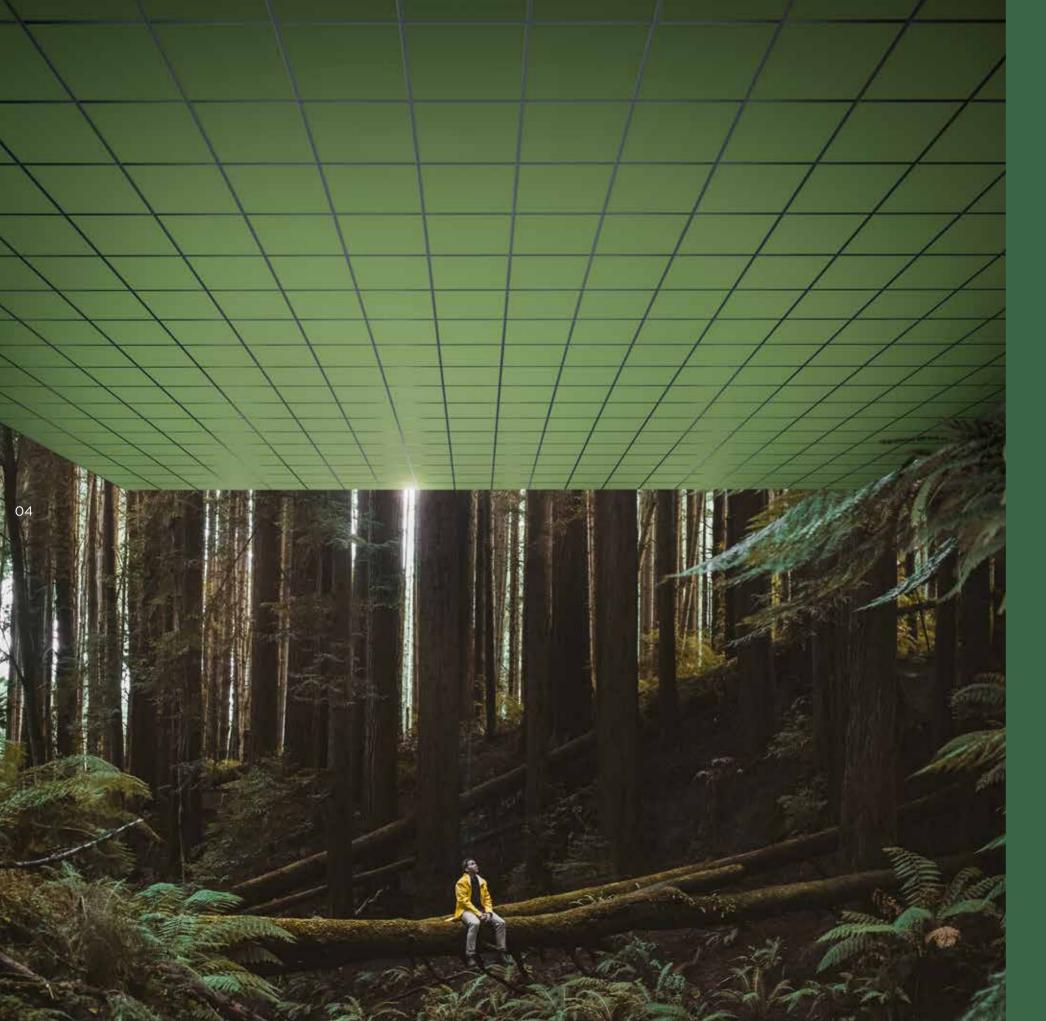
### **30 SYSTEM PROPERTIES**

Acoustics, technical properties and installation diagrams

This publication shows products from Ecophon product range and those of other suppliers. The specifications are intended to provide a general guide to which products are most suitable for the preferences indicated. Technical data is based on results obtained under typical testing conditions or long experience in normal conditions. The specified functions and properties for products and systems are only valid on condition that instructions, installation diagrams, installation guides, maintenance instructions and other stated conditions and recommendations have been taken into consideration and followed. Deviation from this, such as changing specific components or products, will mean that Ecophon cannot be held responsible for the function, consequences and properties of the products. All descriptions, illustrations and shall not form part of any contract. Ecophon reserves the right to change products without prior notice. We disclaim any liability for misprints. For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

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Saint-Gobain Ecophon contributes to good indoor environments for working, healing and learning. We do this by developing, manufacturing and delivering acoustic products and systems designed around the natural evolution of human hearing - replicating the outdoor sound experience indoors, because that's just better for people.

Having a sound effect on people, in every way we can, is what we do proudly. That promise makes every one of us a passionate advocate for the importance of room acoustics to people's wellbeing - whatever the space, activity or need.

A SOUND EFFECT ON PEOPLE

# **GOOD ACOUSTICS** MATTER EVERYWHERE

The importance of acoustics is underappreciated. Sound impacts us in daily life, and the scientific support for improving our indoor sound environments is welldocumented.

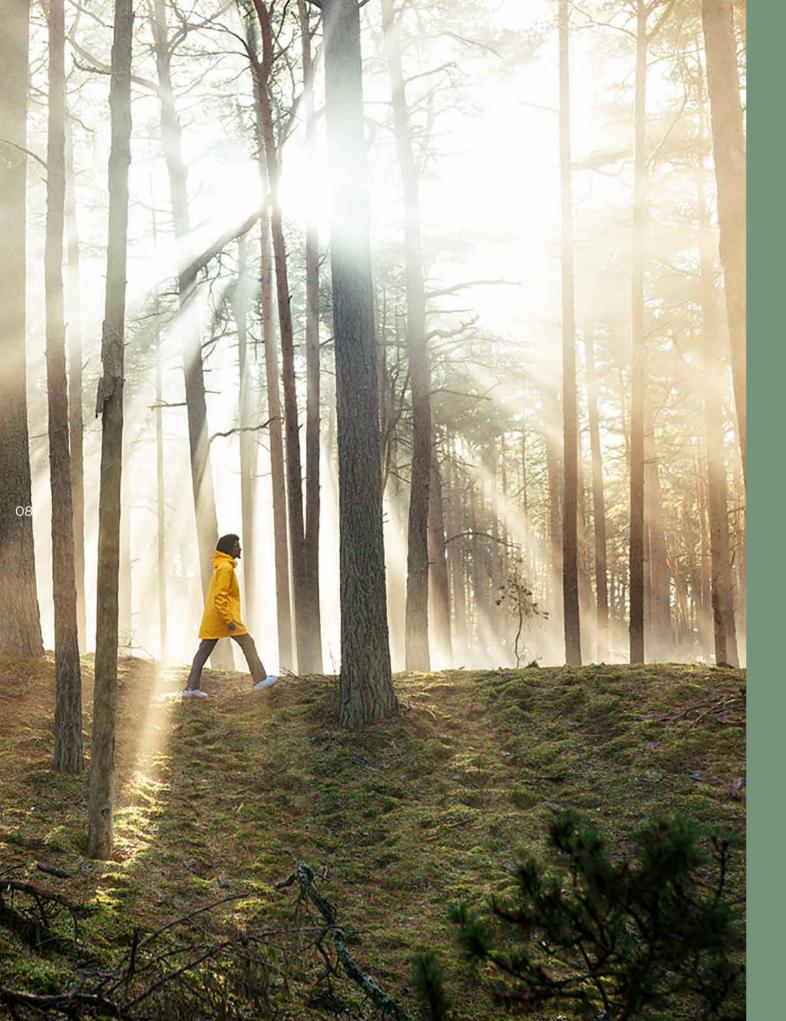
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And what exactly is an ideal indoor sound environment for people? One based on how we experience sound outside. The human auditory sense is naturally adapted to an outdoor environment where there is not any sound reflections from ceilings and walls.

That's why most of what we do at Ecophon is about replicating the acoustic qualities found in nature for indoor environments. We want to optimise indoor spaces to our natural way of hearing, so that speech and sound is easy to hear and understand, when needed, improving performance and wellbeing.

Usually that starts with the ceiling. A wall-to-wall acoustic ceiling is the easiest way to get a large sound-absorbing surface area into a space, and is usually the best way to reduce sound strength, shorten reverberation times, and increase speech clarity and overall hearing comfort.





# TOWARDS NET-ZERO ACOUSTICS

movement to protect people and the planet that requires honest commitment and genuine care. That's why Ecophon is building on better materials, transparency, and principles, to name just a few.

We actively support an industry-wide drive to standardised, easy-access Environmental Product Declarations for individual products, rather than product families. Their inclusion of full lifecycle data, from raw material sourcing to end of life, rather than only the favourable stages. A move away from self-declared labels, or non-independently verified sustainability claims. And for any promises of net zero carbon emission targets to be validated by the Science-Based Targets initiative.

If we're going to build a sustainable future, it has to start with an honest approach, high ambition and the best of intentions - to build on better together.



# IT STARTS WITH FABRIC

Ecophon Clipso<sup>™</sup> is a technical knitted fabric, that allows you to dress walls and ceilings with full covering. To create a seamless look, the fabric is stretched by the discrete profile, fixed to the room's perimeter. The visible surface is a knitted textile that is coated to provide a highly resistant fabric.

### ACOUSTIC ABSORPTION

Absorption up to class A

### **COLOURS AND PRINTS**

Available in 24 colours, customised prints and several different widths to match your specific need.

### FABRIC

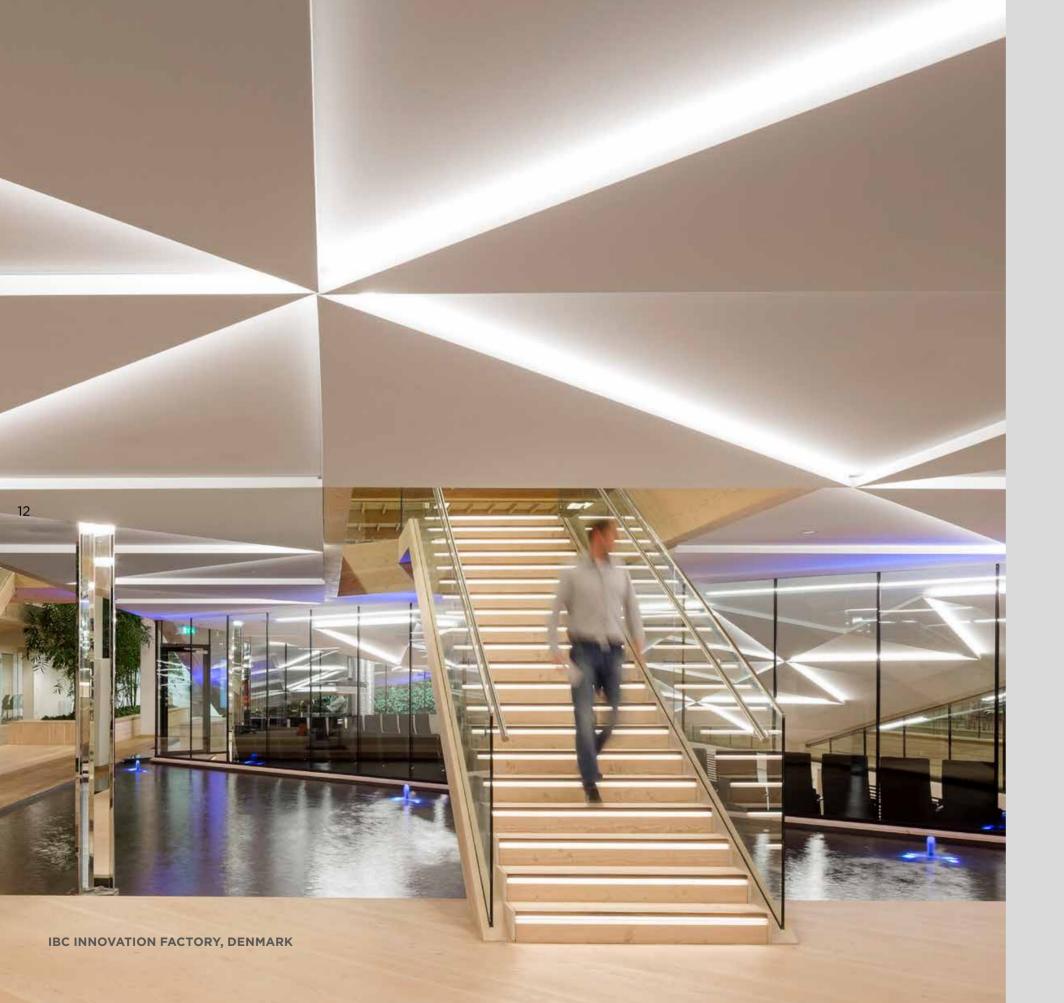
Coated premium technical fabric



Available in



### **DIFFERENT COLOURS**



# WHY



### WIDE COVERS UP TO 5.10 M

Clipso fabric is stretched without heating. Installation is quick and clean. This system reduces dust, odours, disruption and energy consumption, while also reducing rearrangement issues, making life easier.

### **INNOVATIVE ABS, ALU AND PVC PROFILES**

With our Clipso, profiles, your ceiling will be compatible with a range of different shapes combinations. Clipso profiles are easy to install and cut. They look light and discreet after the installation is finished.

### A PERFECT FINISH FOR IMPECCABLE RESULTS

Clipso profiles are designed to be discreet and create a seamless look. Our system will provide you with highquality walls and stretch ceilings.



Whole walls can be covered using just one holder. Looking to cover a larger surface? No problem - just use double-joint installation. Create a stretch ceiling with two covers, with minimal visible connections.

### COLD AND DRY INSTALLATION

### CLIPSO PRODUCT RANGE

Clipso offers a wide choice of premium fabrics. They are infinitely customisable, offering the freedom to be unique and transform walls and ceilings into works of art.

### COLOURS ON DEMAND

Clipso can give you the colour of your choice. Choose your Pantone colour reference. Choose between standard or acoustic fabric.

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### WALL HANGING UNITS AND PARTITIONS

Combine technology and design with lightweight, robust and durable aluminum shapes and structures. Beautiful aerial forms can be created, such as hanging frames, acoustic baffles, wall frames, paintings and more.

### PRINTED SOLUTION

We can print the visuals of your choice. Our image gallery and collection guarantees you'll get spectacular results.



### SO ACOUSTIC

### FABRIC AND ACOUSTICS IN ONE

The So Acoustic covering is a major technical achievement that combines acoustic performance with a stretched fabric.

So Acoustic 495 D/AC is an open structure knitted textile fabric with a uniform coating. So Acoustic 495 D/AC is used for rooms that need acoustic improvement. It has a wide range of applications and is suitable for both residential and non-residential areas.

- Absorption up to class A, installed with a 10, 30 or 50 mm absorber
- Up to 5.10 m width

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• Cold and dry installation



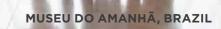
### SO CLASSIC

### FOR THE AESTHETIC AND THE TEXTURE

The So Classic covering works beautifully with any interior and is quick and easy to install. A timeless essential with neutral elegance.

So Classic 705 S is a textile fabric with a uniform coating and a timeless, neutral elegance. So Classic 705 S has a wide range of applications and is suitable for both residential and non-residential areas.

- Light weight fabric installed without absorber
- Up to 5.10 m width
- Cold and dry installation with a neutral finish





# SO ACOUSTIC ANTIBACTERIAL

### ACOUSTIC AND ANTIBACTERIAL TEXTILE

Ecophon Clipso™ So Acoustic Antibacterial is a micro perforated knit fabric with a uniform coating, that can be combined with an acoustic absorbent to reduce noise levels.

With its Sanitized<sup>®</sup> antimicrobial protection, Clipso So Acoustic Antibacterial is perfectly suited for healthcare premises and other areas with antibacterial needs, both for ceilings and walls.

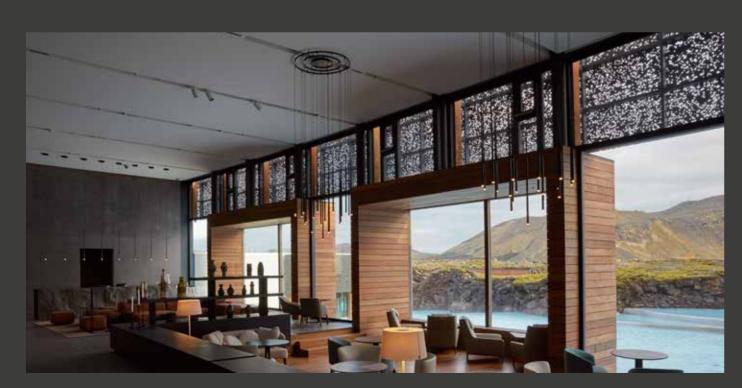
- Quick and dust free installation of wall and ceiling solution
- Up to absorption class A
- Sanitized<sup>®</sup> antimicrobial protection



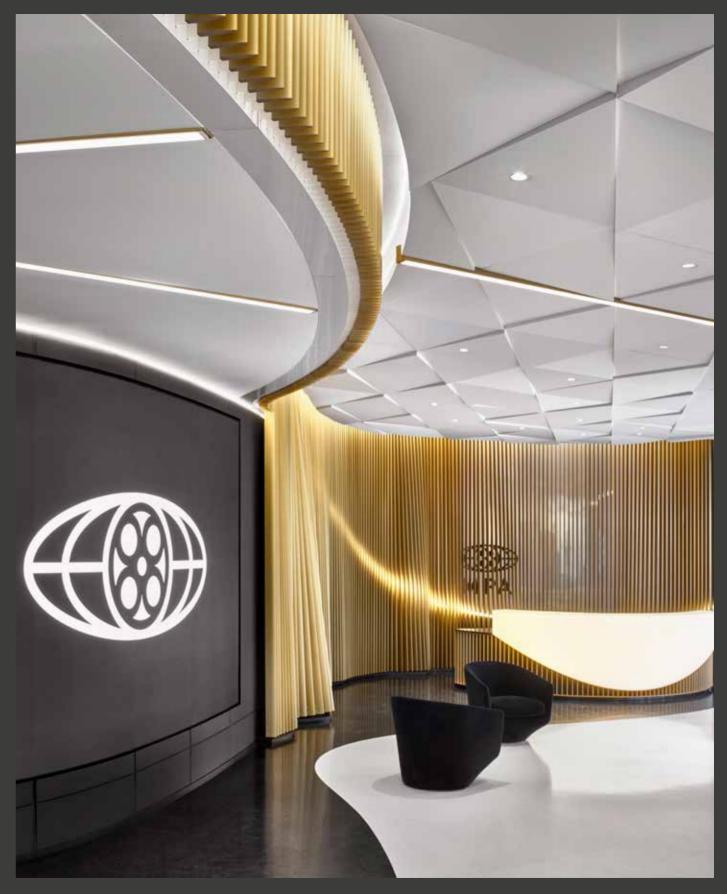


CORÉE DU SUD, KOREA

20



THE BLUE LAGUNE, ICELAND



MOTION PICTURE ASSOCIATION (MPA), UNITED STATES





ORIGINE OFFICE BUILDING, FRANCE Customised printed fabric.

SKYMAKERS, QATAR Customised printed fabric. © Maxime Ardilouze



### AMERICAN GEOPHYSICAL UNION, UNITED STATES



### STRAIGHT

### EDGE

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- Available on islands, baffles, wall hanging units, totems and partitions
- Aluminum frame available in white, black or anodized aluminum
  - Height from 40 mm to 100 mm
  - The aluminum edge can be visible or covered by the fabric

### ARAWN

### EDGE - THE ELEGANT DESIGN

- Available on islands and wall hanging units
- Bevelled edges and covers by the fabric
- White, colours and print available
- Height: 39 mm
- Fabric with 2 layers of 10mm acoustic absorbent LA10



### CLIPSO COLOURS AND SURFACES

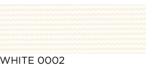
Ecophon Clipso<sup>™</sup> offers a large choice of premium fabrics. They are infinitely customisable, and offer the freedom to be unique and turn walls and ceilings into works of art.

### SO ACOUSTIC

Fabric and acoustics in one (495 AC)

WAX 4004	CITRUS 4005	CHALKY WHITE 4011	CLASSIC WHITE 0002	WHITE 0003
WAX 4004		CHALKY WHITE 4011	CLASSIC WHITE 0002	WHITE 0003
NUDE 4012	PURPLE ASH 4022	STONE 4025	<b>SO CLASSIC</b> For the aesthetic and the t	exture (705 S)
BLUEBERRY 4028	SEAFOAM 4031	SEA GRAY 4032	OPTIC WHITE 0001	CLASSIC WHITE
COBALT BLUE 4034	INDIGO 4035	PEBBLE GRAY 4040	SO ACOUSTIC ANTIBAC Acoustic and antibacterial	
COBALI BLOL 4034		FEBBLE ORAT 4040		
PEPPER GRAY 4041	CEMENT GRAY 4051	ASH 4052	WHITE 0003	
ANTHRACITE 4054	CHESTNUT 4062	SIENNA 4064		
ANTIKACIL 4034		SILINIA 4004		
CLAY GREEN 4071	PINE GREEN 072			





SO ACOUSTIC

Fabric and acoustics in one (495 D)



BLACK 9999



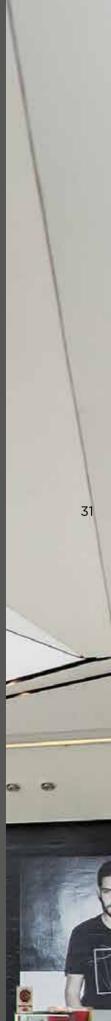
# **SYSTEM** PROPERTIES



## ACOUSTICS, TECHNICAL PROPERTIES AND INSTALLATION DIAGRAMS

- 32 Clipso So Acoustic 35 Clipso So Classic

37 Clipso So Acoustic Antibacterial



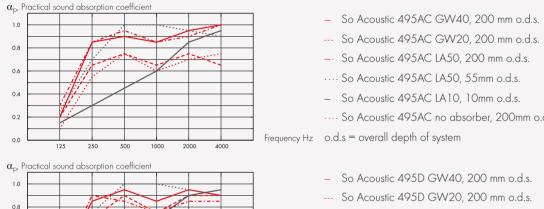


# Ecophon Clipso<sup>™</sup> So Acoustic

Acoustic: Clipso is most often installed with an absorber behind. In information given below GW40 stands for Glass Wool 40 mm thick. LA10 is a PET absorber thickness 10 mm, etc.

#### 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.



0.6 0.4 0.2

1000

2000

4000

500

250

- ·· So Acoustic 495AC no absorber, 200mm o.d.s.
- So Acoustic 495D LA50, 155mm o.d.s.
- ···· So Acoustic 495D LA50, 55mm o.d.s.
- So Acoustic 495D LA10, 10mm o.d.s.
- ·· So Acoustic 495D no absorber, 200mm o.d.s.

Frequency Hz o.d.s = overall depth of system

	ТНК	o.d.s. mm		α <sub>p</sub> , Pro	actical sound	d absorption a	coefficient		α"	Sound absorption class
	mm	0.0.5. 11111	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	u, <sub>₩</sub>	
495AC GW40	40	200	0.20	0.85	0.90	0.85	0.95	1.00	0.90	A
495AC GW20	20	200	0.20	0.65	0.75	0.65	0.75	0.65	0.75	С
495AC LA50	50	200	0.30	0.85	0.95	0.85	0.90	1.00	0.90	А
495AC LA50	50	55	0.25	0.70	1.00	1.00	0.95	0.90	0.95	A
495AC LA10	10	10	0.15	0.30	0.45	0.60	0.85	0.95	0.50	D
495AC	0	200	0.10	0.55	0.75	0.60	0.70	0.75	0.70	С
495D GW40	40	200	0.30	0.85	0.95	0.85	0.95	0.90	0.95	A
495D GW20	20	200	0.20	0.70	0.90	0.75	0.90	0.90	0.85	В
495D	50	200	0.30	0.90	0.85	0.75	0.85	0.85	0.85	В
495D LA50	50	55	0.25	0.75	1.00	1.00	0.95	0.90	1.00	A
495D LA10	10	10	0.15	0.25	0.50	0.70	0.90	0.95	0.50	D
495D	0	200	0.10	0.50	0.75	0.65	0.70	0.70	0.70	С

	ТНК										
mm	o.d.s. mm	NRC	SAA								
495AC GW40	40	200	0.90	0.90							
495AC LA50	50	200	0.90	0.89							
495AC	0	200	0.65	0.65							
495D	50	200	0.85	0.83							
495D	0	200	0.65	0.65							

### **Indoor Air Quality:**

Certificate / Label	Clipso Technical Fabric	Clipso LA absorber	Ecophon acoustic board for Clipso
Eurofins Indoor Air Comfort®	IAC Gold	-	IAC Gold
French VOC	A+	A+	A+
Greenguard	Gold	-	

Fire safety: Europe: EN 13501-1, B-s1,d0, International Maritime Organisation: Resolutions MSC.307(88) and MSC.61(67), Modules B and D (495D),

**Humidity Resistance:** Dimensional stability under the action of humidity: EN 14716 (appendix C), 0% (MD), 0% (CMD) (495D), Dimensional stability under the action of heat: EN 12280-1 (30 min, 60°C), 0% (MD), 0% (CMD) (495D, 495AC), Water vapour transmission rate: ISO 2528 (38°C, 90% RH), 1901 g/m<sup>2</sup> (495D) 2104 g/m<sup>2</sup> (495AC),

Visual appearance: Matt, smooth and uniform. 495D White, nearest colour sample RAL 9016.

Cleanability: Use of Clipso Cleaning Kit recommended. Alternatively, other pH-neutral cleaning agents can be used with a soft cloth, provided it has first been tested on a scrap piece or on a non-visible area of the fabric.

Mould and Bacterial Resistance: ISO 846 A: 0, ISO 846 C: 0,

Accessibility: The system supports installation of inspection hatches.

Installation: Installed with Clipso profiles according to installation diagrams and drawing aid.

**System weight:** 495D: Area weight 230 g/m<sup>2</sup>  $\pm$  10% (ISO 2286-2). 495AC: Area weight 250 g/m<sup>2</sup>  $\pm$ 10% (ISO 2286-2).

Mechanical properties: Additional load (lighting, ventilation, etc.) should be hung directly from the soffit. Tensile strength: ISO 1421, 30 daN/5 cm (MD), 54 daN/5 cm (CMD) (495D) 29 daN/5 cm (MD), 107 daN/5 cm (CMD) (495AC), Tear strength: EN 1875-3, 8.9 daN (MD), 15.9 daN (CMD) (495D) 10.8 daN (MD), 17.7 daN (CMD) (495AC),

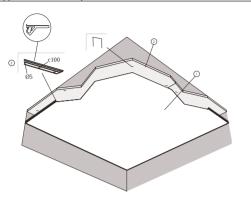
CE: Clipso technical fabrics are CE-marked according to the European harmonized standard EN14716:2005. CE marked construction products are covered by a Declaration of Performance (DOP) which enables customers and users to easily compare performance of products available on the European market.



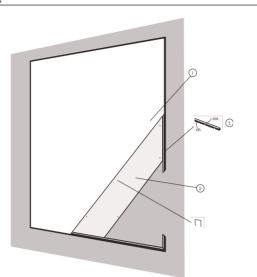
#### Installation diagram in detail www.ecophon.com

#### M565

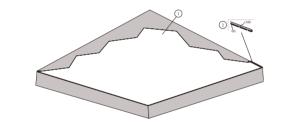
Installation diagram (M571) for Clipso SO Acoustic with acoustic absorbers, ceiling application with PCW profiles



M566 Installation diagram (M566) for Clipso SO Acoustic, wall application with PCC profiles



M571 Installation diagram (M571) for Clipso SO Acoustic, ceiling application with PCC profiles



# Ecophon Clipso<sup>™</sup> So Classic

### **Indoor Air Quality:**

Certificate / Label	Clipso Technical Fabric	Clips
Eurofins Indoor Air Comfort®	IAC Gold	-
French VOC	A+	A+
Greenguard	Gold	-

Fire safety: Europe: EN 13501-1, B-s1,d0, International Maritime Organisation: Resolutions MSC.307(88) and MSC.61(67), Modules B and D,

Humidity Resistance: Dimensional stability under the action of humidity: EN 14716 (appendix C), 0% (MD), 0% (CMD), Dimensional stability under the action of heat: EN 12280-1 (30 min, 60°C), 0% (MD), 0% (CMD), Water vapour transmission rate: ISO 2528 (38°C, 90% RH), 1184 g/m<sup>2</sup>,

Visual appearance: Matt, smooth and uniform. Optical white, nearest colour sample RAL 9016.

**Cleanability:** Use of Clipso Cleaning Kit recommended. Alternatively, other pH-neutral cleaning agents can be used with a soft cloth, provided it has first been tested on a scrap piece or on a non-visible area of the fabric.

Mould and Bacterial Resistance: ISO 846 A: 0, ISO 846 C: 0,

Accessibility: The system supports installation of inspection hatches.

Installation: Installed with Clipso profiles according to installation diagrams and drawing aid.

**System weight:** The weight of the fabric is approximately  $245 \text{ g/m}^2$ .

Mechanical properties: Additional load (lighting, ventilation, etc.) should be hung directly from the soffit. Tensile strength: ISO 1421 , 28 daN/5 cm (MD), 62 daN/5 cm (CMD), Tear strength: EN 1875-3, 3.7 daN (MD), 6.0 daN (CMD),

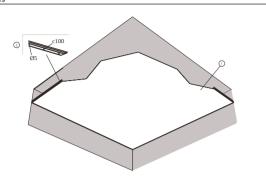
**CE:** Clipso technical fabrics are CE-marked according to the European harmonized standard EN14716:2005. CE marked construction products are covered by a Declaration of Performance (DOP) which enables customers and users to easily compare performance of products available on the European market.

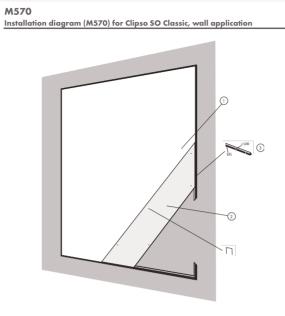
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Ecophon acoustic board for Clipso oso LA absorber IAC Gold A+

### Installation diagram in detail www.ecophon.com

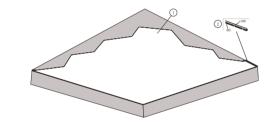
M569 Installation diagram (M569) for Clipso SO Classic, ceiling application with PCW profiles





### M572

Installation diagram (M572) for Clipso SO Classic, ceiling application with PCC profiles

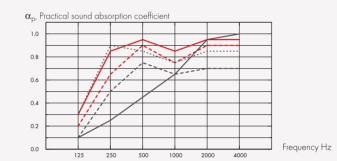


# Ecophon Clipso™ So Acoustic Antibacterial

### Acoustics:

#### Sound Absorption:

Test results according to EN ISO 354. Classification according to EN ISO 11654.



	THK	o.d.s. mm		$lpha_{p'}$ Practical sound absorption coefficient			α"	Sound absorption class		
	mm	0.0.5. 1111	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	w.	
495D AB GW20	20	200	0.20	0.65	0.90	0.75	0.90	0.90	0.85	В
495D AB GW40	40	200	0.30	0.85	0.95	0.85	0.95	0.95	0.95	А
495D AB LA10	10	10	0.10	0.25	0.45	0.65	0.95	1.00	0.50	D
495D AB LA50	50	200	0.30	0.90	0.85	0.75	0.85	0.85	0.85	В
495D AB	0	200	0.10	0.50	0.75	0.65	0.70	0.70	0.70	С
						1				
		THK mm	o.d.s. mm	NRC	SAA					
495D AB LA10		10	10	0.60	0.57					
495D AB LA50		50	200	0.85	0.83					
495D AB		0	200	0.65	0.65					
4750 AD		U	200	0.00	0.05					

	THK	o.d.s.	~~~		α <sub>p</sub> , Pro	actical sound	d absorption	coefficient		$\alpha_{w}$	Sound absorption class
	mm	0.0.5.	mm	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	u.,	Sound absorption class
495D AB GW20	20	20	0	0.20	0.65	0.90	0.75	0.90	0.90	0.85	В
495D AB GW40	40	20	0	0.30	0.85	0.95	0.85	0.95	0.95	0.95	A
495D AB LA10	10	10	)	0.10	0.25	0.45	0.65	0.95	1.00	0.50	D
495D AB LA50	50	20	0	0.30	0.90	0.85	0.75	0.85	0.85	0.85	В
495D AB	0	200		0.10	0.50	0.75	0.65	0.70	0.70	0.70	С
		THK mm	0	.d.s. mm	NRC	SAA					
495D AB LA10		10		10	0.60	0.57					
495D AB LA50		50		200	0.85	0.83					
495D AB		0		200	0.65	0.65					
						-					

### Indoor Air Quality:

Certificate / Label	Clipso Technical Fabric	Clipso LA absorber	Ecophon acoustic board for Clipso
Eurofins Indoor Air Comfort®	IAC Gold		IAC Gold
French VOC	A+	A+	A+
Greenguard	Gold	-	-

Fire safety: Europe: EN 13501-1, B-s1,d0,

Humidity Resistance: Dimensional stability under the action of humidity: EN 14716 (appendix C), 0% (MD), 0% (CMD), Dimensional stability under the action of heat: EN 12280-1 (30 min, 60°C), 0% (MD), 0% (CMD), Water vapour transmission rate: ISO 2528 (38°C, 90% RH), 1901 g/m<sup>2</sup>,



- --- So Acoustic 495D AB GW20, 200 mm o.d.s.
- So Acoustic 495D AB GW40, 200 mm o.d.s.
- So Acoustic 495D AB LA10, 10mm o.d.s.
- ···· So Acoustic 495D AB LA50, 200mm o.d.s.
- --- So Acoustic 495D AB no absorber, 200mm o.d.s.
- o.d.s = overall depth of system

Visual appearance: Matt, smooth and uniform. Nearest colour sample RAL 9016.

Cleanability: Use of Clipso Cleaning Kit recommended. Alternatively, other pH-neutral cleaning agents can be used with a soft cloth, provided it has first been tested on a scrap piece or on a non-visible area of the fabric.

Advanced Cleanability: Steam cleaning. Compatible with UV-C disinfection, BIFMA HCF 8.1-2019.

Surface Endurance: Product tested according to ISO 11998, and withstand 200 cycles.

Chemical resistance/Disinfection: Tested according to ISO 11998 and withstand the following chemicals or disinfectants. Ethanol: Ethanol, 70%, Virkon S: Dipotassium peroxodisulphate; Sulphamidic acid, 1%, Isopropanol: Isopropyl Alcohol, 70%, Anioxy-Spray: Hydrogen peroxide, 5%, Sumabac D10: Quaternary ammonium compound, Sodium carbonate, 1%,

Mould and Bacterial Resistance: Sanitized® Hygiene Function and Material Protection is a treatment that eliminates harmful microorganisms and provides a barrier against contamination, ensuring cleanliness and safety in areas where it matters the most. ISO 846 A: 0, ISO 846 B: 0, ISO 846 C: 0, Sanitized® : Compliant,

Accessibility: The system supports installation of inspection hatches.

Clean Room: ISO 14644: Particle cleanliness class, ISO 4, NF S 90-351: Microbiological class, M1/area 4. NF S 90-351: Particle elimination kinetics. CP(0.5) 5.

Installation: Installed with Clipso profiles according to installation diagrams and drawing aid. Nonmagnetic system when specific fixation screws are used.

System weight: Area weight 230 g/m<sup>2</sup>  $\pm$  10% (ISO 2286-2).

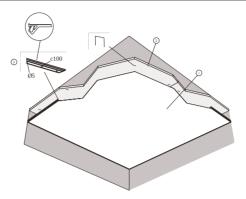
Mechanical properties: Additional load (lighting, ventilation, etc.) should be hung directly from the soffit. Tensile strength: ISO 1421, 30 daN/5 cm (MD), 54 daN/5 cm (CMD) (495D) 29 daN/5 cm (MD), 107 daN/5 cm (CMD) (495AC), Tear strength: EN 1875-3, 8.9 daN (MD), 15.9 daN (CMD) (495D) 10.8 daN (MD), 17.7 daN (CMD) (495AC),

CE: Clipso technical fabrics are CE-marked according to the European harmonized standard EN14716:2005. 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.

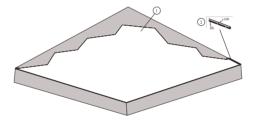
### Installation diagram in detail www.ecophon.com

### M596

Installation diagram (M596) for Clipso SO Acoustic AB, ceiling application with **PCW** profiles



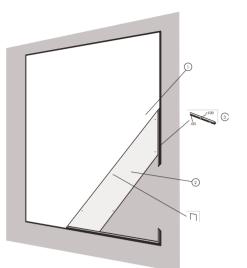




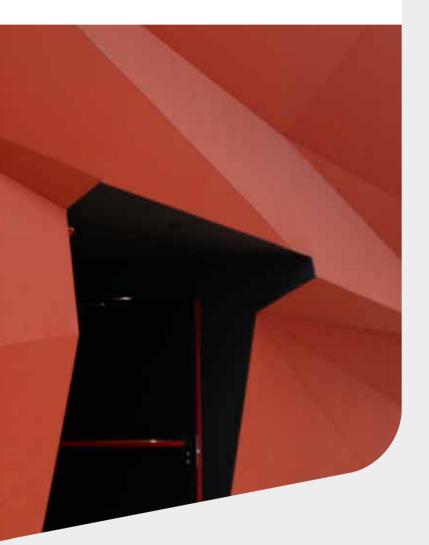
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#### M597

Installation diagram (M597) for Clipso SO Acoustic AB, wall application with PCC profiles.







Ecophon is the leading supplier of indoor acoustic solutions that improve working performance and quality of life. We believe in the difference sound can make to our everyday lives, and are passionate advocates for the importance of room acoustics to people's wellbeing - whatever the space, activity or need.

Having a sound effect on people is the principle that guides all we do. We're proud of the Swedish heritage and human approach that promise is founded on. Our uncompromising commitment to transparent sustainable practice. And, as members of the Saint-Gobain Group, to be doing our part in making the world a better home.

