Noise reduction
in the food industry
Less noise creates a calmer, more pleasant atmosphere, making employees more alert and focused.

Room Acoustic Comfort™ in industrial premises

Room Acoustic Comfort™ is Ecophon’s concept for room acoustic design, which puts emphasis on people, their activities and the space. The acoustic descriptors defined are reverberation, speech clarity, auditory strength and spatial decay. The aim is to achieve the optimum value for the descriptors that are relevant to the room’s function. According to Room Acoustic Comfort™, auditory strength and reverberation should be the focus when designing industrial premises. In practice, this means reducing the auditory strength and limiting reverberation in a room. Production equipment generates a large amount of direct sound, and it is important to prevent this sound from being amplified by the premises themselves. This is achieved, by installing among other things class A sound absorbers in ceilings, on walls or as suspended baffles.
Sound affects us in many ways. Disturbing noise causes fatigue, stress and communication problems. This impairs both productivity and safety, which in turn reduces profitability and can violate work environment regulations. Sick leave and high staff turnover also impact negatively on profitability. There is much to be gained from achieving an optimal acoustic environment.

**Dampen disturbing noise and background noise**

Certain mechanical processes in the food industry generate loud and disturbing noise. Eliminating as much of this noise as possible has many benefits. Above all, it creates a calmer, more pleasant atmosphere, making employees more alert and focused and providing better conditions. It also facilitates communication, which not only raises efficiency but also improves safety when important messages need to be heard and understood. Minimising the need for hearing protection also offers benefits in terms of better teamwork and easier communication.

**How can the acoustic environment be improved?**

- Define a noise policy to raise awareness about the acoustic environment
- Make demands on suppliers of machinery and other equipment
- If possible, gather together the noise sources and create quiet areas in a room
- Install sound absorbers in ceilings, on walls or as suspended baffles

**For the eye, the ear and the mind**

Ecophon specialises in developing sound-absorbing solutions for all environments where people work and communicate. Long experience combined with innovative thinking has made us a leading player in the industry. Our mission is to contribute to a good working environment for the eye, the ear and the mind.
It is well known that modern food production facilities contain equipment and processes that generate disturbing noise. In addition, the surfaces are hard and smooth, so the sound bounces off them and spreads though the room. Taking measures to improve the acoustic environment offers many benefits. However, any sound-absorbing systems installed must not impact negatively on hygiene. The Ecophon Hygiene System offers solutions for this particular combination of needs.

**The importance of a controlled environment**
In the food industry, certain critical aspects are absolutely vital to a company’s survival. The environment must be controlled to ensure high product quality throughout the production chain. Bacteria growth and particle emissions can cause major problems, leading to downtime or a risk of substandard products entering the market. The consequences can be disastrous in both practical and economic terms, and in the form of negative publicity.

**Customer requirements, standards and regulations**
Food manufacturers must be able to prove that they satisfy customer and government hygiene requirements. Many major companies have adopted the BRC Global Standards of the British Retail Consortium.

The BRC Global Standards regulate:
- HACCP system (identification, evaluation and control of risk)
- Quality management systems
- Plant and production site
- Product and process control

**Products must withstand aggressive factors**
In order for a hygiene-critical production environment to meet prevailing requirements, all products and systems installed there must be designed to adequately withstand various critical factors such as:
- Temperature
- Relative air humidity
- Chemical contaminants (e.g. acids, alkalines, chlorides)
- Physical contaminants (e.g. dust, soot)
- Biological contaminants (e.g. grease, proteins)

In addition, it is imperative that the environment can be cleaned regularly, easily and efficiently.
Ecophon has 30 years experience of developing acoustic solutions that meet stringent requirements for cleanliness. Our solutions are developed in consultation with leading food manufacturers, consultants and suppliers who must address and prioritise aspects of hygiene on a daily basis.

**Multi-step evaluation process**
Different rooms in a food manufacturing facility have different hygiene requirements. First of all, the conditions that characterise each room must be evaluated. These conditions are then matched to specific needs, based on internal objectives, external requirements, standards and regulations.

The following conditions must be taken into account in the evaluation:

- Air humidity
- Temperature
- Cleaning Agents, types of detergents and/or disinfectants and their frequency of use
- Corrosion risk
- Overpressure or normal conditions
- Permitted materials
- Type of contaminants

**Different cleaning methods**
The cleaning of the premises is central to the hygiene process. The whole room must withstand the cleaning methods chosen to ensure the level of hygiene required by internal goals, customers, standards and regulations.

All products and systems installed in the premises must withstand the established cleaning methods. The most widely used detergents and disinfectants are alkali, acid, hypochlorite and/or tenside-based. For this reason, Ecophon uses these detergents and methods in its development and testing operations. We also offer acid proof stainless steel systems for corrosive environments.

**Systems for all rooms**
Hygiene requirements in production facilities vary depending on the sensitivity of the operations. All hygiene requirements must be satisfied in order for a sound-absorbing system to produce optimum results, including from a cleaning perspective. Ecophon has developed sound-absorbing systems that meet prevailing hygiene requirements for most types of room in the food industry.
Ecophon Hygiene System

for the food industry

Back in the mid-1980s, we delivered our first sound absorbers to the facilities of the cured meats company Gomans in Malmö, Sweden. We have evolved our systems since then; today we offer several variants, either wall to wall ceiling systems or open baffle systems. We have gathered them under Ecophon Hygiene Foodtec™. However, for constantly humid environments or areas requiring daily cleaning, we recommend Ecophon Hygiene Advance™.

Ecophon Hygiene Advance™ A C4
Ceilings for environments where the risk of soiling is extremely high, for example where the surface risks staining from liquids or grease, so that the ceiling needs frequent cleaning. The system is suitable for areas with constant high air humidity and high risk of corrosion.

System description:
- Hygiene Advance A tiles are encapsulated in a smooth high-performance film that is dirt, grease and chemical resistant, and impervious to particles and water.
- Exposed Connect T24 C4 grid in acid proof high-performance, austenitic stainless steel, corrosion class C4 (EN ISO 12944-2).
- Hygiene Clips fix the tiles to the grid

Cleaning:
Withstands daily cleaning with water at high or low pressure using strong detergents and disinfectants, e.g. peracetic acid.

Ecophon Hygiene Advance™ A C3
Ceilings for environments with a high risk of soiling, for example where the surface maybe splattered with matter, so that the ceiling needs frequent cleaning.

System description:
- Hygiene Advance A tiles are encapsulated in a smooth high-performance film that is dirt, grease and chemical resistant, and impervious to particles and water.
- Exposed Connect T24 C3 lacquered galvanised steel grid, corrosion class C3 (EN ISO 12944-2).
- Hygiene Clips fix the tiles to the grid.

Cleaning:
Withstands daily cleaning with water at high or low pressure and commonly used detergents and disinfectants.
**Ecophon Hygiene Foodtec™ A C3**
Ceilings for premises with temporary high air humidity. For areas in the food industry where the ceiling needs to be cleanable with wet cleaning methods.

**System description:**
- Hygiene Foodtec™ A tile, with the painted Akutex™ HS surface to give stain protection. Painted back and edges.
- Exposed Connect T24 C3 lacquered galvanised steel grid, corrosion class C3 (EN ISO 12944-2).
- Hygiene Clips fix the tiles to the grid.

**Cleaning:**
Withstands cleaning with water at high or low pressure twice a year and wet wiping once a week with commonly used detergents and disinfectants.

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**Ecophon Hygiene Advance™ Baffle C3**
A system of vertical baffles, for rooms with high air humidity where a wall to wall ceiling cannot be installed. For areas with a high degree of soiling. The system may be supplemented with wall-mounted sound absorbers.

**System description:**
- Hygiene Advance™ Baffle is encapsulated in a smooth high-performance film that is dirt, grease and chemical resistant, and impervious to particles and water.
- Connect T24 C3 lacquered galvanised steel grid, corrosion class C3 (EN ISO 12944-2).

**Cleaning:**
Withstands daily cleaning with water at high or low pressure and commonly used detergents and disinfectants.

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**Ecophon Hygiene Foodtec™ Baffle C3**
A system of vertical baffles, for rooms where a wall to wall ceiling cannot be installed. For areas in the food industry where the baffles need to be wet cleanable. The system may be supplemented with wall-mounted sound absorbers.

**System description:**
- Hygiene Foodtec™ Baffle, with the painted Akutex™ HS surface on both sides to give stain protection. Painted edges.
- Connect T24 C3 lacquered galvanised steel grid, corrosion class C3 (EN ISO 12944-2).

**Cleaning:**
Withstands cleaning with water at high or low pressure twice a year and wet wiping once a week with commonly used detergents and disinfectants.
**Ecophon Hygiene Advance™ Protection C3**

The wall mounted sound absorber is protected by a cage. It is designed for use in areas of high humidity with a high risk of soiling.

**System description:**
- Hygiene Advance™ Wall panel is encapsulated in a smooth high-performance film that is dirt, grease and chemical resistant, and impervious to particles and water.
- Connect Protection cage C3 is a protective cage of coated steel wire with square mesh, corrosion class C3 (EN ISO 12944-2).

**Cleaning:**
Withstands daily cleaning with water at high or low pressure and commonly used detergents and disinfectants.

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**Ecophon Hygiene Foodtec™ Protection C3**

The wall mounted sound absorber is protected by a cage. It is designed for use in areas of high humidity with a high risk of soiling.

**System description:**
- Hygiene Foodtec™ Wall panel, with the painted Akutex™ HS surface on both sides to give stain protection. Painted edges.
- Connect Protection cage C3 is a protective cage of coated steel wire with square mesh, corrosion class C3 (EN ISO 12944-2).

**Cleaning:**
Withstands cleaning with water at high or low pressure twice a year and wet wiping once a week with commonly used detergents and disinfectants.

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All products and systems installed must meet standards and requirements according to the specific conditions in the premises.
Ecophon Hygiene Advance™ Wall C3
A wall mounted sound absorber for use at high level (away from the risk of impact) in rooms where there is a high risk of soiling.

System description:
• Hygiene Advance™ Wall panel is encapsulated in a smooth high-performance film that is dirt, grease and chemical resistant, and impervious to particles and water.
• Connect Wall fixing C3, wall mounting fixture in stainless steel, corrosion class C3 (EN ISO 12944-2).

Cleaning:
Withstands daily cleaning with water at high or low pressure and with commonly used detergents and disinfectants.

Ecophon Hygiene Foodtec™ Wall C3
A wall mounted sound absorber for use at high level (away from the risk of impact) For areas in the food industry where the system needs to be wet cleaned.

System description:
• Hygiene Foodtec™ Wall panel, with the painted Akutex™ HS surface on both sides to give stain protection. Painted edges.
• Connect Wall fixing C3, wall mounting fixture in stainless steel, corrosion class C3 (EN ISO 12944-2).

Cleaning:
Withstands cleaning with water at high or low pressure twice a year and wet wiping once a week with commonly used detergents and disinfectants.

Lighting
Ecophon Hygiene Lavanda™ T5 C3 is a flush-mounted luminaire specifically developed for rooms with strict hygiene requirements. It has IP65 classification (dust- and water-proof). The luminaire is easy to mount and withstands high-pressure cleaning. It is designed to fit with edge A ceiling systems such as Advance A and Foodtec A.
Contact us

for an optimal solution

Many factors determine which system best meets the requirements and expectations for a specific room. These factors include impact from air and operations, regulations, safety aspects, cleaning requirements, special conditions etc. All these factors must be taken into account in an evaluation process. This is best done in consultation with Ecophon’s representative to satisfy the specific needs of each individual industrial facility. Our aim is to suggest the optimum solution for the company and its employees.

Read more on our website
Visit our website to find out more about Ecophon and our acoustic solutions for the food industry. You will also find more technical information about our systems and a description of the standards we follow and the tests we have performed.

www.ecophon.co.uk
Ecophon dates back to 1958, when the first sound absorbers from glass wool were produced in Sweden to improve the acoustic working environment. Today the company is a global supplier of acoustic systems that contribute to good room acoustics and a healthy indoor environment, with the focus on offices, education, healthcare and industrial manufacturing premises. Ecophon is part of the Saint-Gobain Group and has sales units and distributors in many countries.

Ecophon’s efforts are guided by a vision of earning global leadership in acoustic ceiling and wall absorber systems by providing superior end user value. Ecophon maintains an ongoing dialogue with government agencies, working environment organisations and research institutes, and is involved in formulating national standards in the field of room acoustics where Ecophon contributes to a better working environment wherever people work and communicate.

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