

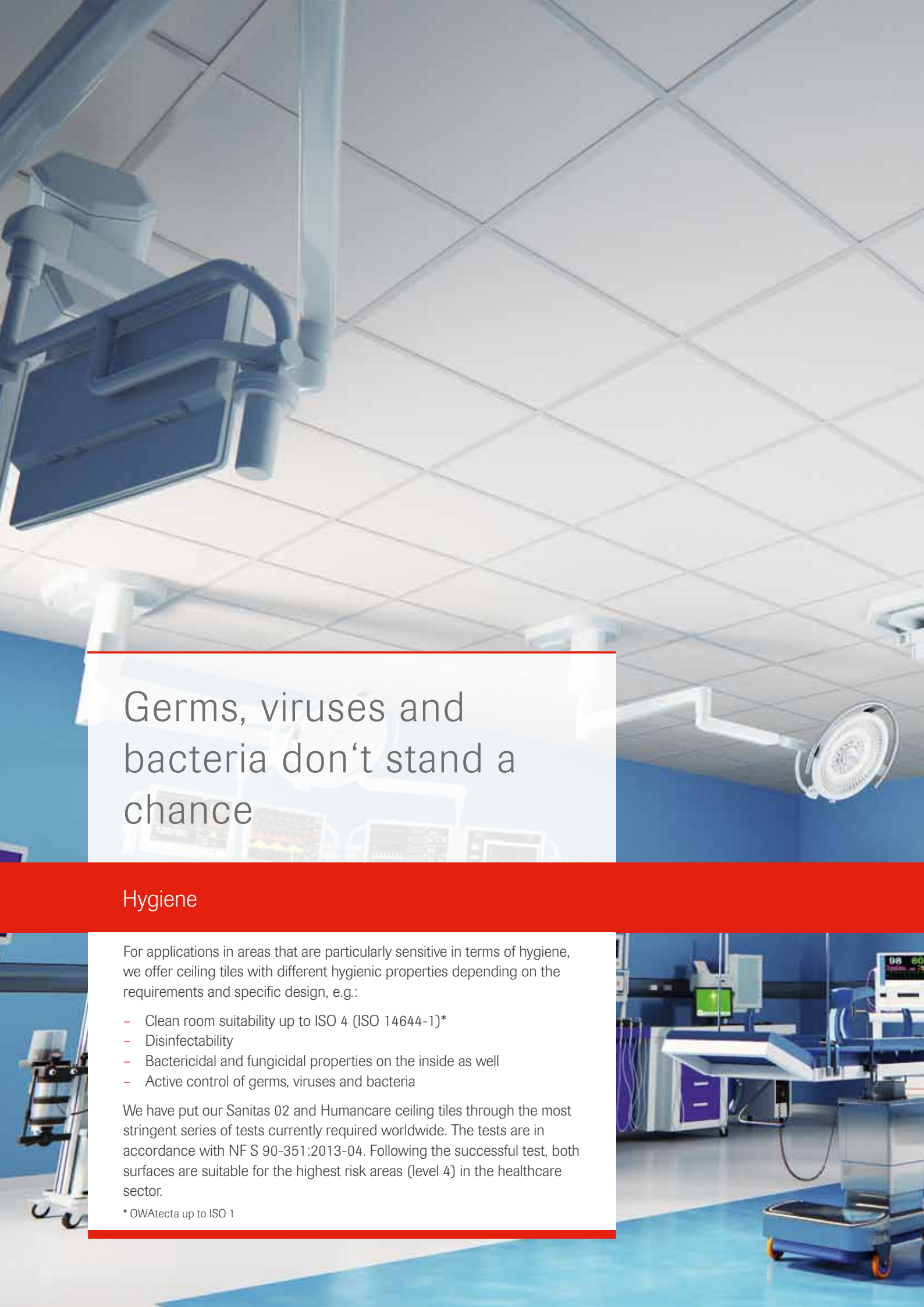
Ceilings for hygiene areas, clean rooms and high humidity areas



Ceiling systems for the  
highest demands

OWAlifetime collection

**OWA**



# Germs, viruses and bacteria don't stand a chance

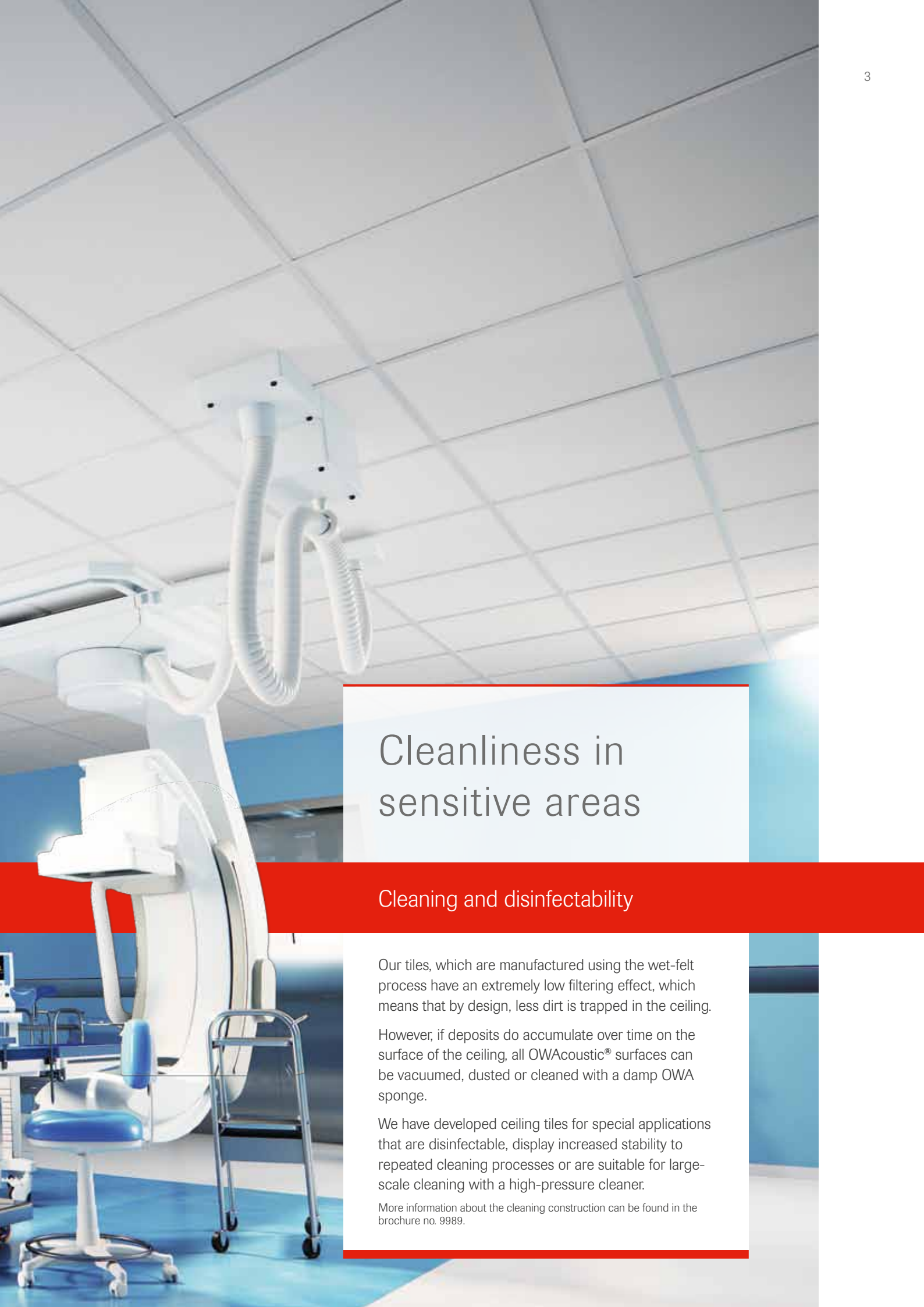
## Hygiene

For applications in areas that are particularly sensitive in terms of hygiene, we offer ceiling tiles with different hygienic properties depending on the requirements and specific design, e.g.:

- Clean room suitability up to ISO 4 (ISO 14644-1)\*
- Disinfectability
- Bactericidal and fungicidal properties on the inside as well
- Active control of germs, viruses and bacteria

We have put our Sanitas 02 and Humancare ceiling tiles through the most stringent series of tests currently required worldwide. The tests are in accordance with NF S 90-351:2013-04. Following the successful test, both surfaces are suitable for the highest risk areas (level 4) in the healthcare sector.

\* OWAtecta up to ISO 1



## Cleanliness in sensitive areas


### Cleaning and disinfectability

Our tiles, which are manufactured using the wet-felt process have an extremely low filtering effect, which means that by design, less dirt is trapped in the ceiling.

However, if deposits do accumulate over time on the surface of the ceiling, all OWAacoustic® surfaces can be vacuumed, dusted or cleaned with a damp OWA sponge.

We have developed ceiling tiles for special applications that are disinfectable, display increased stability to repeated cleaning processes or are suitable for large-scale cleaning with a high-pressure cleaner.

More information about the cleaning construction can be found in the brochure no. 9989.



## Even in difficult climatic conditions

### Resistance to humidity and dimensional stability

Depending on the chosen product line, thickness and design, our ceiling tiles are humidity-resistant up to a relative humidity of up to:

- 70 % short-term
- 90 % short-term
- 95 % short-term
- 95 % permanently, or
- 100 % short-term

The regional climate and local conditions at the site will determine which humidity resistance requirements your chosen product will need to meet. If you are in any doubt please consult your adviser, who will be happy to help you choose the right product.

We continuously test the humidity resistance of our ceiling tiles in-house. Throughout the process, the tiles are exposed for a period of several consecutive days to the corresponding temperatures and humidity levels, and their dimensional stability is documented continuously. Only tiles that satisfy the requirement criteria are released for sale.

We offer a 10-year guarantee on the dimensional stability of our tiles.





## Focusing on the future

### Sustainability and recyclability

OWA ceiling tiles are made of a biosoluble mixture, which is produced from natural sources and recycled materials in varying proportions:

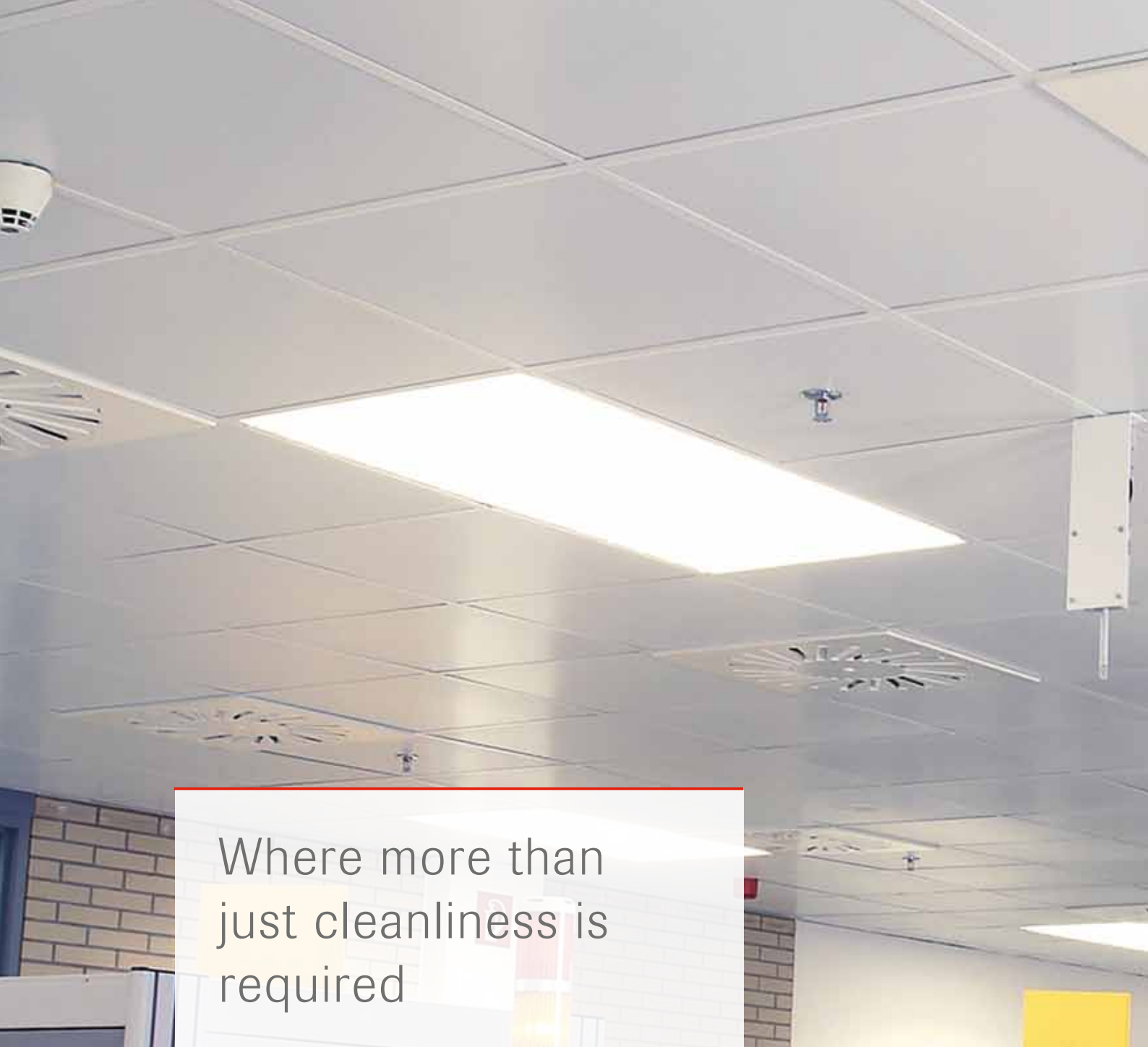
- biosoluble mineral wool 30 % – 60 %
- organic binding agents 5 % – 10 %
- solvent-free dispersions 0 % – 5 %
- natural filler (clay, perlite) 20 % – 40 %
- recycled pulp 2 % – 5 %
- recycled material from returned tiles up to 50 %

Sustainable production means designing the entire supply chain in accordance with ecological criteria. This is the basis of how we choose who is allowed to supply us with raw materials, energy and consumables.

Almost all OWAacoustic® ceiling tiles are 100% recyclable.

As part of our OWA green circle, we feed the tiles back into our production process within a cradle-to-cradle process.

For more information about the environment and sustainability, please visit our website at <http://www.owa.de/de/umwelt/> or read our brochure DS 9100 Company – Products – Services.



## Where more than just cleanliness is required

### Air purity in clean rooms

Our ceilings for hygiene areas and clean rooms meet six of the nine classes that are defined in the maximum limits specified in DIN EN ISO 14644-1 (ISO classes 4 – 9)\*. This means that these ceiling systems are qualified for many clean room areas.

All the products listed here are high-quality wet-felt products whose components are firmly bound together. For this reason, additional edge sealing is not necessary.

Your Benefit: No special additional measures need to be carried out when tiles are cut, i.e. edge sealing.

\* OWAtecta up to ISO 1







	Hygienic equipment*	Disinfectability	Clean room suitability (DIN 14644-1)	Dry cleaning ▲	Damp cleaning ▲	Wisp rubbing ▲
<b>Ceilings for clean rooms</b>						
Humancare   Sinfonia $\alpha_w = 0.85$   NRC = 0.85	X	X	ISO 4	X	X	
Sanitas® 02   Plain $\alpha_w = 0.15$   NRC = 0.15	X	X	ISO 4	X	X	X
Sanitas® 02   Constellation $\alpha_w = 0.70$   NRC = 0.70				X	X	X
Universal $\alpha_w = 0.55$   NRC = 0.55			ISO 4	X	X	
OWAlux®   white $\alpha_w = 0.15$   NRC = 0.15		X	ISO 4	X	X	
OWAlux®   silver $\alpha_w = 0.15$   NRC = 0.15			ISO 4	X		
OWAtecta® metal ceilings	Our broad range of metal ceilings offers further properties such as ISO Class 1, suitability for high positive / negative pressure environments and resistance to chemicals. Information about this can be found in our separate publication no. 9398 „OWAtecta® – Ceilings for Special Tasks“					

### Ceilings for high humidity areas

Mavroc®   Constellation $\alpha_w = 0.70$   NRC = 0.70						
Mavroc®   Cosmos/O $\alpha_w = 0.15$   NRC = 0.15				X	X	
Mavroc®   Cosmos/N $\alpha_w = 0.65$   NRC = 0.65						
Ocean $\alpha_w = 0.95$   NRC = 0.90				X	X	

\* Tiles with hygienic equipment actively combat bacteria, germs and viruses. More information can be found on the relevant product pages.

▲ More information about the cleaning constructions can be found in the brochure DS 9989.



	High-pressure cleaning** ▲	Resistance to humidity	Emissions	Recommended areas for use	Page
		95% short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Hospitals Nurseries Schools Retirement homes/care homes Fitness areas	10 - 11
		95 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Hospitals Retirement homes/care homes Laboratories Sterile and hygiene areas	12 - 13
		95 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Hospitals Retirement homes/care homes Laboratories Sterile and hygiene areas	12 - 13
		95 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Klasse: FH I / TVOC I / PM I (ISO 18177)	Hospitals Retirement homes/care homes Laboratories Sterile and hygiene areas	14 - 15
	X	95 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Precision engineering industry Optical industry Electronic high-tech manufacturing areas Hospitals Food industry Laboratories Sterile and hygiene areas	16 - 19
	X	95 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Precision engineering industry Optical industry Electronic high-tech manufacturing areas Hospitals Food industry Laboratories Sterile and hygiene areas	16 - 19
		95 % permanent	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Swimming pools Changing rooms Sanitary facilities Wellness facilities	20 - 21
		100 % short-term	Formaldehyde: < 5 µg/m <sup>3</sup> (ISO 16000) Class: FH I / TVOC I / PM I (ISO 18177)	Swimming pools Changing rooms Sanitary facilities Wellness facilities Objects with increased requirements for humidity resistance and room acoustics	22 - 23

\*\* Installation with foam compression strip required



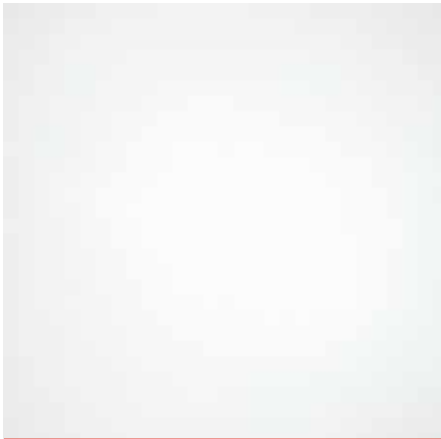
## Safety and wellness

### Humancare | Sinfonia




Humancare is a ceiling tile with special hygienic properties. It actively combats bacteria, fungi and germs and reliably kills even noroviruses and MRSA pathogens at its surface. Its suitability for use in areas where hygiene is particularly important is confirmed by the tests specified in the standard NF S 90-351.

Thanks to its high absorption values, Humancare is particularly suited also to rooms in which good acoustics need to be achieved – i.e. anywhere that people gather and where a pleasant room environment in terms of acoustics is required as a contributing factor to wellness.

This makes Humancare the perfect choice not only for healthcare institutions like hospitals or retirement homes/care homes, but in particular also for nurseries and schools.




Humancare | Sinfonia

<b>Material</b>	Mineral tile, fleece covered
<b>Reaction to fire</b>	A2-s1,d0 in accordance with EN 13501-1
<b>Thickness</b>	15 mm nom.
<b>Colour</b>	White
<b>Light reflection</b>	Approx. 87 (ISO 7724-2, ISO 7724-3)
<b>Sound reduction*</b>	28 dB up to 46 dB, CAC 30 dB
<b>Sound absorption</b>	 $\alpha_w = 0.85$   NRC = 0.85
<b>Moisture resistance</b>	 up to 95 % RH
<b>Reaction to fire*</b>	 up to REI 60 (EN 13501-2)

\* dependent on system, soffit and other factors



**Possible sizes and system combinations**

Module sizes in mm	
	visible
600 x 600	SS
625 x 625	SS
1200 x 600	SS
1250 x 625	SS

**Further information**

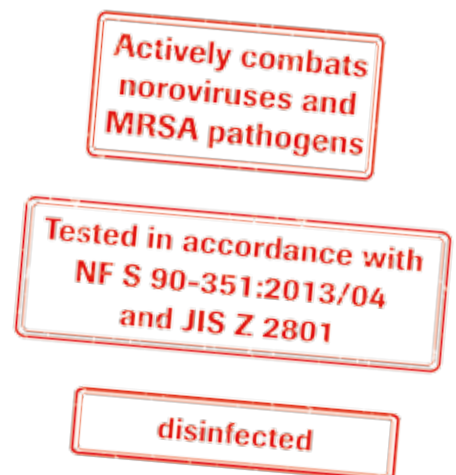
**Benefits:**

- Compliance with test standard NF S 90-351 in accordance with the stricter classification criteria of the current revision 2013-04
  - Clean room class ISO 4 in accordance with ISO 14644-01:1999
  - Decontamination class CP(0.5) 5
  - Bacteriological purity class M1 or M10
 => Suitable for all rooms up to the highest risk zone 4
- Compliance with the internationally recognised JIS-Z-2801 standard (up to 5-log reduction)
- Additionally: active combating of the multiresistant hospital pathogen MRSA and the murine norovirus
- 100% recyclable as part of OWA green circle

**Disinfectability:**

Even without additional measures, Humancare actively combats bacteria, viruses and fungi. But for applications requiring additional disinfectability, you can also treat the tiles with spray disinfection\*. Please feel free to request the corresponding test report from us.

\* Two spray applications (standard commercially available handheld spraying device) with e.g. 10 % ACTICIDE®-BAC-50-M solution or Meliseptol® (44% ethanol solution)



For detailed information, refer to the corresponding brochure no. 9986.



## Sterile conditions against fungi and bacteria

### Sanitas® 02

What makes the special Sanitas® 02 version so special is its robust surface, which offers increased resistance to repeated cleaning processes. Its bactericidal and fungicidal properties on the outside and on the inside will combat not just the fungi and bacteria on the visible side, but will also protect against influences from the ceiling cavity.

The Plain version is also suitable for clean rooms up to ISO Class 4 and was also successfully subjected to the test series of the strict French standard NF S 90-351.

Sanitas® 02 can be disinfected with all standard disinfectants.

Sanitas® 02 is used primarily in hospitals, retirement homes/care homes and laboratories.





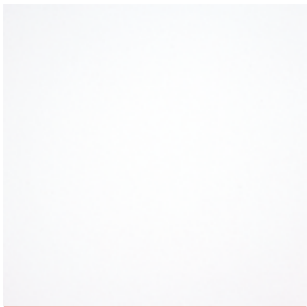
Surface example | Sanitas 02 | Plain

<b>Material</b>	Mineral tile
<b>Reaction to fire</b>	A2-s1,d0 in accordance with EN 13501-1
<b>Thickness</b>	15 mm nom.
<b>Colour</b>	White
<b>Light reflection</b>	Approx. 91 (ISO 7724-2, ISO 7724-3) (Dessin Plain) Approx. 88 (ISO 7724-2, ISO 7724-3) (Dessin Constellation)
<b>Sound reduction*</b>	35 dB up to 49 dB, CAC 37 dB (Dessin Plain) 31 dB up to 49 dB, CAC 33 dB (Dessin Constellation)
<b>Moisture resistance</b>	up to 95 % RH
<b>Reaction to fire*</b>	up to F 120 (DIN 4102) up to REI 180 (EN 13501-2)

\* dependent on system, soffit and other factors



$\alpha_w = 0.15$  | NRC = 0.15



Sanitas 02 | Plain (ISO 4)

$\alpha_w = 0.70$  | NRC = 0.70



Sanitas 02 | Constellation

**Possible sizes and system combinations**

Module sizes in mm	visible	
	S3	S3a
600 x 600	▪	▪
625 x 625	▪	▪
1200 x 600	▪	▪
1250 x 625	▪	▪

**Further information**

**Benefits (Plain design):**

- Compliance with test standard NF S 90-351 in accordance with the stricter classification criteria of the current revision 2013-04
- RClean room class ISO 4 ISO 14644-01: 1999
- Decontamination class CP(0.5) 2
- Bacteriological purity class M1 or M10
- => Suitable for all rooms up to the highest risk zone 4
- Additionally: active combating of the multiresistant hospital pathogen MRSA and the murine norovirus
- Protects against factors from the ceiling cavity
- 100 % recyclable as part of OWA green circle

**Cleaning/suitability for wipe-cleaning (both surfaces):**

The surface can be dusted, vacuumed or cleaned with an OWA sponge with no loss of efficacy. Increased resistance to repeated cleaning processes (500 washing cycles following the "Gardner Test")

**Disinfectability:**

Disinfectable with all standard alcohol-based and aldehyde-based disinfectants. A report from the Institute for Medical Microbiology and Hospital Hygiene in Marburg in accordance with the guidelines of the DGHM\* is available.  
\* Deutsche Gesellschaft für Hygiene und Mikrobiologie, German Association of Hygiene and Microbiology

**A report on dry and wet abrasion resistance in accordance with ASTM D2486 is available. (Report no. 815\_1640A)**

**A report on suitability for wipe-cleaning in accordance with ASTM D4828 is available. (Report no. 815\_160A)**

**Response to microbial contamination:**  
The bactericidal and fungicidal properties of the outside and inside were confirmed. An expert opinion from Dr. Weßling Laboratorien GmbH is available.



**Prof. Dr. R. Mutters**  
Institute for Medical Microbiology and Hospital Hygiene, Philipps University Marburg



**Dr. Weßling Laboratorium GmbH**  
Lebensmittel-Labor

**Actively combats noroviruses and MRSA pathogens**

**Tested in accordance with NF S 90-351:2013/04 and JIS Z 2801**

(Plain design)






## The universal solution

### Universal

The name says it all – „Universal“ is a universal tile that can be used everywhere. The Universal tile owes its good acoustic properties to the much finer needling in comparison to other tiles, and it is also suitable for use in rooms up to clean room class ISO 4 (ISO 14644-1).




Universal

<b>Material</b>	Mineral tile
<b>Reaction to fire</b>	A2-s1,d0 in accordance with EN 13501-1
<b>Thickness</b>	15 mm nom.
<b>Colour</b>	White
<b>Light reflection</b>	Approx. 91 (ISO 7724-2, ISO 7724-3)
<b>Sound reduction*</b>	31 dB up to 49 dB, CAC 33 dB
<b>Sound absorption</b>	 $\alpha_w = 0.55$   NRC = 0.55
<b>Moisture resistance</b>	 up to 95 % RH
<b>Reaction to fire*</b>	 up to F 120 (DIN 4102) up to REI 180 (EN 13501-2)

\* dependent on system, soffit and other factors



**Possible sizes and system combinations**

Module sizes in mm	
	visible S
600 x 600	▪
625 x 625	▪
1200 x 600	▪
1250 x 625	▪

**Further information**

**Cleaning:**

Universal can be vacuumed, dusted or wiped clean with a damp OWA sponge.

**Test passed: suitable for clean rooms**

Universal is certified for clean room class ISO 4 (ISO 14644-1:2015). This makes it suitable for use in clean rooms. Please feel free to request the corresponding test certificate from us.



**Universal is a high-quality wet-felt product whose components are firmly bound together. For this reason, edge sealing is not necessary.**



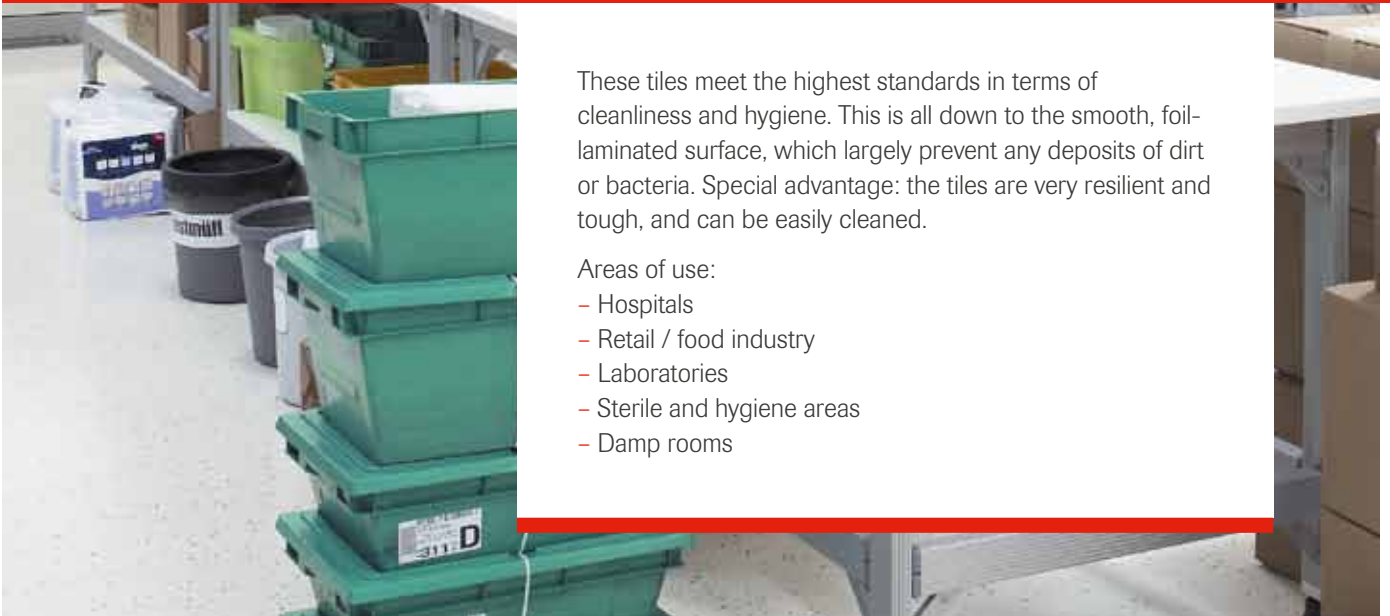
## Focusing on smooth surfaces

OWAlux®

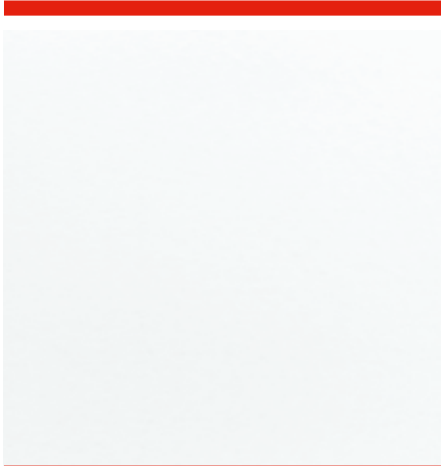
These tiles meet the highest standards in terms of cleanliness and hygiene. This is all down to the smooth, foil-laminated surface, which largely prevent any deposits of dirt or bacteria. Special advantage: the tiles are very resilient and tough, and can be easily cleaned.

Areas of use:

- Hospitals
- Retail / food industry
- Laboratories
- Sterile and hygiene areas
- Damp rooms







Surface example | OWA lux | white

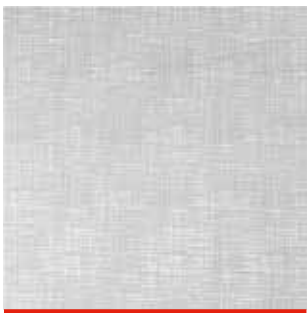
<b>Material</b>	Mineral tile, film laminated
<b>Reaction to fire</b>	A2-s3,d0 nach DIN EN 13501-1 (white) A2-s1,d0 in accordance with EN 13501-1 (silver)
<b>Thickness</b>	15 mm nom.
<b>Colours</b>	Silver, white
<b>Light reflection</b>	White: approx. 86 (ISO 7724-2, ISO 7724-3)
<b>Sound reduction*</b>	35 dB up to 49 dB, CAC 37 dB
<b>Moisture resistance</b>	up to 95 % RH
<b>Reaction to fire*</b>	up to F 120 (DIN 4102) up to REI 180 (EN 13501-2)

\* dependent on system, soffit and other factors

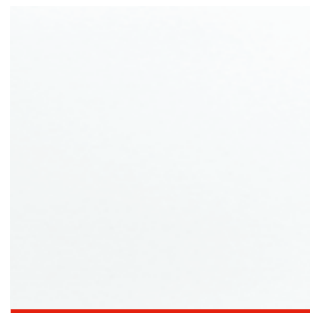


$\alpha_w = 0.15$  | NRC = 0.15

$\alpha_w = 0.15$  | NRC = 0.15



OWA lux | silver

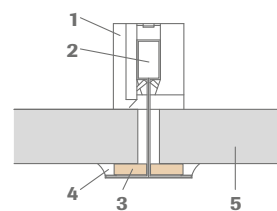


OWA lux | white

**Possible sizes and system combinations**

Module sizes in mm	visible
600 x 600	•
625 x 625	•
1200 x 600	•
1250 x 625	•

**Construction example:**



- 1 Hold down clip
- 2 Main tee and cross tee
- 3 Permanently elastic foam compression strip, if required
- 4 Silicone rubber (or equivalent), if required
- 5 Mineral tile, film laminated

**Further information**

**Cleaning:**

The ceiling tiles are cleaned differently depending on the design. All OWA lux® surfaces can be vacuumed or dusted. The OWA lux® | white version can also be wiped clean with a damp OWA sponge.

**High-pressure cleaning:**

OWA lux® tiles are suitable for large-scale cleaning with a high-pressure cleaner – with a maximum water temperature of 38°C and a maximum operating pressure of 40 bar. The cleaning jet is predefined by a flat nozzle. The nozzle spraying angle is 30°, the minimum distance is 40 cm.

For this type of cleaning, **installation with a seal** is required (see page 17). If the tiles are dirty or covered with aggressive media (alkaline solutions, acids, fat/grease etc.), it may not be possible to preserve the high-quality appearance after cleaning.

**Temperature resistance:**

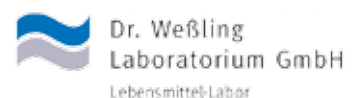
Up to 50°C in the area of the ceiling tile.

**Disinfectability:**

According to an expert opinion from Dr. Weßling Laboratories in Altenberge, OWA lux® | white tiles can be classified as having very good disinfectability.

**Test passed: suitable for clean rooms**  
OWA lux® is certified for clean room class **ISO 4** (ISO 14644-1:2015). This makes it suitable for use in clean rooms. Please feel free to request the corresponding test certificate from us.

**OWA lux® is a high-quality wet-felt product whose components are firmly bound together. For this reason, edge sealing is not necessary.**



## Air purity in clean rooms

The contamination of products and production processes due to airborne particles is monitored to a certain, appropriate level in clean rooms and in corresponding clean room areas. Particularly in the fields of aerospace, microelectronics, pharmaceuticals and the food industry, these types of clean room are used in sensitive production processes.

Construction materials for clean rooms are therefore subject to special requirements in terms of air purity – and this is expressed in minimal emissions of airborne particles. Our OWAlux® ceilings meet six of the nine classes that are defined via the maximum limits specified in DIN EN ISO 14644-1 (ISO classes 4 – 9). This means that these ceiling systems are qualified for many clean room areas. The following overview helps to explain this:

### Comparison of DIN EN ISO 14644-1 classification with other standards and codes

The table below shows a comparison between DIN EN ISO 14644-1 and the EC GMP guidelines as well as the US Federal Standard 209E. The US standard was withdrawn in 2001 and is provided as a guide only.

Nomenclature				Maximum permitted particle count according to DIN EN ISO 14644-1 based on different particle sizes	
EN ISO 14644-1	EG-GMP „at rest“	EG-GMP „in operation“	US Fed. Standard 209E*	0.5 µm	
				pro m³	pro cbf*
1					
2				4	0.1
3				35	1
			1	35	1
4				352	9.9
			10	353	10
5				3.520	100
	A			3.520	100
		B		3.520	100
6			100	3.530	100
				35.200	997
7			1.000	35.300	1.000
				352.000	9.972
	C			352.000	9.972
8		B		352.000	9.972
			10.000	352.000	10.000
				3.520.000	99.716
	D			3.520.000	99.716
9		C		3.520.000	99.716
			100.000	3.520.000	100.000
				35.200.000	997.167

\* cubicfoot

## EN ISO 14644-1

EN ISO 14644-1 only deals with air purity in terms of particulates. It forms part of the standard 14644, which in turn forms part of a series of standards and rulings (e.g. EC GMP guidelines) that cover the monitoring of contamination in clean rooms. Above and beyond this, there are many further requirements in terms of the temperature, pressure and humidity conditions in clean rooms, as well as in terms of the planning, operation and monitoring of clean rooms.

In individual cases, additional requirements or special restrictions may be imposed by the responsible regulatory authorities, which will result in corresponding additional testing requirements. The tests described in this publication relate only to the particulate emissions behaviour of OWAlux® tiles.

### Sealing measures (e.g. during high-pressure cleaning)

The tile contact surface areas, ceiling mounting parts and connections to adjacent components must be sealed in accordance with the requirements. The foam compression strip used should be a closed-cell, crosslinked polyethylene foam compression strip in white, size 3 x 9 mm, which is self-adhesive on one side (no. 8900). All OWAlux® tiles are to be equipped with hold down clips (no. 819) on the rear. The wall trim should be executed with the angled profile no. 57, wall spring clip no. 5210 and the seal described below.

In the event of a potential pressure load on the ceiling, the permanent negative pressure or overpressure must not exceed 40 Pa. The suspension must be executed with Nonius hangers. The quality of the sealing measures depends on the care of the person performing the work.

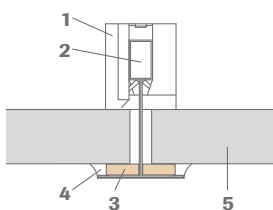
#### Note:

The use of sealing materials can result in a change in the building material classification in accordance with DIN EN 13501-1. The type of sealing system used should be adapted to suit the usage needs of the relevant clean room.

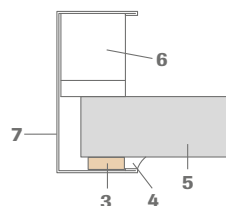
**In cases where only the particulate emissions behaviour is relevant, the sealing tape and acrylic sealing can be omitted.**

### Construction example for versions with a seal

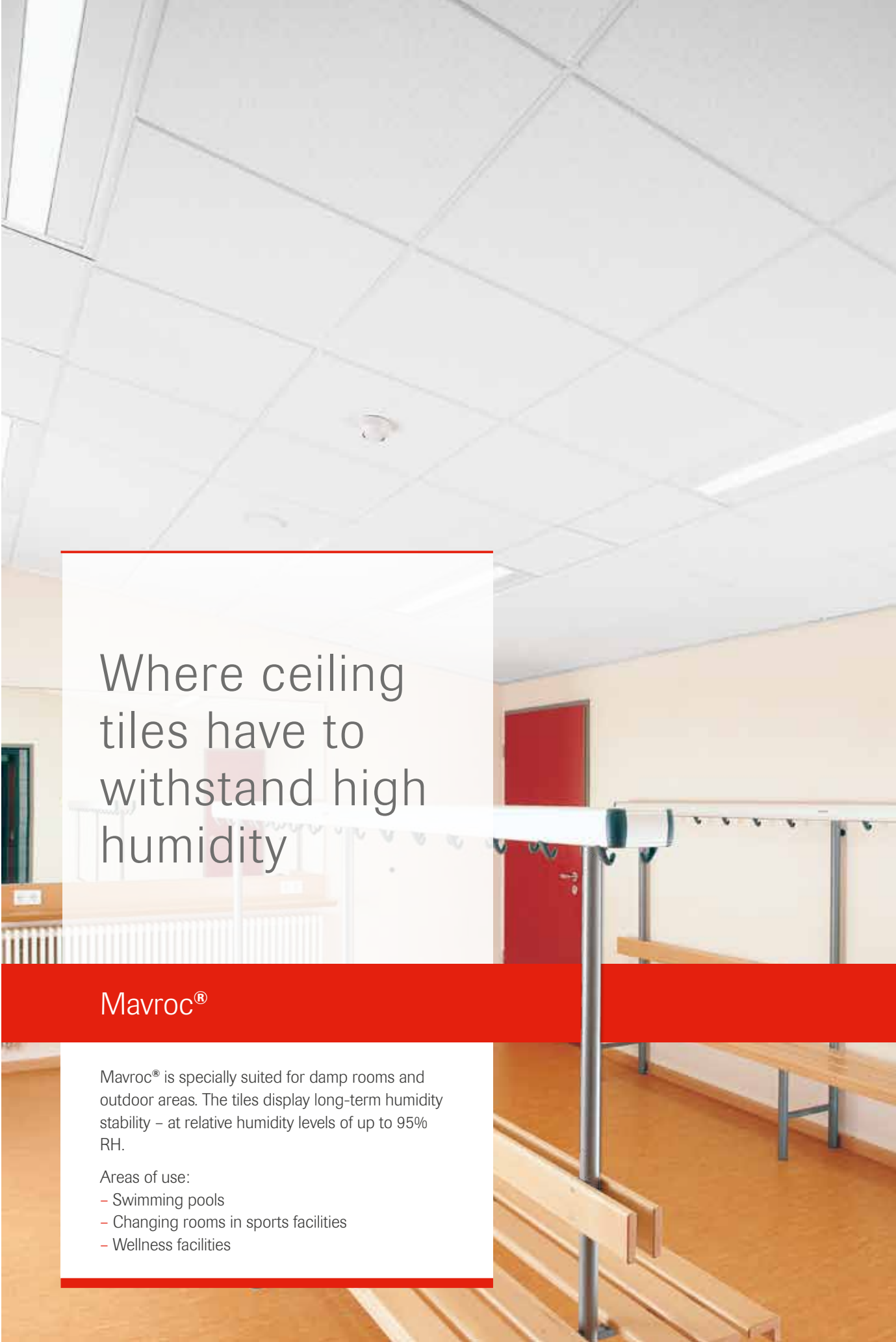
#### Cross-section:



#### Wall trim:



- 1 Hold down clip
- 2 Main tee and cross tee
- 3 Permanently elastic foam compression strip, if required
- 4 Silicone rubber (or equivalent), if required
- 5 Mineral tile, laminated with aluminium
- 6 Wall spring clip no. 5210
- 7 Wall angle no. 57



## Where ceiling tiles have to withstand high humidity

### Mavroc®

Mavroc® is specially suited for damp rooms and outdoor areas. The tiles display long-term humidity stability – at relative humidity levels of up to 95% RH.



Areas of use:

- Swimming pools
- Changing rooms in sports facilities
- Wellness facilities






Surface example | Mavroc | Constellation

<b>Material</b>	Mineral tile
<b>Reaction to fire</b>	A2-s1,d0 in accordance with EN 13501-1
<b>Thickness</b>	15 mm nom.
<b>Colour</b>	White
<b>Light reflection</b>	Approx. 88 (ISO 7724-2, ISO 7724-3) (Constellation) Approx. 84 (ISO 7724-2, ISO 7724-3) (Cosmos)
<b>Sound reduction*</b>	31 dB up to 49 dB, CAC 33 dB (Constellation/Cosmos/N) 35 dB up to 49 dB, CAC 37 dB (Cosmos/O)
<b>Moisture resistance</b>	 Stable up to 95% RH, <b>permanently</b>
<b>Reaction to fire*</b>	 up to F 120 (DIN 4102) up to REI 180 (EN 13501-2)


\* dependent on system, soffit and other factors



  $\alpha_w = 0.70$  | NRC = 0.70




Mavroc | Constellation

  $\alpha_w = 0.65$  | NRC = 0.65



Mavroc | Cosmos/N

  $\alpha_w = 0.15$  | NRC = 0.15



Mavroc | Cosmos/O

### Possible sizes and system combinations

Module sizes in mm	visible
600 x 600	▪
625 x 625	▪

\* other systems can only be used to a limited extent

### Further information

#### Construction:

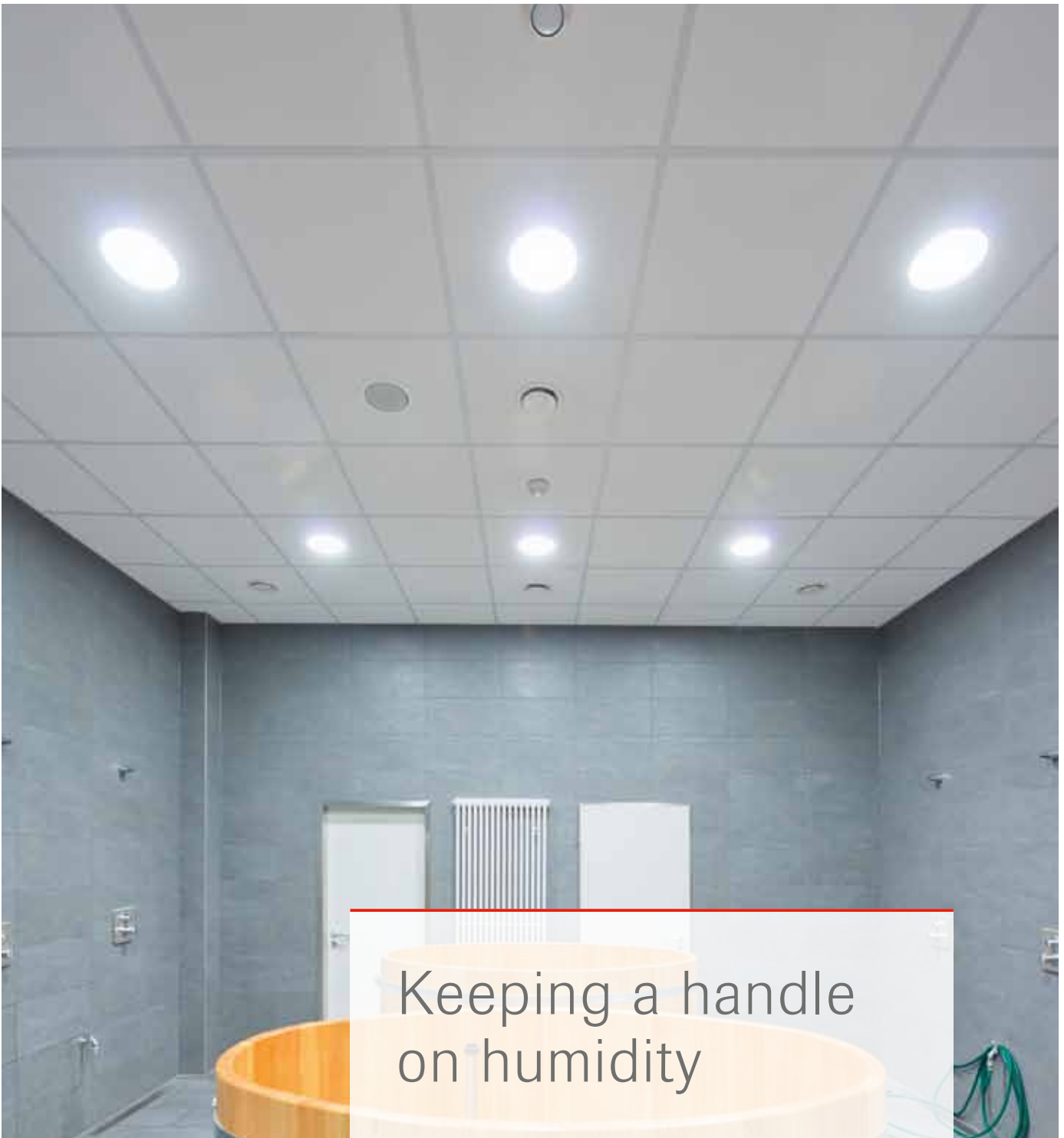
We recommend using the corrosion-protected OWAconstruct® System S 3e in accordance with the requirements and room-climate conditions of the intended application area.

#### Note:

If the conditions at the intended site may promote condensation at the surface of the tiles, then we recommend the use of closed metal tiles from our OWAtecta® range.

#### Cleaning:

Can be vacuumed, dusted or wiped clean with a damp OWA sponge.



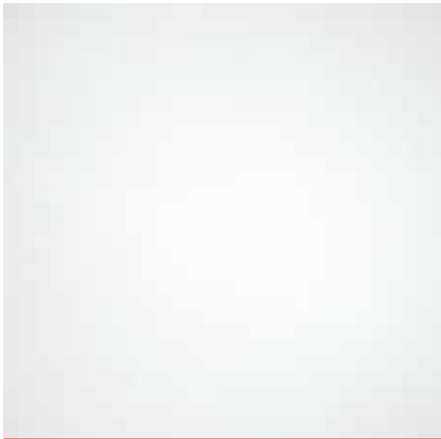
## Keeping a handle on humidity

### Ocean




These new ceiling tiles with excellent sound absorption properties retain their dimensional stability even under extreme conditions and can be damp-wiped or vacuumed.

Areas of use:

- Swimming pools
- Changing rooms in sports facilities, Wellness facilities
- Objects with increased requirements for humidity resistance, hygiene and room acoustics



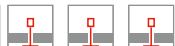
Ocean

<b>Material</b>	Mineral tile, fleece covered
<b>Reaction to fire</b>	A2-s1,d0 in accordance with EN 13501-1
<b>Thickness</b>	Approx. 19 mm
<b>Colour</b>	White
<b>Light reflection</b>	On request
<b>Sound reduction</b>	28 dB, CAC 30 dB
<b>Sound absorption</b>	 $\alpha_w = 0.95$   NRC = 0.90
<b>Moisture resistance</b>	 up to 100 % RH
<b>Reaction to fire*</b>	 up to REI 60 (EN 13501-2)

\* dependent on system, soffit and other factors



**Possible sizes and system combinations**

Module sizes in mm	 visible		
	S3*	S3 click*	S3e
600 x 600	▪	▪	▪
625 x 625	▪	▪	▪

\* can only be used to a limited extent

**Further information**

**Construction:**

We recommend using the corrosion-protected OWAconstruct® System S 3e in accordance with the requirements and room-climate conditions of the intended application area.

**Note:**

If the conditions at the intended site may promote condensation at the surface of the tiles, then we recommend the use of closed metal tiles from our OWAtecta® range.

**Cleaning:**

Can be vacuumed, dusted or wiped clean with a damp OWA sponge.

# Ceiling systems for special tasks

## **OWA counts on the German industry standard DIN 18177**

In cooperation with the association WETEC, OWA has played a pivotal role in shaping the new DIN 18177 standard „Wet-felt factory-produced mineral panels – Characteristics and test methods“. DIN 18177 only sets out the production and properties of mineral tiles and defines the requirements for wet-felt manufactured mineral tiles. Alongside the classic requirements such as application areas, normative references, definitions of terminology, symbols and abbreviations, general and specific requirements, test methods, conformity assessment, description of the mineral tiles, labelling etc., DIN 18177 also defines the following classes:

- Emissions of volatile organic compounds (TVOC)
- Emissions of formaldehyde
- Air permeability

Many OWAcooustic® premium and smart products are classified as TVOC 1 and achieve values that are even below the limits required for the German „Blue Angel“ environmental certification. Just as for volatile organic compound emissions (TVOC), the products OWAcooustic® premium and smart also fall well below the „Blue Angel“ certification limits for formaldehyde emissions of < 60 µg/m<sup>3</sup>. This places them in class FH 1 according to DIN 18177.

Tiles with high air permeability accumulate dust as a result of filtration effects. This impairs the decorative effects of the interior design tiles. By contrast, OWAcooustic® products reduce this effect thanks to their low air permeability and thus prevent associated contamination of the surface.

Errors excepted



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