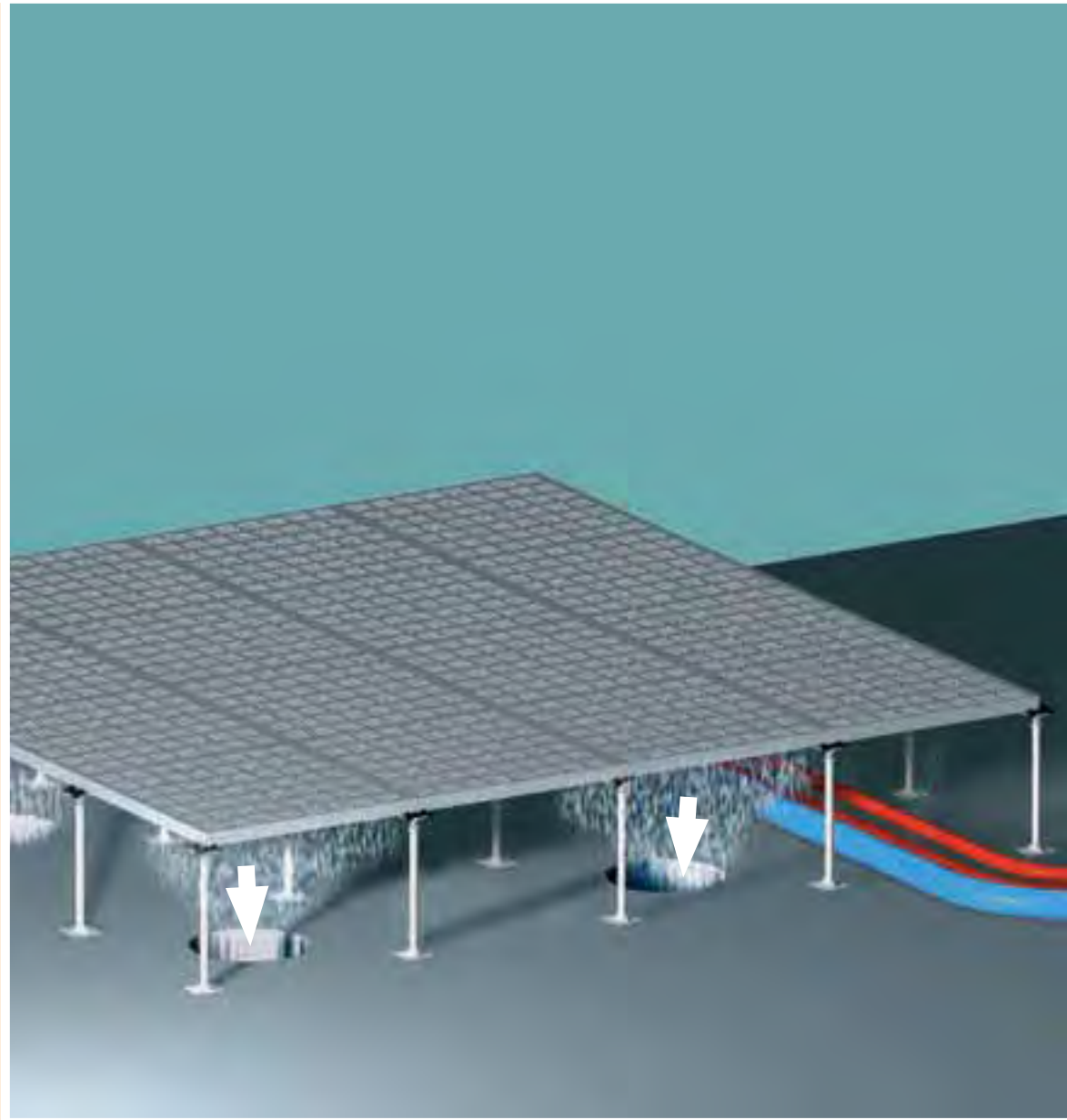


## MERO Floor Systems - CleanRoom

### Innovative solutions out of one hand

Development  
Consulting  
Planning  
Manufacturing  
Installation

Access floor  
Hollow floor  
Floor covering and  
Installation  
Services



# Cleanest conditions for your projects

## MERO-TSK CleanRoom

**The production of component parts in the field of micro-electronics or nanotechnology can only be managed under optimal clean room conditions. In the field of biotechnology sterile environments are an indispensable requirement for successful research and later production.**

Production and research are subject to permanent changes which should already be taken into consideration during the planning stage of clean rooms.

Partitions and media service lines must allow for rapid and economical adjustment to new requirements.

The MERO-TSK CleanRoom access floor accommodates all service lines such as special media, water and air, electrical wiring etc. perfectly and allows an effective absorption of used air due to perforated panels. The uniform arrangement of the vent holes guarantees turbulence-free air.

The solid substructure and the prefabricated access floor elements guarantee an oscillation-free working.



# Solid and flexible

## High demands on the construction

**The steel construction of the CleanRoom access floor is a solid foundation above the sub floor allowing the transport of heavy equipment.**

Even without surrounding walls the CleanRoom access floor is forming a self-supporting rigid construction.

The lateral stability of the CleanRoom access floor is guaranteed by angles and diagonal bracings preventing the transmission of oscillations.

Machinery which must work absolutely oscillation-free is installed on shock-absorbers.

Oscillation areas are separated from the other CleanRoom access floor areas by special profiles.

The sub floor is provided with a abrasion-proof sealant before installation which guarantees dust free conditions.

Stable pedestals are permanently fixed to the sub floor. Intermediate braces allow an easy and clear arrangement of media lines.

The pedestals are exactly levelled and secured against dynamic forces.

The pedestals of the substructure are galvanized and yellow passivated.



## Changing conditions require flexible installation and reorganization

**Research labs or high sensitive production units are subject to permanent optimization and changing requirements.**

New distribution or redistribution of the floor module is possible at any time even under operating conditions. The permanent underpressure in the CleanRoom area and below the access floor

allows to lift the panels whenever needed.

Each floor panel can be taken out by a lifting device allowing to retrofit power and service lines quick and easy.



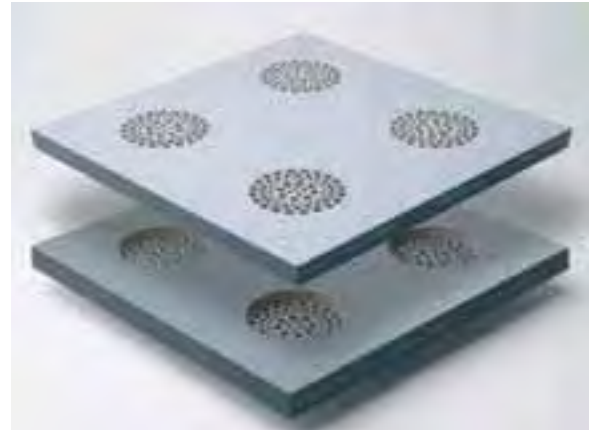
# Panel types for any field of application

## Panel type 5 or type 6 with MERO air outlet

Floor panels of high density wooden material or fibre-reinforced mineral material. Panel edges are bevelled and protected all round by synthetic trim. Panel underside can be provided with galvanized steel sheet or aluminium foil. Up to 4 air outlets can be installed in one floor panel. The MERO air outlet can be used for a concentrated load up to 5.000 N and can also be supplied with dust basket and air flow control.

Panel thickness of wooden material panels: 38 mm  
Panel thickness of mineral material panels: 36 mm  
Module: 600 x 600 mm  
Panel material - Building material class : wooden material B > mineral material A

Free airflow of one air outlet = 84 cm<sup>2</sup>  
Free airflow of four air outlets = 336 cm<sup>2</sup>

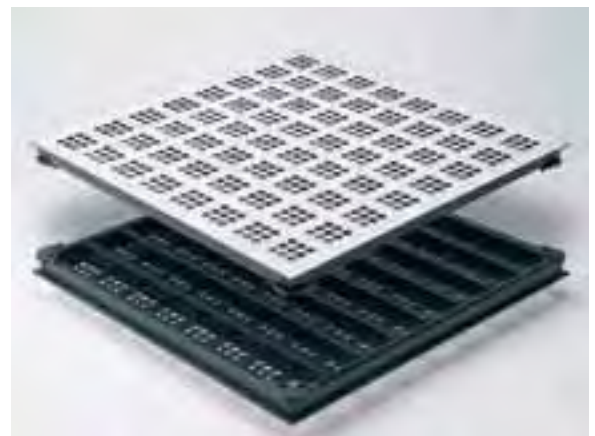


## MERO steel air conditioning panel

The MERO air conditioning panel consists of a welded steel profile frame with a perforated covering steel sheet on top. The panel is protected by conductive powder coating.

Panel thickness: 44 mm  
Panel module: 600 x 600 mm  
Building material class: A (non-combustible)

Free cross-section up to 40% possible.

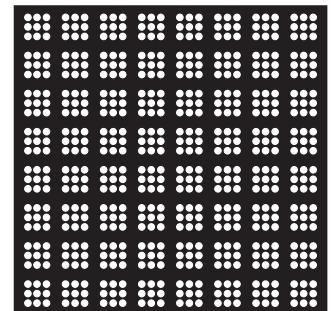
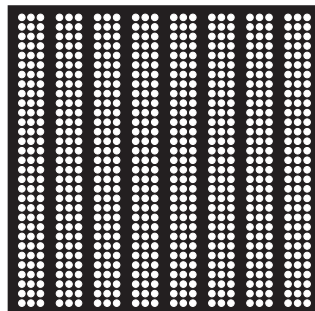
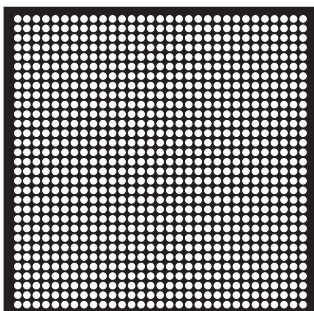
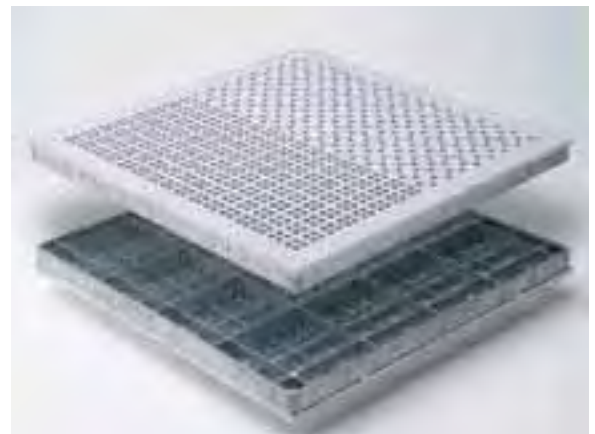


## MERO aluminium panel

The panel consists of ribbed die cast aluminium cut to size by high precision milling machines. The floor covering is simultaneously cut with the aluminium panel which guarantees maximum edge accuracy.

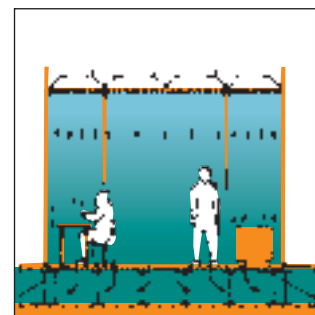
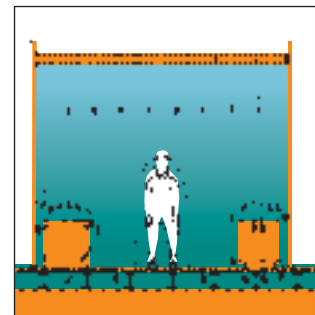
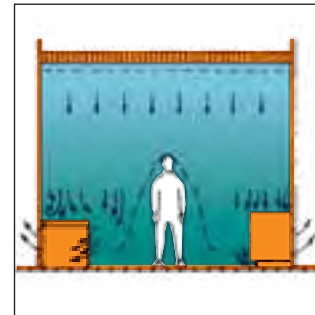
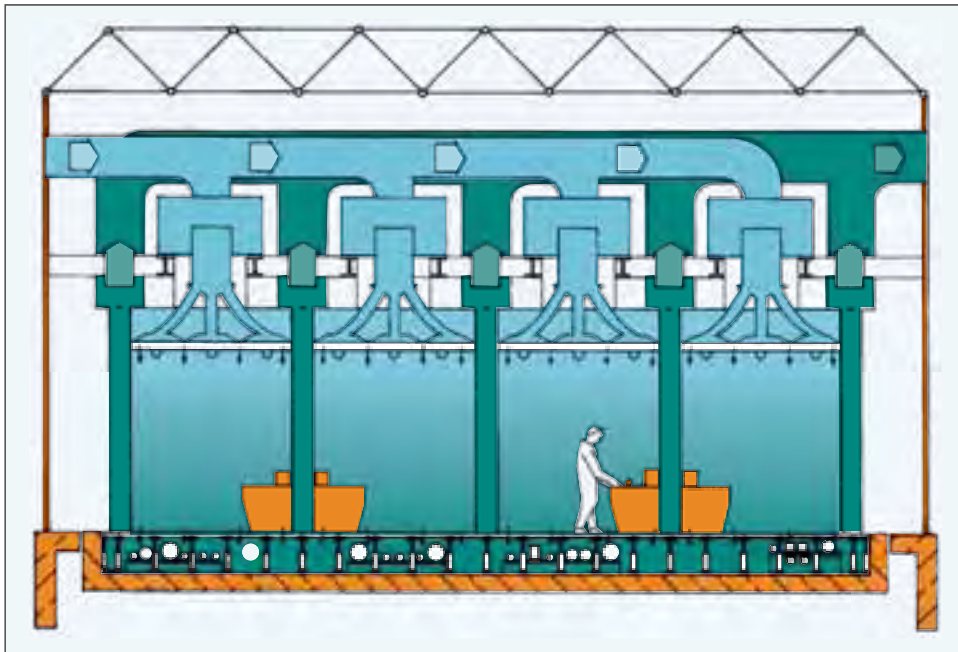
Panel thickness: 44 mm  
Module: 600 x 600 mm  
Building material class: A (non-combustible)

Free cross-section up to 40% possible.



# Constant conditions for research and production

## Clean air by steady air circulation

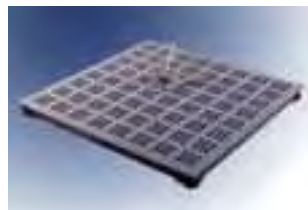


Tests in renowned institutes for air-conditioning technology ascertained that the permeability of an access floor is the optimal solution for the vertical and turbulence-low air flow.

Lateral air extraction systems are causing air turbulences and disturbing air flow at the working place. A CleanRoom access floor avoids the swirl up of dust particles and transports them on the shortest way through

the perforated floor panels out of the clean room.

In order to get a permanent steady air flow panels are equipped with holes of different sizes or air flow control.

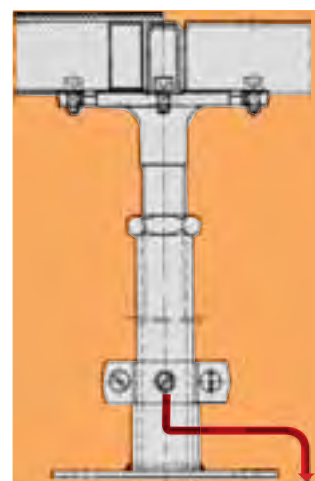


## Protection against static charging

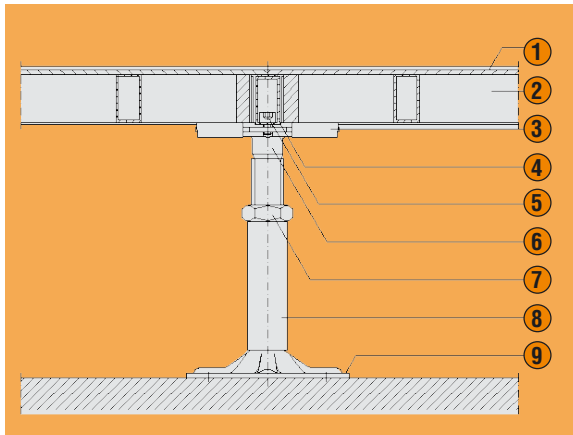
All construction parts and equipment of a clean room must be protected against static charging which guarantees the CleanRoom access floor.

Dust particles which are brought into the clean room by people or machinery must be conducted out with the permanent air flow to avoid adherence to electrical charged surfaces. Furthermore, product damages caused by static electricity charge must be avoided.

The measuring methods and tests for the electrostatic discharge are determined according to DIN EN 1081 or DIN IEC 61340-4-1.



# Technical Data\*: CleanRoom



\*For detailed technical data please see the data sheets of the different types or internet page under [www.mero-tsk.de](http://www.mero-tsk.de)

1. Floor covering
2. Floor panel
3. Gasket
4. Profile Clean
5. Screw
6. Pedestal head
7. Hexagonal nut
8. Tube
9. Pedestal base plate glued to the sub floor (dowelled on request)

	Steel	Aluminium	Wood/Mineralmaterial
<b>Panel:</b>			
Dimension:	600 x 600 mm	600 x 600 mm	600 x 600 mm
Panel thickness:	44 mm	44 mm	38/36 mm
System weight:	~ 64 kg/m <sup>2</sup>	~ 28 kg/m <sup>2</sup>	~ 36 – 67 kg/m <sup>2</sup>
<small>(without covering, floor height 250 mm)</small>			
Panel weight:	~ 22 kg/piece	~ 9 kg/piece	~12 – 22 kg/piece
Panel material:	Steel construction powder coated	die casting aluminium	High density chip-board panel/ fibre-reinforced mineral material
<b>Understructure:</b>			
Module:	600 x 600 mm	600 x 600 mm	600 x 600 mm
Pedestal material:	Galvanized steel pedestals, aluminium pedestals on request, glued to the sub floor, profiles screwed with pedestal heads		
Construction height (without covering)	~ 80 – 1800 mm	~ 80 – 1800 mm	~ 80 – 1800 mm
Recommendation:	Stringers should generally be used from a floor height of > 500 mm e.g. U-type stringers		
<b>Load values:</b>			
Concentrated load			
• acc. to DIN EN 12825	class 3 – 6	class 3 – 6	class 1 – 6
• Nominal load	4.000 N – 7.000 N	4.000 N – 7.000 N	2.000 N – 6.000 N
• Ultimate load	>8.000 N – 14.000 N	>8.000 N – 14.000 N	>4.000 N – 12.000 N
<b>Diameter of holes:</b>			
• Standard module	Different diameters possible		
<b>Electrostatic:</b> Depending on systems and floor covering			
<b>Fire protection:</b>			
• Building material class acc. to DIN 4102 T1	A1	A1	B2 / B1 / A2
<b>Thermal conductivity (base material)</b>			
	~ 50 W/mk	~ 160 W/mk	~ 0,13 – 0,44 W/mk

*For advisory service and further information please do not hesitate to contact us.*

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