Metawell
metal sandwich technology

Metawell® Hospital ceiling

Intensive care patient room, University hospital Kiel, Germany

Radiant ceiling for hospitals

Pleasant, clean and healthy

The ceiling construction in hospitals must not create a breeding ground for germs, it must be hygienically safe and easy to clean. The closed gapless Metawell® radiant ceiling consists out of an aluminium carrier plate with copper pipes and is thanks to its' characteristics ideal for the use in hospitals.

The installation of the Metawell® ceiling is just as easy as that of a plasterboard ceiling, but the cooling performance is approximately twice as high. However, unlike plasterboard, the aluminium sandwich panel does not absorb water, so that germ and mold cannot be formed.

Metawell® ceilings are delivered by the factory with a primered surface and are therefore easy to coat with all varnishes and colors common in hospitals.

Metawell® radiant ceilings can be used both for heating and cooling of rooms. The heat given off by a radiant heating ceiling is sensed as very pleasant. Since the surrounding surfaces are heated as well the same room temperature can be perceived with less energy expenditure (1-2 kelvin lower).

In comparison to a floor heating the radiant ceiling heating has the advantage that the floor temperature does not get too high. Thereby problems with athlete's foot, which spreads relatively fast on a constantly warm floor, can be prevented.

Disinfectants, which are regularly used for cleaning, do not dry out quickly and are therefore more effective. The warmth from above also scores with better hygiene, because convector ducts and heater niches present a dirt problem not to be underestimated.

St. Josef hospital, Bochum, Germany

Sustainable and energy efficient

Metawell® hospital ceiling elements consist out of an aluminium carrier plate with copper pipes. Both materials are excellent heat conductors. Therefore Metawell® hospital ceilings respond extremely fast and achieve high performance values. At the end of the life cycle, they can be recycled without reprocessing.

Furthermore EPDs (Environmental Product Declarations) according to DIN EN ISO 14025 Type III and EN 15804 are offered.

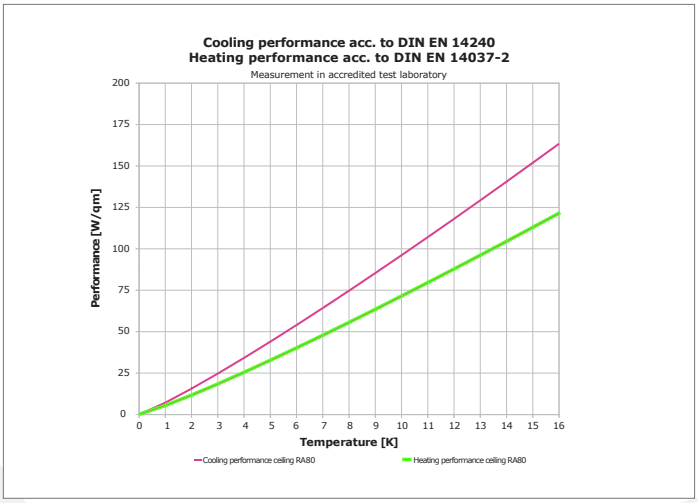


Diagram heating and cooling performance

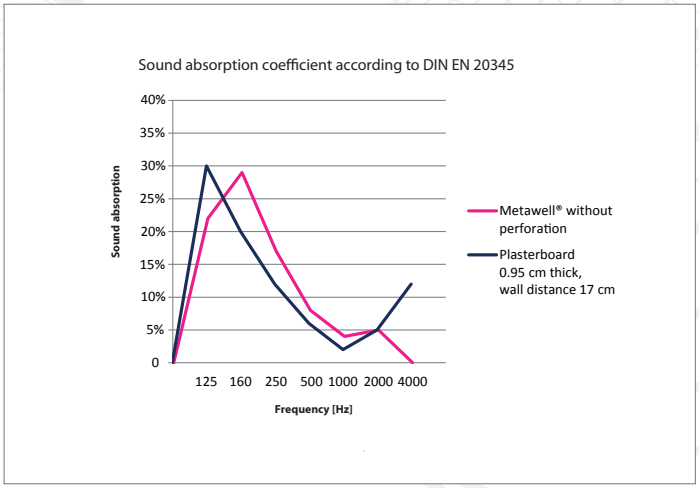
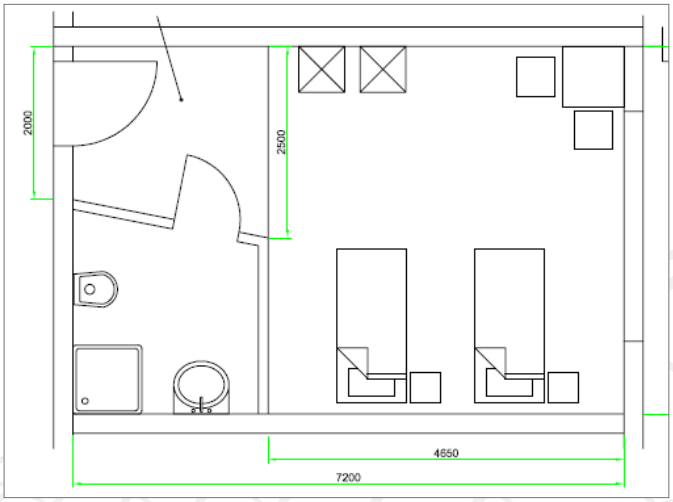
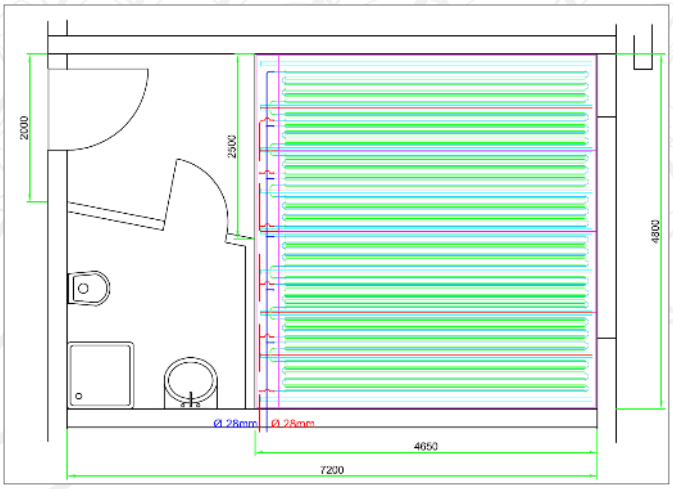


Diagram acoustical comparison Metawell® - plasterboard

University hospital Dresden, Germany



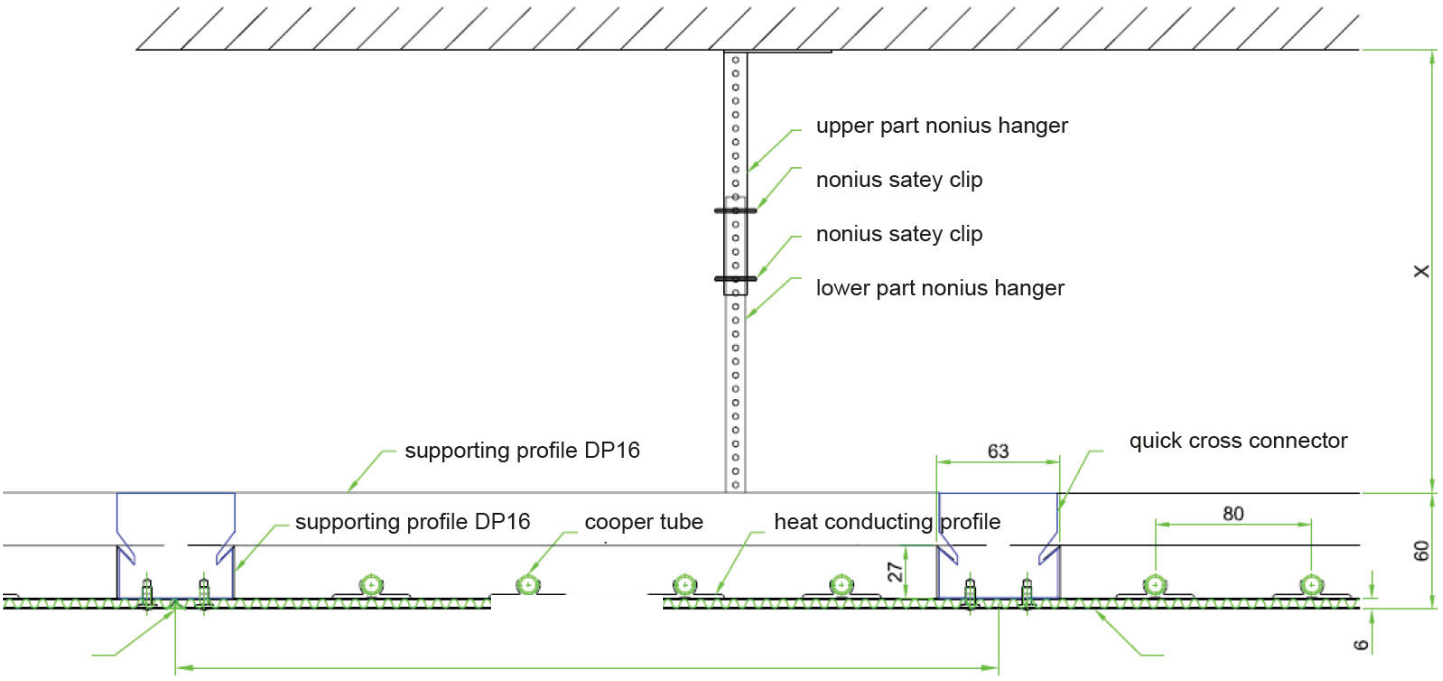
Room layout „typical“ 2-bed hospital room



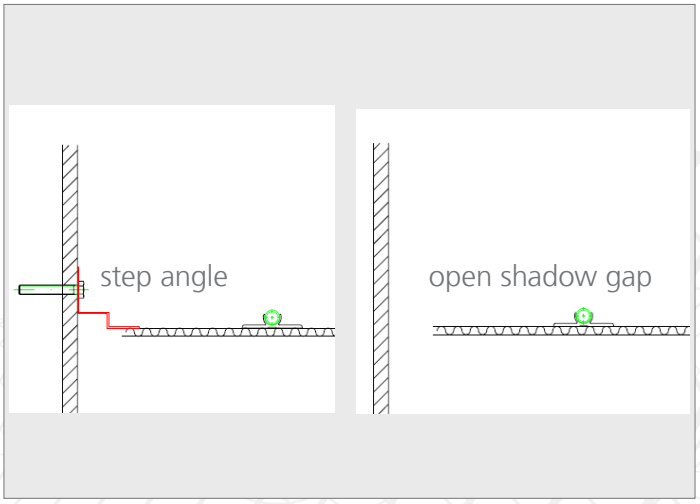
Layout with Metawell® radiant ceiling

Heating and cooling performance

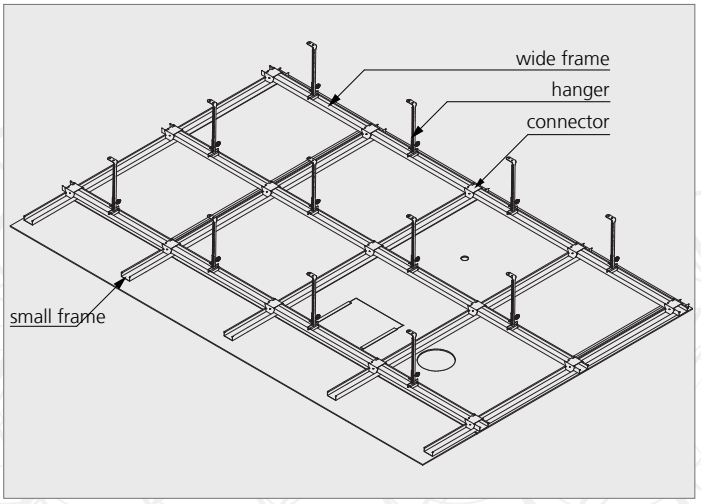
Aluminium and copper are, as already mentioned, excellent heat conductors. The less ceiling surface is taken by additional fittings (e.g. lamps, etc.) the more surface is available for the copper tubes and consequently an optimal cooling and heating performance can be achieved.



Nonius suspension counter battens



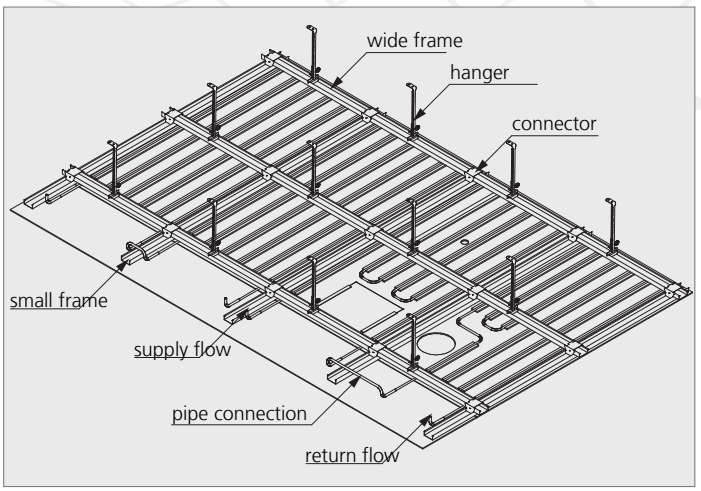
Different wall connections



Back side jointless ceiling „passive“

Installation

Metawell® gapless ceilings are delivered with a smooth surface (without sound absorption) or perforated (with sound absorption) and as passive (without copper tubes) or active (with copper tubes) ceilings.
The copper tubes on active panels are pressed into aluminium heat conducting profiles. The profiles are invisibly and durably connected to the panel with an adhesive tape and blind rivets.
Gapless ceilings are normally permanently connected to the supply network, e.g. the copper tubes are pressed or brazed with the room-sided piping.



Back side jointless ceiling „active“

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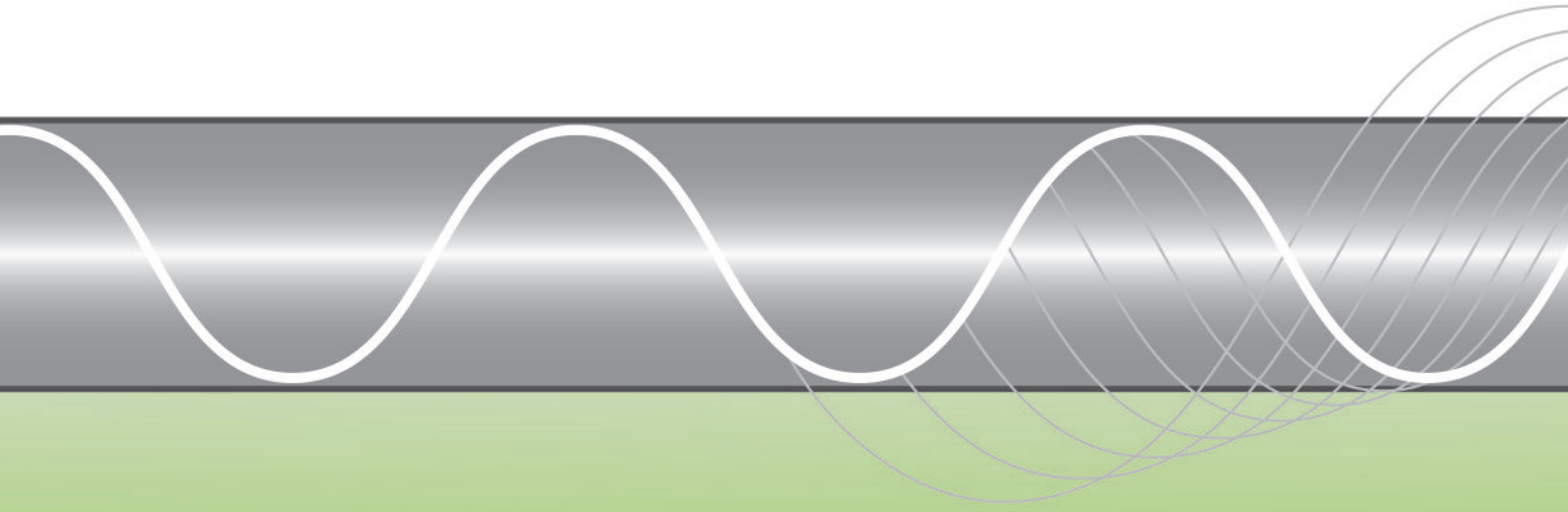

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