

ZENA-R

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Cold chambers

for morgue and body storage



Smart Protec®

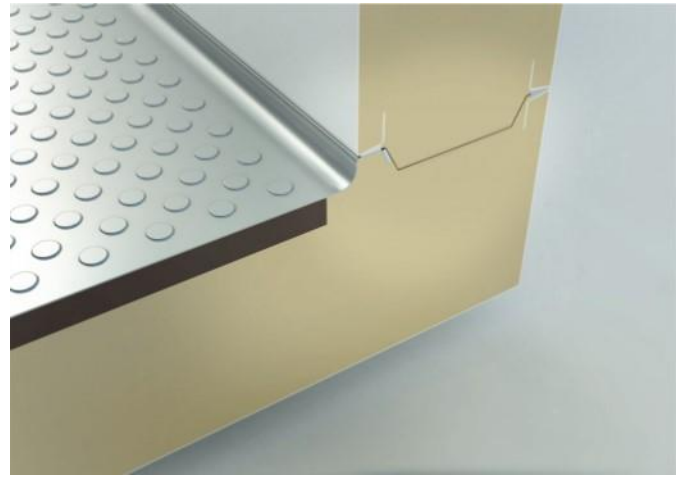
VIESSMANN

NEW GENERATION OF COLD CHAMBERS
with INCREASED HYGIENE and ANTI-MICROBIAL COATING

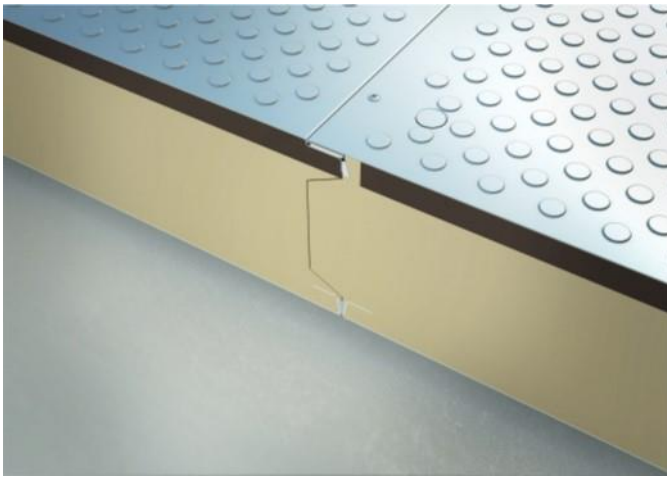
- 5 years warranty for the isolated construction guaranteed by manufacturer Viessmann, Germany.
- Exceptional energetic and insulation efficiency tested independently shows in average 15,5% higher efficiency than competition in the same range. Up to 46% higher efficiency vs traditional 60mm PUR constructions. Viessmann technology based on polyurethane insulation of high density (freon-free), does not need corner column construction which may cause thermal leakage and thermal barriers. Corners are fully integrated and foamed into panels. Advanced construction without need of silicone or other sealing glues. All these advanced features results in higher cooling efficiency and power/cost savings.
- Variable dimensions decreasing the necessary space to be cooled, resulting in space savings and capacity increase. Variable cooling units placed outside the room or ceiling mounted. Customized production available at competitive pricing.
- Chambers available in two variants - stainless steel or anti-microbial surface coat SmartProtec®, which eliminates risk of harmful bacteria growth on the surface of walls. Advanced anti-bacterial and anti-microbial solution significantly increasing safety and cleaning maintenance. Proven to effectively fight black mould. Tested according to JIS Z2801-2006 ISO/CD 22196/2007 for reduction rate against Escheria coli, Staphylococcus methicillin, Salmonella enteritidis, Pseudomonas aeruginosa, Listeria monocytogenes and Aspergillus niger.
- High standards recommended by Federal Association Bundesverband der Lebensmittelkontrolleure Deutschlands.
- Inner construction and anti-slip floor made of high grade stainless steel. Floor can be fitted with drain for easy cleaning. Heavy duty rollers for reliable tray manipulation. Three or four bodies arrangement in single column.
- Lifting trolleys in two variants with lifting power of 170 kg or 250 kg. Weight scale integration option.
- Panels fitted with locking system and fitting for easy, reliable and tight connections with best possible insulation. No screws, rivets and sealing required.



Locking system in detail



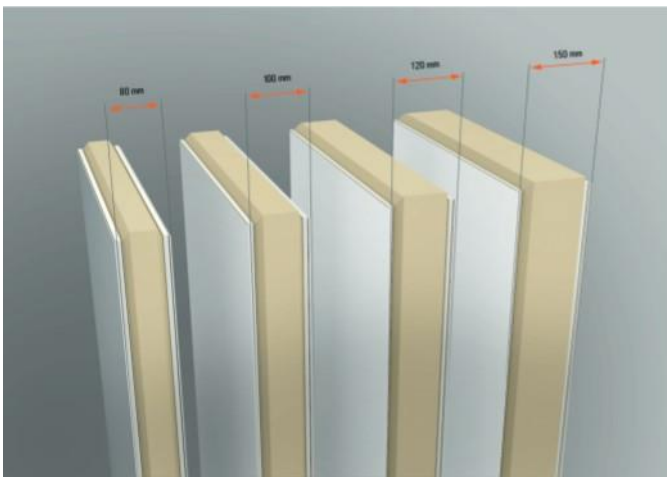
Floor connection in detail, hygienic radius



Floor in detail



Corners in detail view



Variable panel thickness



Roof connection locking in detail



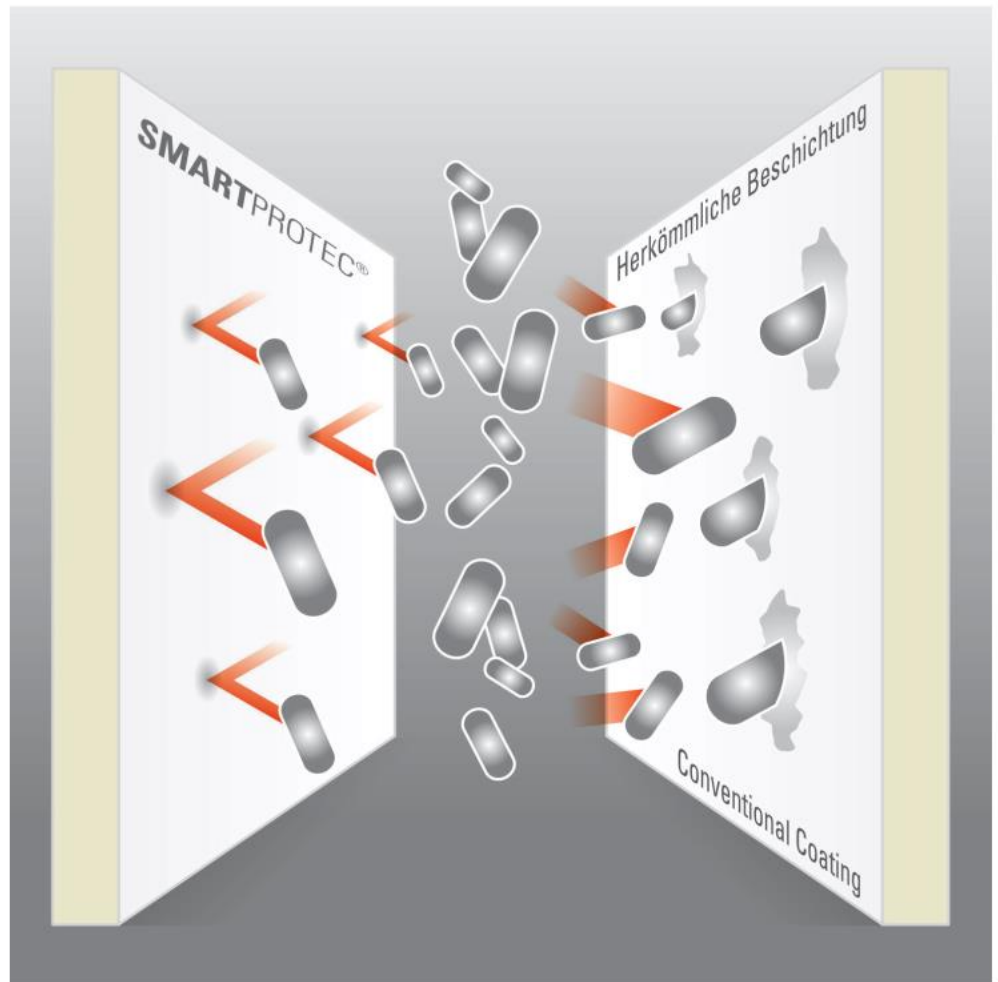
Viessmann is expanding its hygiene package for its cold rooms to include a new powder coating for all inner and outer surfaces of wall, floor and ceiling panels. The new **SmartProtect**[®] antimicrobial coating is now available on Viessmann TECTO Standard and TECTO Special cold rooms as standard.

In product tests, **SmartProtect**[®] demonstrated its outstanding performance and eliminated 20 percent more microbial strains than the previous coating **SilverProtect**[®], which already had excellent antibacterial properties.

SmartProtect[®] is retained within the coating for the cold room's entire service life, protects the environment and enhances the hygiene properties of the product surfaces.

How it works

- **SmartProtect®** makes use of physical properties:
 - The active agent modifies the surface properties in terms of the:
 - pH value
 - surface tension
 - polarity
- These properties influence the surface in such a manner that the formation of biofilms is prevented
- Bacteria and fungi have their habitat destroyed and die off
- By using a different mode of action, **SmartProtect®** aims to offer greater effectiveness; it is not only antibacterial but also antimicrobial
- **SmartProtect®** has also been proven to effectively combat black mould (*Aspergillus niger*)



Recommended by experts

As a governmental institution, the Bundesverband der Lebensmittelkontrolleure Deutschlands e.V. (Federal Association of Food Inspectors) pays particular attention to the monitoring of food in the gastronomy sector. Within the scope of launching our antimicrobial powder coating, Viessmann Kühlsysteme GmbH received a recommendation from the Federal Association.



The antimicrobial activity and effectiveness of the **SmartProtect®** powder coating have been tested in accordance with JIS Z2801-2006 ISO/CD 22196/2007.

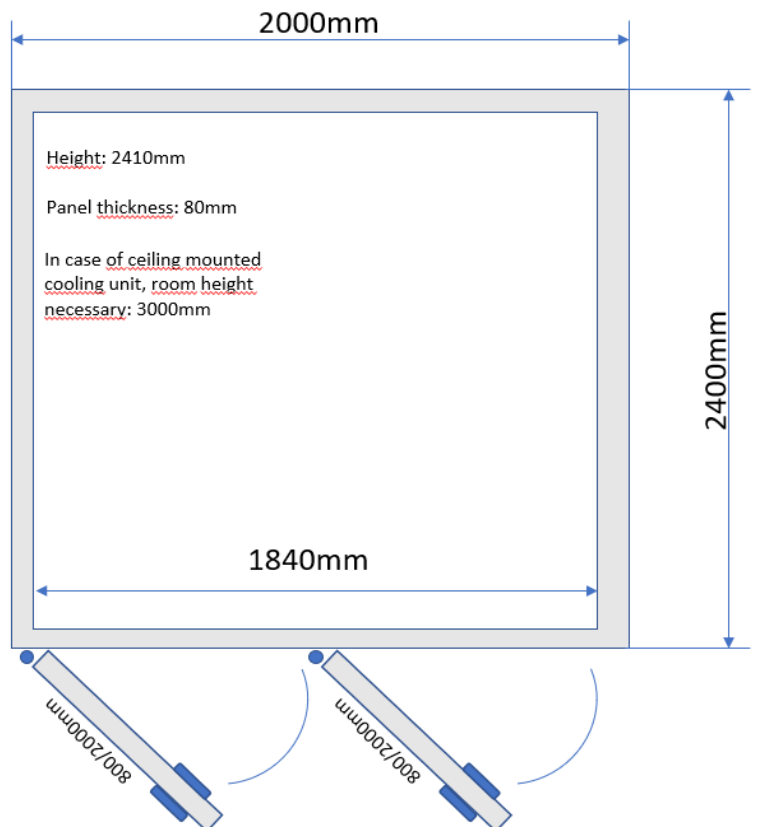
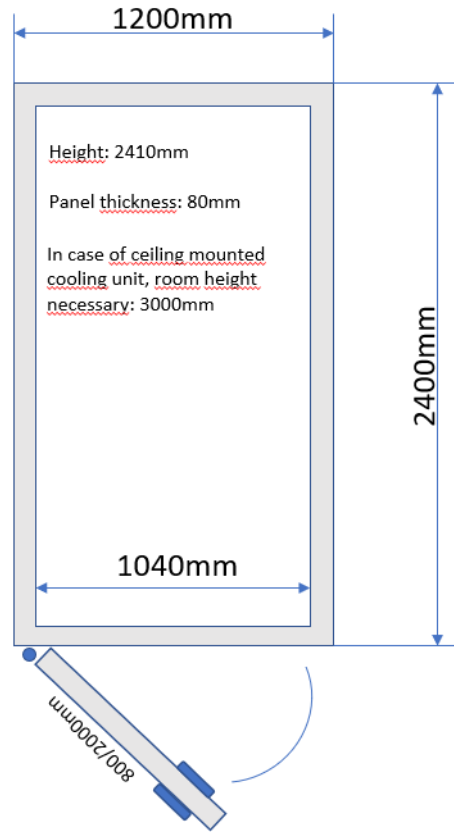
Bacteria type	With antibacterial agent	With antibacterial agent and 50 cleaning cycles
	R*	R*
Escherichia coli	R > 3.76	R > 3.75
Staphylococcus methicillin	R > 4.23	R > 4.23
Salmonella enteritidis	R > 4.49	R > 3.92
Pseudomonas aeruginosa	R > 5.98	R > 3.99
Listeria monocytogenes	R > 3.54	R > 3.54
Aspergillus niger	R > 3.00	R > 3.00

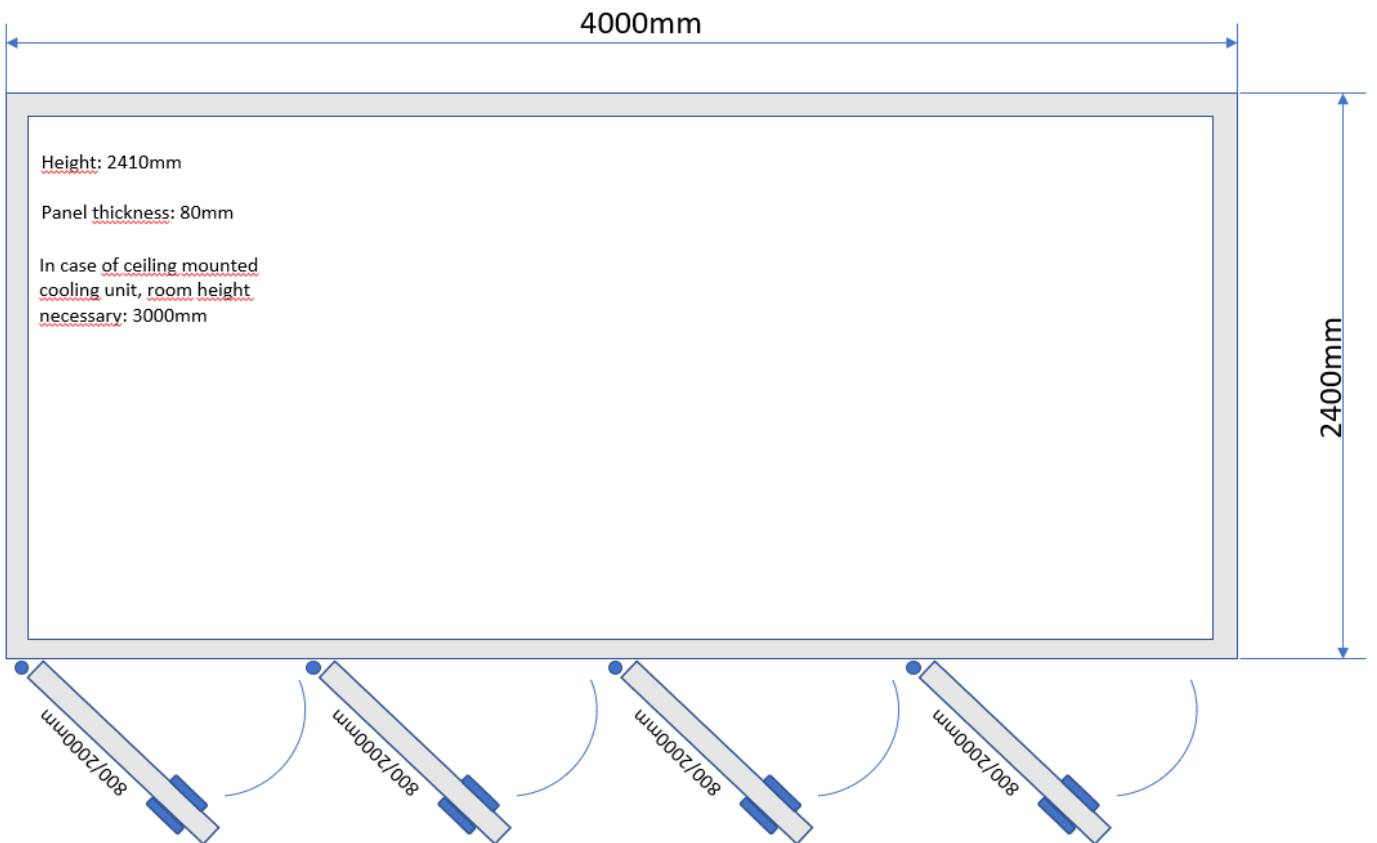
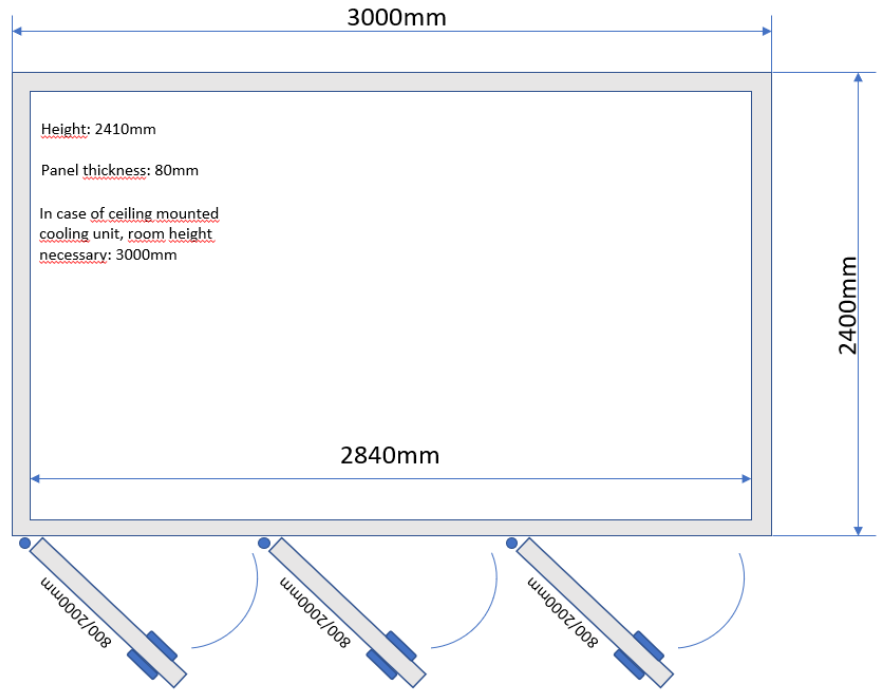
* Logarithmic reduction rate

Note: tests were also conducted on a glass reference plate as an inert surface. No reduction in the number of bacteria was observed.

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