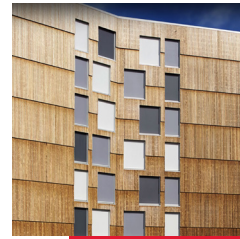


Sandwich Panels

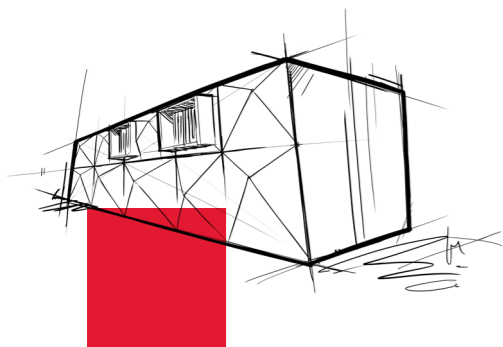
with stone wool at the core

Specification Notes for Building Projects



Index

- 4 Wall
(Facade / Partition Wall)
- 6 Roof
- 8 Acoustic Wall
(Partition Wall)
- 10 Acoustic Roof



Stone Wool Sandwich Panels



Stone Wool Sandwich Panel Wall (Facade / Partition Wall)

Short description:

Self-supporting sandwich panel insulated with ROCKWOOL stone wool slabs cut into lamellas, with double metal facings, to be used for wall application, classified in fire reaction class A2-s1, d0 according to EN 13501-1 (non-combustible).

General information:

- Modular panel width of 800 - 1200 mm
- Installation: panels are lodged to the supporting structure by mean of drilling threaten screws made from stainless steel (consult sandwich panel manufacturer guidelines)
- Panel thickness: XXX mm
- Panel length: YYY mm by mean of a continuous process

SUPPORTING INFORMATION

- ~ min. thickness 40 mm, ~ max. thickness 300 mm; 40, 50, 60, 80, 100, 120, 150, 170 and 200, 220, 240, 300 mm
- For further information regarding load, span length and length of the sandwich panel, reference the original manufacturer's technical datasheet.

- Fire resistance class of the sandwich panel: EI according to EN 13501-2

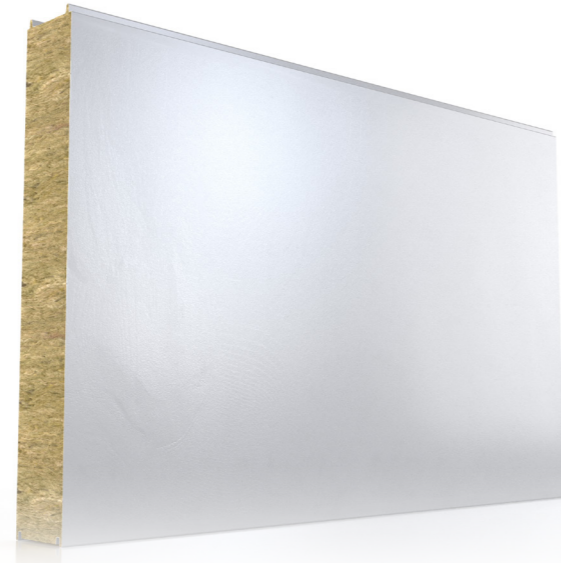
SUPPORTING INFORMATION

The panel thickness may vary from manufacturer to manufacturer; the following may be considered as a benchmark:

- EI 30 ≥ 60 mm
- EI 60 ≥ 80 mm
- EI 90 ≥ 100 mm
- EI 120 ≥ 120 mm
- EI 180 – EI 240 ≥ 150 mm

Internal / external metal facings:

- Shape: slatted ribbed / micro ribbed / smooth
- Material: pre-painted galvanized structural steel (EN 10346) / Stainless Steel (EN 103729) / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 0.8 mm
- Surface protection: protective film
- Colour: upon Architect choice based on RAL colour chart

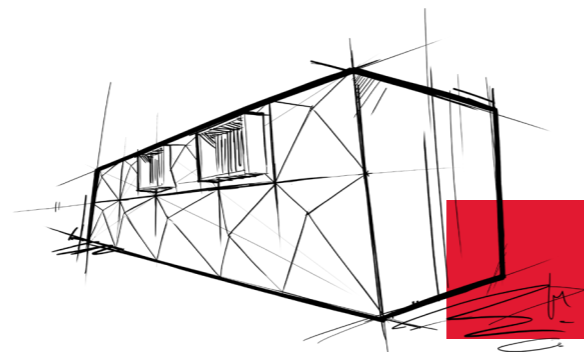


Insulation:

- Type: inorganic and non-combustible stone wool, type ROCKWOOL i.e. Spanrock product range
- Insulation layer made of lamellas cut from stone wool slab in between metal skins
- Density: minimum 85 kg/m³ up to 150 kg/m³

SUPPORTING INFORMATION

Stone wool density contributes to the performances of the sandwich panel. Panels with high density achieve increased fire, mechanical and acoustic performances



- Thermal transmittance coefficient of the panel: U-Value W/(m²·K)

SWP thickness (mm)	0.041 W/(m·K)		0.042 W/(m·K)		0.043 W/(m·K)		0.044 W/(m·K)		0.045 W/(m·K)	
	Wall (facade) W/(m ² ·K)	Partition wall W/(m ² ·K)	Wall (facade) W/(m ² ·K)	Partition wall W/(m ² ·K)	Wall (facade) W/(m ² ·K)	Partition wall W/(m ² ·K)	Wall (facade) W/(m ² ·K)	Partition wall W/(m ² ·K)	Wall (facade) W/(m ² ·K)	Partition wall W/(m ² ·K)
60	0.612	0.580	0.626	0.592	0.639	0.604	0.652	0.616	0.665	0.628
80	0.471	0.452	0.482	0.462	0.493	0.472	0.503	0.481	0.514	0.491
100	0.383	0.371	0.392	0.379	0.401	0.387	0.410	0.395	0.418	0.403
120	0.323	0.314	0.330	0.321	0.338	0.328	0.345	0.335	0.353	0.342
130	0.299	0.292	0.306	0.298	0.313	0.305	0.320	0.311	0.327	0.318
140	0.279	0.272	0.285	0.278	0.292	0.284	0.298	0.291	0.305	0.297
150	0.261	0.255	0.267	0.261	0.273	0.267	0.279	0.273	0.285	0.278
170	0.232	0.227	0.237	0.232	0.243	0.237	0.248	0.243	0.253	0.248
200	0.198	0.195	0.203	0.199	0.207	0.204	0.212	0.208	0.217	0.213
240	0.166	0.164	0.170	0.167	0.174	0.171	0.178	0.175	0.182	0.179
300	0.134	0.132	0.137	0.135	0.140	0.138	0.143	0.141	0.146	0.144

Table: indicative values of U_c for sandwich panels (metal facings contribution is considered as negligible) with stone wool core with Lambda = 0.041 W/(m·K), 0.042 W/(m·K), 0.043 W/(m·K), 0.044 W/(m·K) and 0.045 W/(m·K)



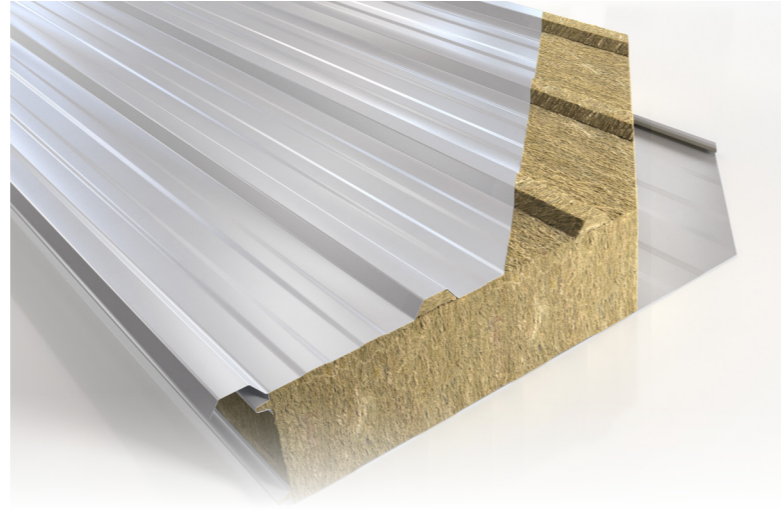
Stone Wool Sandwich Panel Roof

Short description:

Self-supporting sandwich panel insulated with ROCKWOOL stone wool slabs cut into lamellas, with double metal facings, to be used for roof application with slope not less than 5%, classified in fire reaction class A2-s1, d0 according to EN 13501-1 (non-combustible). The external facing has a corrugated profile (trapezoidal height of around 40 mm).

General information:

- Modular panel width of 800 - 1200 mm
- Installation: panels are lodged to the supporting structure by mean of drilling threaten screws made from austenitic stainless steel (consult sandwich panel manufacturer guidelines)
- Panel thickness: XXX mm
- Panel length: YYY mm by mean of a continuous process



SUPPORTING INFORMATION

- ~ min. thickness 40 mm, ~ max. thickness 240 mm (trapezoidal elements not included); 40, 50, 60, 80, 100, 120, 150, 170 and 200, 220, 240 mm
- For further information regarding load, span length and length of the sandwich panel, reference the original manufacturer's technical datasheet

Internal metal facing:

- Shape: slatted ribbed / micro ribbed / smooth
- Material: pre-painted structural galvanized steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 1.0 mm
- Surface protection: protective film
- Colour: upon Architect choice based on RAL colour chart

Insulation:

- Type: inorganic and non-combustible stone wool, type ROCKWOOL i.e. Spanrock product range
- Insulation layer made of lamellas cut from stone wool slab in between metal skins
- Density: minimum 100 kg/m³ up to 150 kg/m³

SUPPORTING INFORMATION

Stone wool density contributes to the performances of the sandwich panel. Panels with high density achieve increased fire, mechanical and acoustic performances.

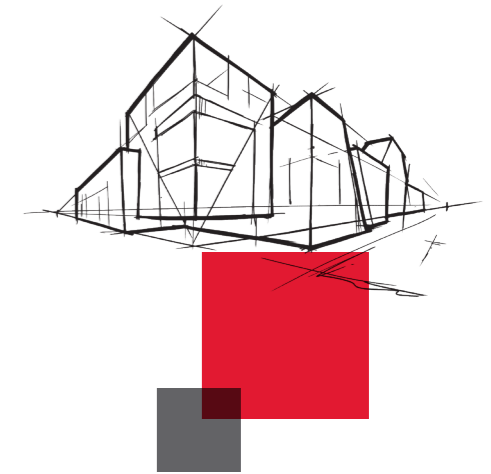
External metal facing:

- Shape: corrugated profile with trapezoidal elements (trapezoidal element height of around 40 mm)
- Material: pre-painted galvanized structural steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 1.0 mm
- Surface protection: protective film
- Colour: upon Architect choice based on RAL colour chart

- Thermal transmittance coefficient of the panel: U-Value W/(m²·K)

Lambda Stone Wool	0.043 W/(m·K)	0.044 W/(m·K)	0.045 W/(m·K)
SWP thickness (mm)	Roof W/(m ² ·K)	Roof W/(m ² ·K)	Roof W/(m ² ·K)
50	0.768	0.784	0.799
60	0.651	0.665	0.679
80	0.500	0.511	0.522
100	0.406	0.415	0.423
120	0.341	0.349	0.356
150	0.276	0.282	0.288
200	0.209	0.213	0.218
240	0.175	0.179	0.183

Table: indicative values of U_c for sandwich panels in roof application (metal facings contribution is considered as negligible) with stone wool core with Lambda = 0.043 W/(m·K), 0.044 W/(m·K) and 0.045 W/(m·K)





Stone Wool Sandwich Panel Acoustic Wall (Partition Wall)

Short description:

Self-supporting sandwich panel insulated with ROCKWOOL stone wool slabs cut into lamellas, with double metal facings, to be used for wall application, classified in fire reaction class A2-s1, d0 according to EN 13501-1 (non-combustible). The internal metal facing is micro-perforated to improve the acoustic performance with support of the stone wool insulation core.

General information:

- Modular panel width of 800 - 1200 mm
- Installation: panels are lodged to the supporting structure by means of drilling threaded screws made from austenitic stainless steel (consult sandwich panel manufacturer guidelines)
- Panel thickness: XXX mm
- Panel length: YYY mm by means of a continuous process

SUPPORTING INFORMATION

- ~ min. thickness 50 mm, ~ max. thickness 240 mm; 50, 80, 100, 150, 170 and 200, 220, 240 mm
- For further information regarding load, span length and length of the sandwich panel, reference the original manufacturer's technical datasheet.

Acoustic performances:

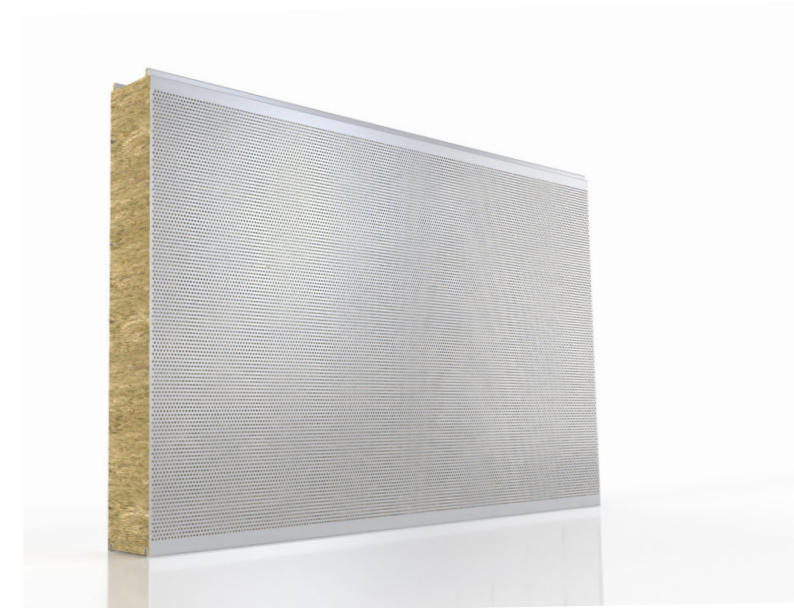
- Sound absorption coefficient $\alpha_w = 0.85$ to 1.00
- Sound insulation R_w : $30 < R_w < 35$ dB

External metal facing:

- Shape: slatted ribbed / micro ribbed / smooth
- Material: pre-painted structural galvanized steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 0.8 mm
- Surface protection: protective film
- Colour: upon Architect choice based on RAL colour chart

Internal metal facing:

- Shape: the internal metal facing is micro-perforated to improve the acoustic performance of the panel thanks to the insulation core. Surface ratio empty on full space > 28%
- Material: pre-painted structural galvanized steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 0.8 mm
- Surface protection: protective film
- Colour: upon Architect choice based on RAL colour chart

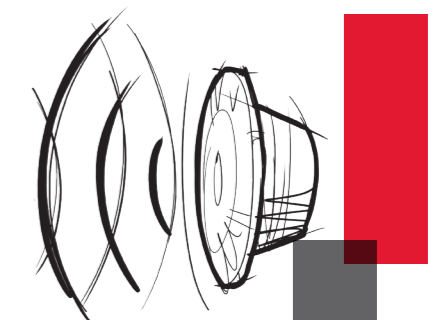


Insulation:

- Type: inorganic and non-combustible stone wool, type ROCKWOOL i.e. Spanrock product range
- Insulation layer made of lamellas cut from stone wool slab in between metal skins
- Density: minimum 85 kg/m³ up to 150 kg/m³

SUPPORTING INFORMATION

Stone wool density contributes to the performances of the sandwich panel. Panels with high density achieve increased fire, mechanical and acoustic performances.



Stone Wool Sandwich Panel

Acoustic Roof

Short description:

Self-supporting sandwich panel insulated with ROCKWOOL stone wool slabs cut into lamellas, with double metal facings, to be used for roof application with slope not less than 5%, classified in fire reaction class A2-s1, d0 according to EN 13501-1 (non-combustible). The external facing has a corrugated profile (trapezoidal height of around 40 mm). The internal metal facing is micro-perforated to improve the acoustic performance with support of the stone wool insulation core.

Attention: Clarify with sandwich panel manufacturer for recommended internal environment conditions (T and RH%)

General information:

- Modular panel width of 800 - 1200 mm
- Installation: panels are lodged to the supporting structure by mean of drilling threaten screws made from austenitic stainless steel (consult sandwich panel manufacturer guidelines)
- Panel thickness: XXX mm
- Panel length: YYY mm by mean of a continuous process

SUPPORTING INFORMATION

- ~ min. thickness 40 mm, ~ max. thickness 240 mm (trapezoidal elements not included); 40, 50, 60, 80, 100, 120, 150, 170 and 200, 220, 240 mm
- For further information regarding load, span length and length of the sandwich panel, reference the original manufacturer's technical datasheet.

Acoustic performances:

- Sound absorption coefficient $\alpha_w = 0.85$ to 1.00
- Sound insulation R_w : $30 < R_w < 35$ dB

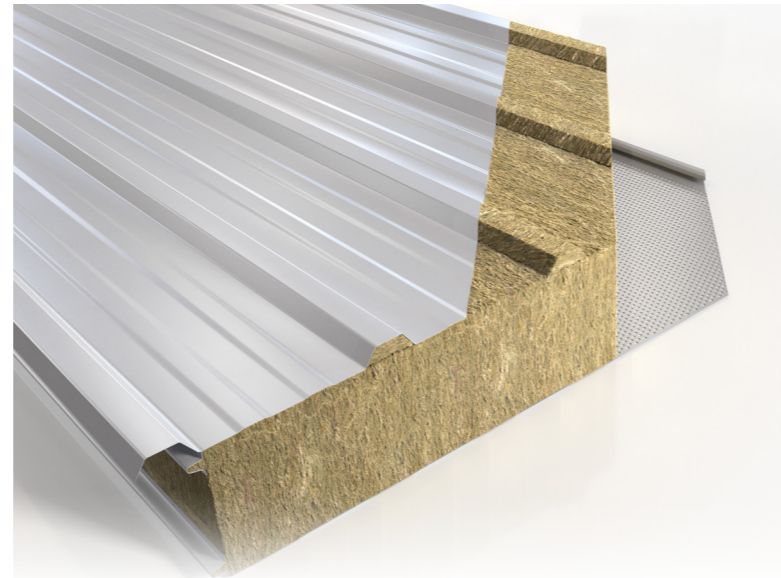
External metal facing:

- Shape: corrugated profile with trapezoidal elements (trapezoidal element height of around 40 mm)

SUPPORTING INFORMATION

The number of the trapezoidal elements can vary from manufacturer to manufacturer.

- Material: pre-painted structural galvanized steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
- Thickness: between 0.5 and 1.0 mm
- Surface protection: protective film



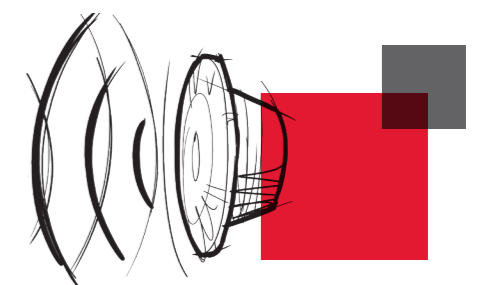
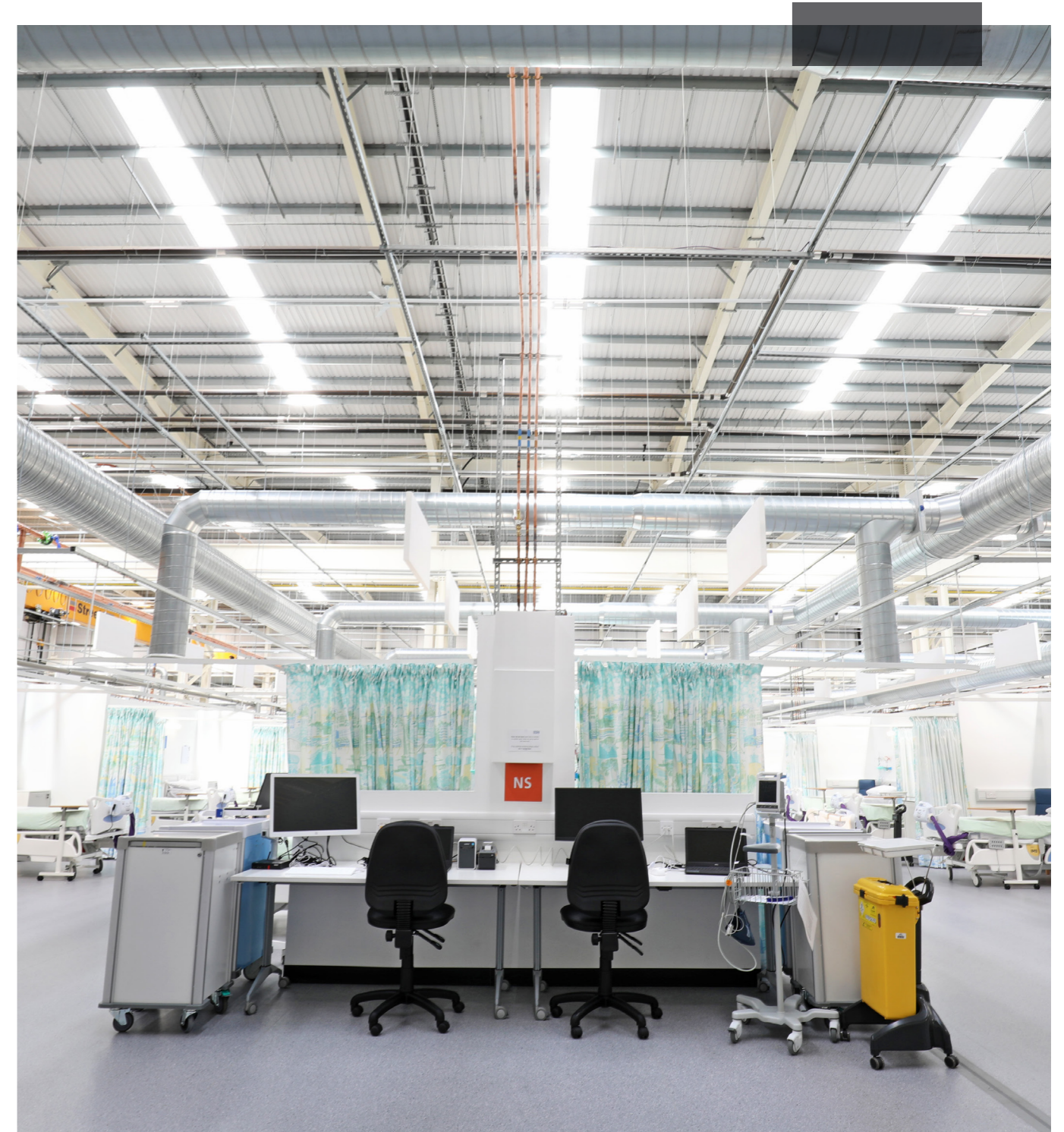
- Colour: upon Architect choice based on RAL colour chart
- Internal metal facing:**
 - Shape: the internal metal facing is micro-perforated, in order to improve the acoustic performance of the panel thanks to the insulation core. Surface ratio empty on full space > 28%
 - Material: pre-painted structural galvanized steel (EN 10346) / Stainless Steel / Pre-painted or natural aluminium / other
 - Thickness: between 0.5 and 1.0 mm
 - Surface protection: protective film
 - Colour: upon Architect choice based on RAL colour chart

Insulation:

- Type: inorganic and non-combustible stone wool, type ROCKWOOL i.e. Spanrock product range
- Insulation layer made of lamellas cut from stone wool slab in between metal skins
- Density: minimum 85 kg/m³ up to 150 kg/m³

SUPPORTING INFORMATION

Stone wool density contributes to the performances of the sandwich panel. Panels with high density achieve increased fire, mechanical and acoustic performances.



Disclaimer:

Information is up-to-date and correct as at the date of issue. As we cannot control or anticipate the conditions under which our products may be used, each user should review the information in specific context of the planned use. It is the user's responsibility to validate that our products with the properties described in the specification is suitable for use in its application. No express or implied warranties are given other than those implied mandatory by law. This document is the property of ROCKWOOL International A/S, no alteration or modification is allowed without prior written authorization, no liability shall rise from non-authorized alteration.

ROCKWOOL Core Solutions is part of the ROCKWOOL Group, offering advanced tailor-made stone wool insulation products for original equipment manufactured (OEM) systems.

At the ROCKWOOL Group, we are committed to enriching the lives of everyone who experiences our product solutions. Our expertise is perfectly suited to tackle many of today's biggest sustainability and development challenges, from energy consumption and noise pollution to fire resilience, water scarcity and flooding. Our product range reflects the diversity of the world's needs, while supporting our stakeholders in reducing their own carbon footprint.

Stone wool is a versatile material and forms the basis of all our businesses. With more than 11,000 passionate colleagues in 39 countries, we are the world leader in stone wool solutions, from building insulation to acoustic ceilings, external cladding systems to horticultural solutions, engineered fibres for industrial use to insulation for the process industry and marine and offshore.

RW-CS/07/22/OV04



ROCKWOOL Core Solutions
Email: coresolutionsmarketing@rockwool.com
Tel: +33 (0)1 40 77 82 82
www.rockwool.com/group