

GLASS WOOL BASE ACOUSTIC SAND SPRAY DECORATIVE STRUCTURE

NOTES AND DETAILS

VER: XSMPS70112

# Product Introduction

Glass wool based Acoustic Sound Sprayed Decorative Structure is composed of a glass wool panel base and a decorative spray coat, which is safe and environmental friendly, low cost building sound absorption product. The structure is acoustic wool (such as glass wool, rock wool.etc) cover by a sprayed decorative acoustic sand coat.

The sound absorption effect is mainly from the acoustic wool panel base. The sprayed sand coat is for enhancing the strength, preventing striking and escaping of glass fiber. This sand coat will not impact the sound absorption effect of the acoustic wool.

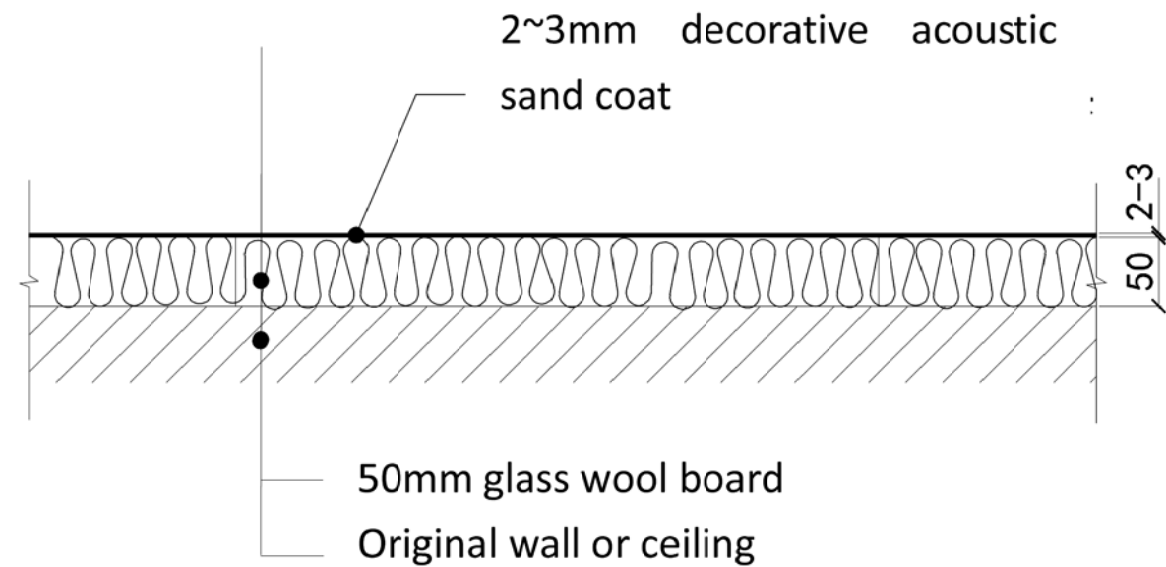
Sprayed decorative sand coat is made of natural silica sand, and the polymerization of silicon lead to hard pores sand coat. The sand coat has a large number of pores, with good sound permeability, so the incident sound waves dissipate into heat energy in the acoustic wool panel. The glass wool panel base and the sand coat are both stable performance, environmentally friendly non-toxic natural inorganic materials, therefore, this structure with non-combustible, weather resistant, not soluble in water, sunlight resistance, environmental friendly, and seamless, is ideal for building indoor sound absorption use.

Glass wool based Acoustic Sound Sprayed Decorative Structure can be designed large-scale surface. Can also be made into a corrugated, curved, internal and external corner, hyperboloid and other shapes of decorative effect.

Glass wool based Acoustic Sound Sprayed Decorative Structure suitable for

stage side wall, factory shop, Mechanical room, elevator shaft, underground tunnels and other places need noise reduction.

Glass wool based Acoustic Sound Sprayed Decorative Structure is also suitable for low-cost cinema indoor ceiling or side wall sound absorption treatment.



Item	Frequency					
	125	250	500	1000	2000	4000
NRC	0.30	0.69	1.00	0.94	0.95	0.97

<b>Product instruction</b>								No.	XSMPS
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## Technique parameters

Physical parameters of Glass wool based Acoustic Sound Sprayed Decorative Structure are shown in the chart below.

Item		Test Result	National requirements	Remark
Thickness	Glass wool board	30-100mm	/	<p>Materials are divided into substrate and sprayed coat. The substrate is acoustic wool board, which can be glass wool board with a density no less than <math>32\text{kg} / \text{m}^3</math> or <math>80\text{kg} / \text{m}^3</math> rock wool board fixed onto the wall or ceiling by nails. The coat layer is mortar-like, applied to the outer surface of the substrate by spraying, and dried to form a continuous, seamless, hard surface.</p> <p>Almost all of the sprayed sand coat are natural inorganic, free of formaldehyde, benzene and other harmful emissions, laboratory testing is lower than 1/10 of the national standard. After installation, it is equal to or better than the highest level of latex paint or wallpaper, which means that you could stay in immediately.</p> <p>The sound absorption coefficient is optimized by graded particle size. The laboratory achieves different porosity through the ratio of sand particles with different sizes, and the optimum sand gradation with high sound absorption coefficient is finally determined by nearly a thousand experiments. The gradation is one of the core technologies of acoustical sand panels.</p>
	Coat	2-3mm		
Surfaces density	Glass wool board	1.6-3.2kg/m <sup>2</sup>	/	
	Coat	3-4kg/m <sup>2</sup>		
Combustionclass			A2	
TVOCemission			≤0.5 mg	
Sound absorption coefficient			NRC ≥ 0.8	

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# Construction instruction

## 1 Arrival of materials

### 1 Arrival of materials

1.1 The arrival materials are spraying sand and slurry. Using paper bags and plastic transparent baskets for package separately. Paper bags identified as "spray sand", transparent baskets identified as "spray slurry."

1.2 The acoustic wool board, which can be glass wool board with a density no less than  $32\text{kg} / \text{m}^3$  or  $80\text{kg} / \text{m}^3$  rock wool board can be purchase from market. The brought acoustic wool board should be flat and the edges should be complete and good-looking.

## 2 Glass wool board installation

2.1 First step is point glued (such as polyurethane Styrofoam, quick drying powder, etc.) the glass wool board onto the original wall or ceiling. Then use the nail to fixed it. The acoustic wool penal should be tightly together, leaving no gap. For different structures of the bottom, should use the appropriate expansion bolt, expansion screws, tapping screws and other types of rock wool nails

2.2 Use the glue as a cushion to make glass wool board flat.

2.3 There should be 20mm gap between each glass wool board to have a neat horizontal and vertical visual effect.

## 3 Spray construction

3.1 One bag of spray sand matching one bag of spray slurry. Take a clean

bucket, first poured into the slurry, and then the sand. Then stir with the mixer until forming into paste.

3.2 Spray the sprayed paste onto the acoustic wool board using a conventional paint spray gun including the side of the board. The effect of the coat layer is the final effect of the construction, which should be treated with caution, and strive to perfect.

3.3 Recommended troweling more than twice, each thickness is about 1mm, the total coat plaster thickness should be controlled at 2mm.

3.4 Conventional temperature, humidity, well-ventilated building on the ground, base plaster drying time is about 12-24h. In the basement and other poor ventilation, or high humidity conditions in the south, the drying time may be extended (there are examples of relative humidity of 90% or more in the basement, the drying time is 72-96h).

3.5 The sand particles gradation is a professional sound-absorbing formulation that forms a breathable and permeable sandstone layer with 130 million pores per square meter. Therefore, in order to prevent the plugging of the pores caused by sound absorption failure, the slurry shall not add any other additives, the completion of the surface shall not be applied to any non-product surface with any other paint.

3.6 very special circumstances, the slurry allowed to try to add a small amount of water on site to improve the different workers habits, the general amount of water for per bag should not exceed 2% of the sand weight.

3.7 Note: After the completion of the construction of base plaster, it is required to be surface smooth, edge straight to ensure the coat plaster or coat spray decorative effect.

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## 4 Tools, technology, maintenance and clean

4.1 Construction tools: wallpaper knife, hand drill, mixer, air pump (air pressure 0.8Mpa, outlet > 1.0m<sup>3</sup> / min), paint gun.

4.2 Installation of acoustic wool board: In order to making the board flat, while enhancing the installation strength, point glued at the back side of the board by using polyurethane styrofoam and then fixed by nails is necessary.

4.3 Spray layer: The spray sand and spray slurry should be well mixed. Pour the slurry first into a bucket and then the sand. Well stirred by mixer forming into paste. Spray twice or three times, and the thickness of each layer is no more 1mm. Make sure the total coat thickness should be controlled at 2mm. The spray coat should completely cover the acoustic wool base.

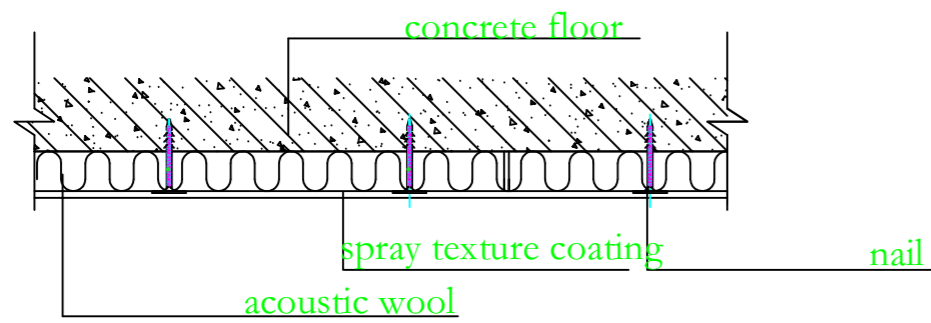
4.4 Note:

- 1) One bag of sand matching one bag of slurry, no additive slurry or water.
- 2) Slurry first poured, then sand poured in to bucket.
- 3) The pressure and gas of the pump must be large enough to meet the requirement of air pressure 0.8Mpa and outlet > 1.0m<sup>3</sup> / min.

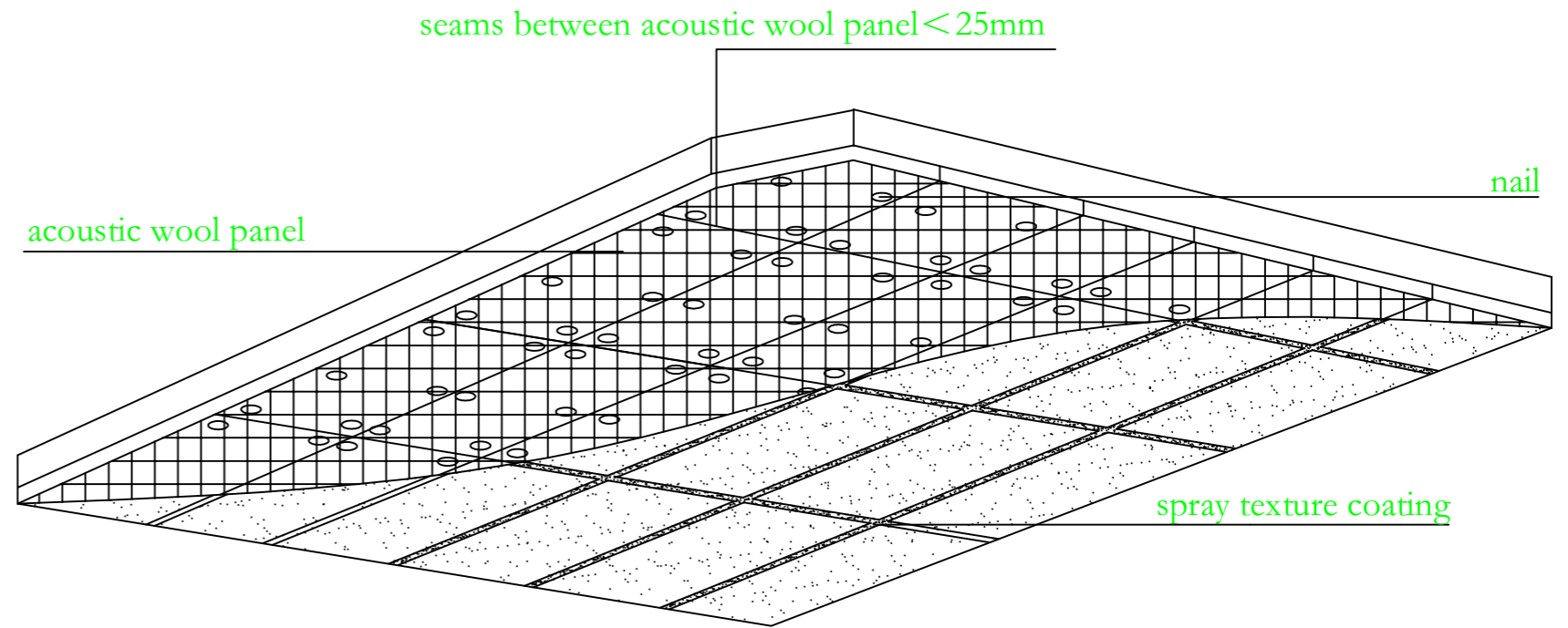
4.5 Maintenance and cleaning

- 1) Collision avoidance: try to avoid sharp objects impact. Once stroked, additional plaster or spray is necessary.
- 2) Dust avoidance: try to avoid indoor dust to prevent surface pores blocked, aesthetic downgraded. After construction, pay attention to finished coat protection.
- 3) Cleaning: for dust, air pump can blow dust. Slightly stains, can be gently wiped with a clean wet cloth. Note: no heavy wiping to prevent surface scratch which may degrade aesthetics.

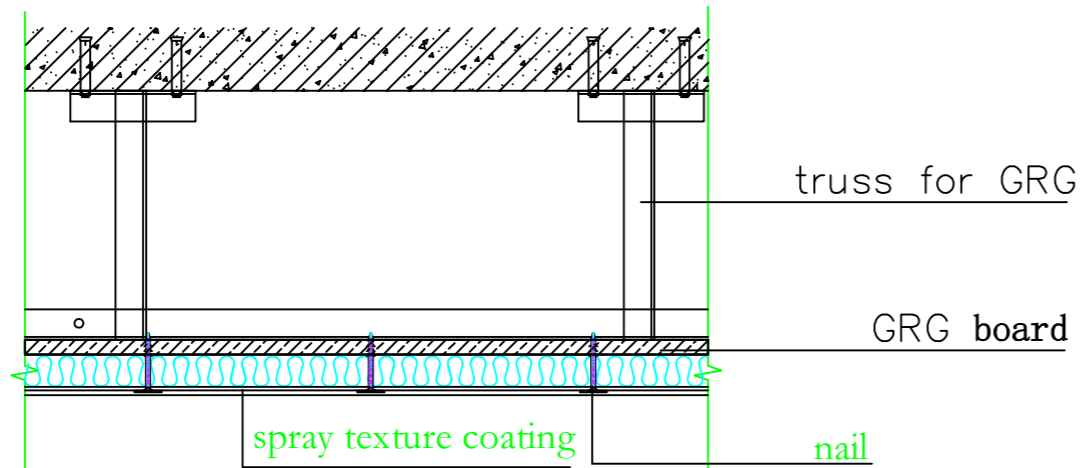
<b>Construction instruction (2)</b>								No.	XSMPS
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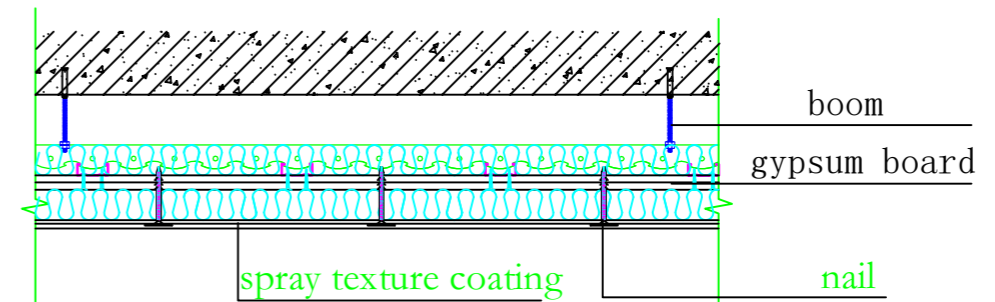
concrete ceiling



spray texture coating ceiling

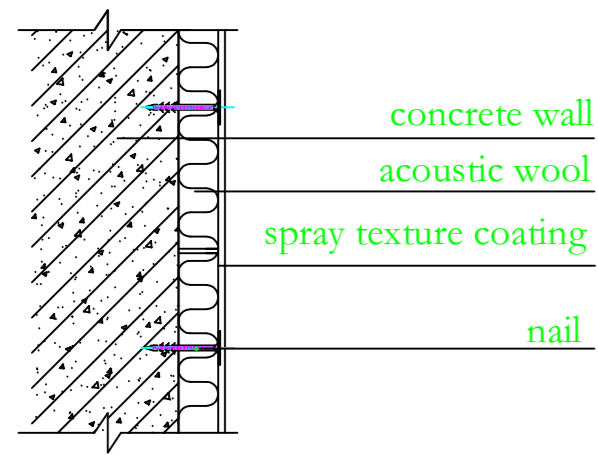


GRG ceiling

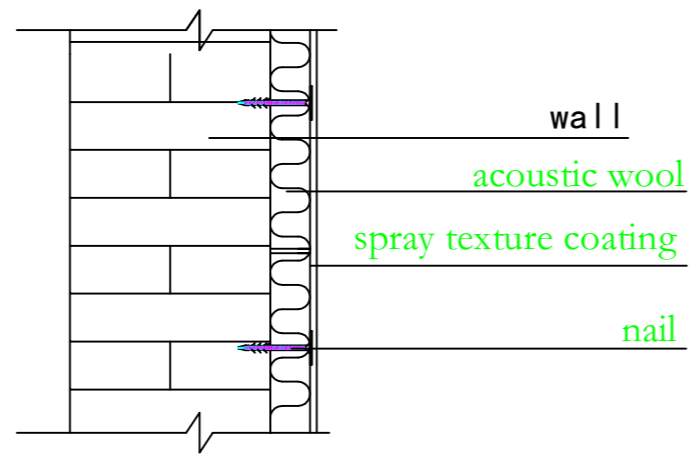


gypsum board ceiling

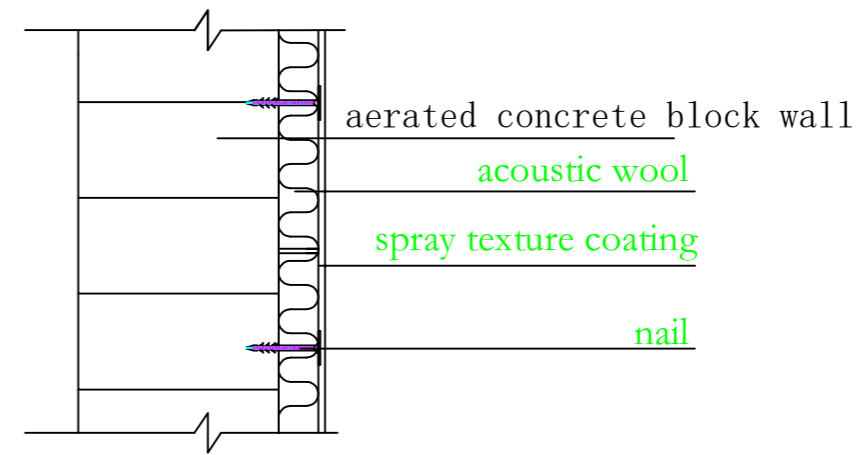
<b>acoustic ceiling</b>				NO.	XSMPS
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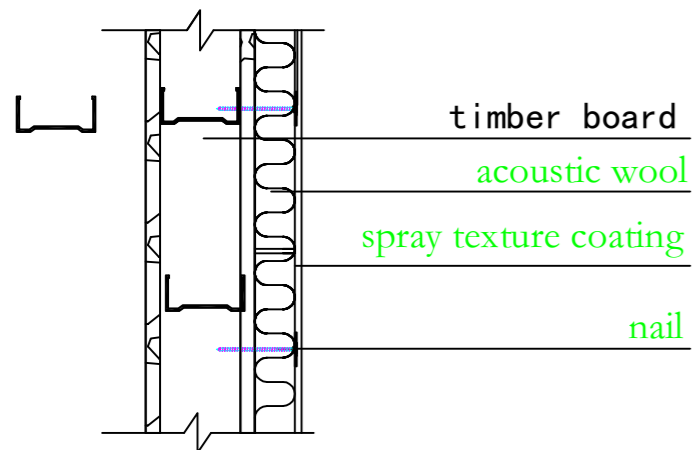
① concrete wall



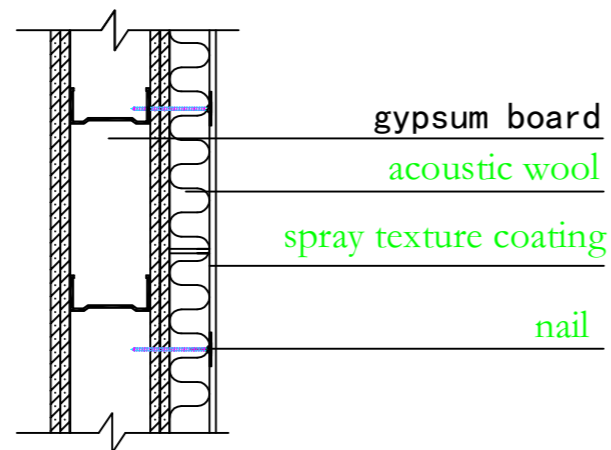
② wall



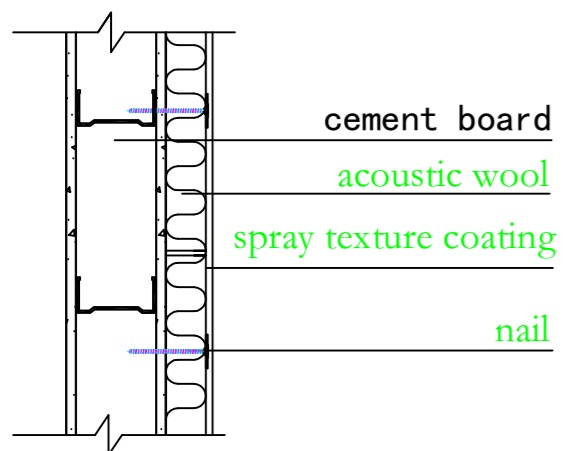
③ aerated concrete block wall



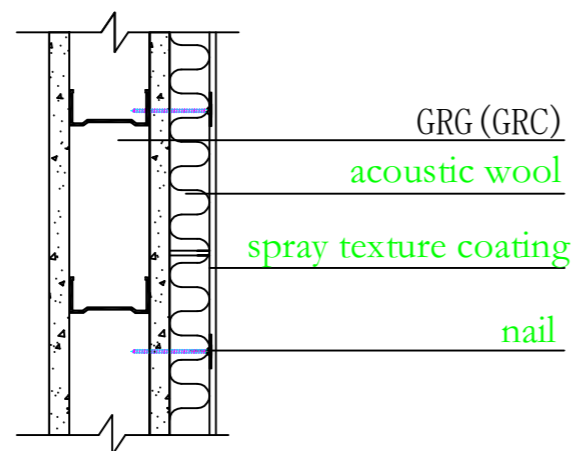
④ timber board



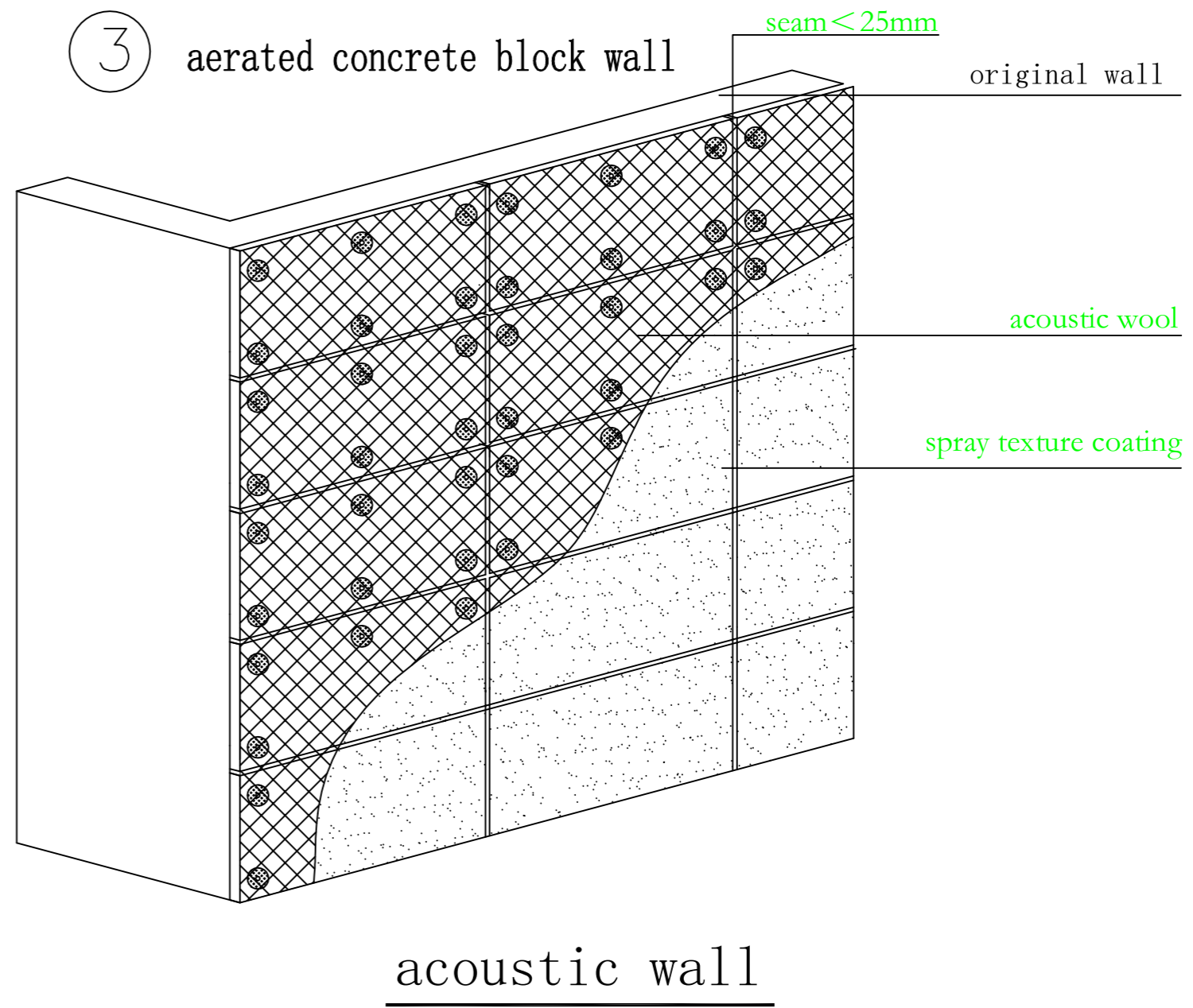
⑤ gypsum board



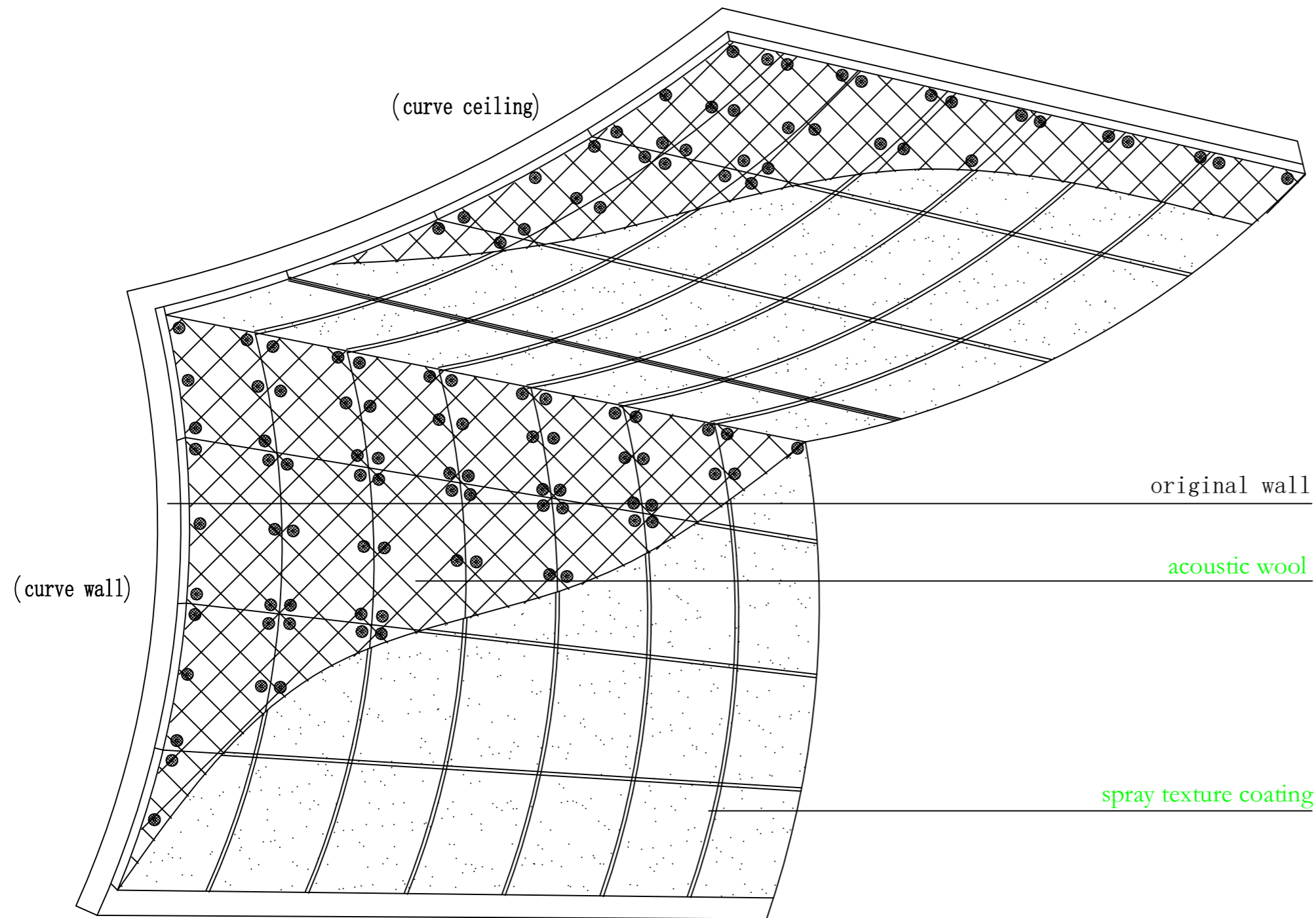
⑥ cement board



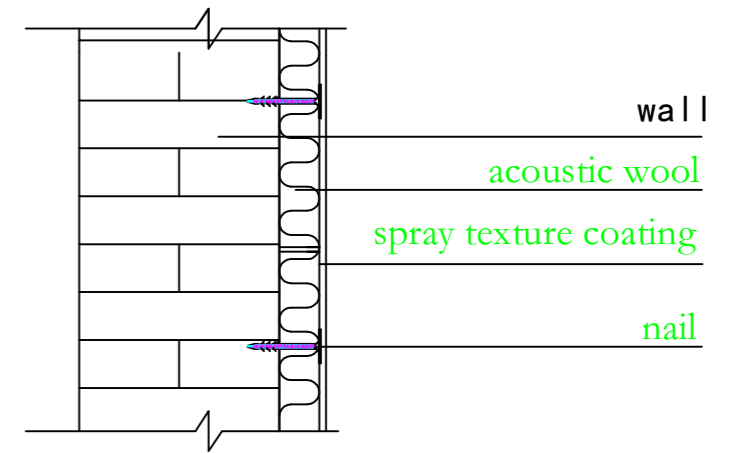
⑦ GRG(GRC)



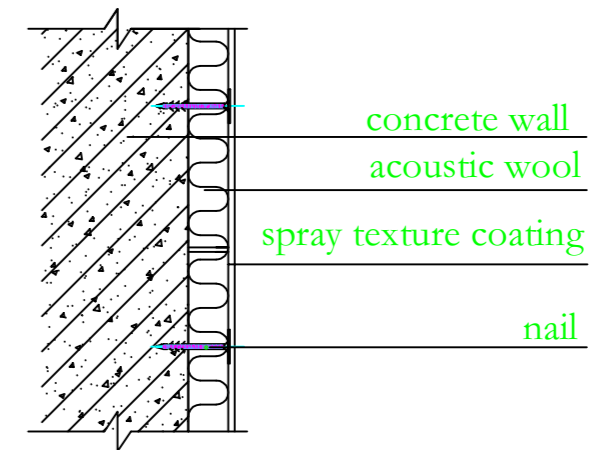
<b>acoustic wall</b>				NO.	XSMPS
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curve wall & curve ceiling



② wall



① concrete wall

<b>curve wall &amp; curve ceiling</b>				NO.	XSMPS
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