ROCKFLOOR®

Thermal and acoustic stone wool insulation for ground and separating floors

ROCKWOOL®

ROCKFLOOR®

The ROCKFLOOR® range consists of two products families, Thermal ROCKFLOOR® and Acoustic ROCKFLOOR®.

The ROCKFLOOR® boards feature a high compressive strength to work in all common applications and have a tissue facing to make them compatible with a wide range of installation methods. Thermal ROCKFLOOR® has a dual density to absorb sub-floor imperfections, while offering a high compressive strength on the top surface. Acoustic ROCKFLOOR® is a mono-density board designed to absorb impact noise in separating floors.

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A1

Certificate No FM 02262

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Advantages

- High compressive strength and point load resistance
- Minimises thermal and acoustic bridging
- Easy handling and fitting
- Absorbs sub-floor imperfections
- Compatible with a wide range of installation methods

Description

The ROCKFLOOR® range comprises of two product families; Thermal ROCKFLOOR® and Acoustic ROCKFLOOR®.

Thermal ROCKFLOOR® is a dual density insulation providing thermal performance for ground floors.

Acoustic ROCKFLOOR® delivers impact sound protection for intermediate and separating floors.

Applications

ROCKWOOL ROCKFLOOR® is designed for use in thermal applications, to meet Building Regulations Part L, in ground floors, and for acoustic applications, to meet Building Regulations Part E, in intermediate and separating floors.

This document details the different constructions options available.

Performance

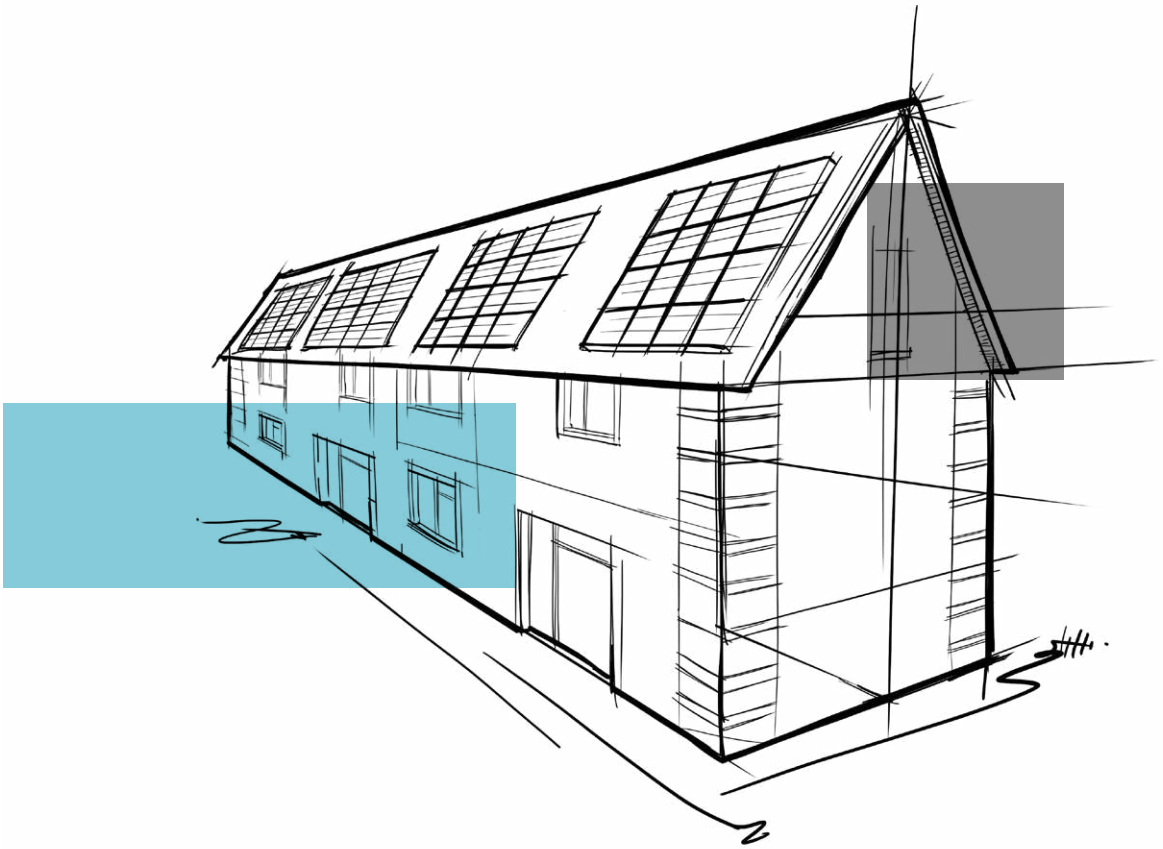
Thermal
Tested to BS EN 13162, ROCKWOOL Thermal ROCKFLOOR® has a thermal conductivity of 0.038 W/mK.

Fire classification
Rated A1 when tested to EN 13501-1 classification using test data from reaction to fire test. ROCKFLOOR® boards can be used in conjunction with ROCKWOOL Flexi to construct a compartment floor, providing 1 hour of fire resistance combined with acoustic isolation.

Acoustics
The density and fibre orientation of ROCKFLOOR® means it is especially effective at absorbing vibration, or impact, based sound. Suitable for use in achieving Part E (Sound) of the Building Regulations in separating floors.

Technical information

Standards and approvals
ROCKWOOL ROCKFLOOR® complies with the requirements of BS EN 13162 Thermal Insulation Products for Buildings: Factory made mineral wool (MW) products specification.



Installation

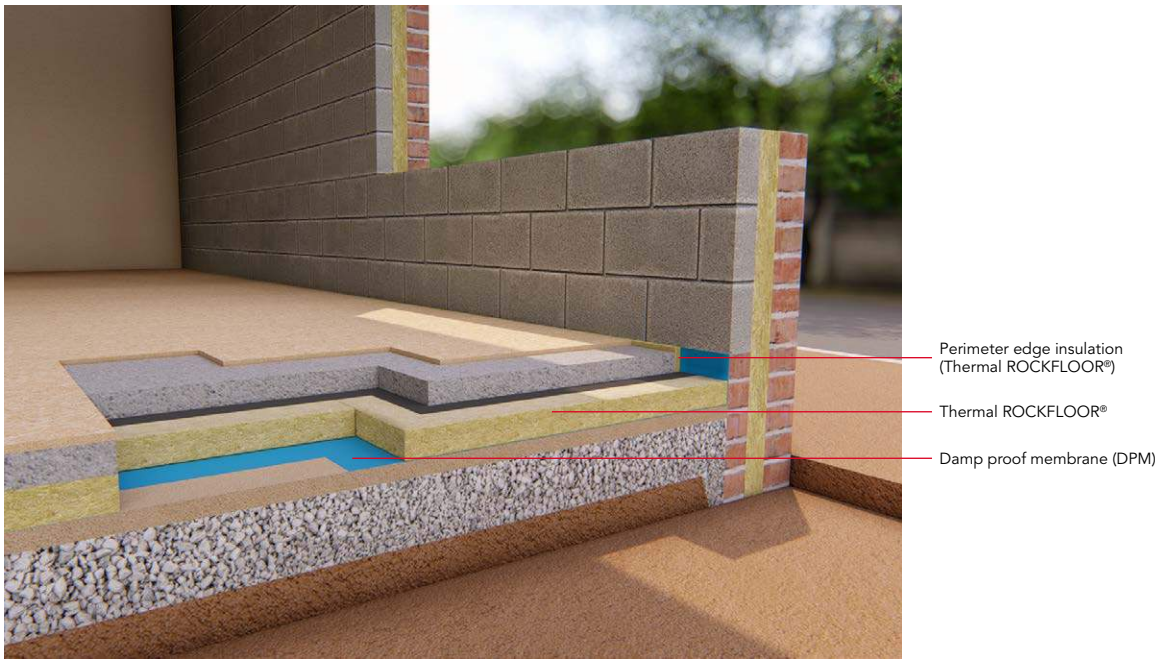
Thermal ROCKFLOOR®

Because the U-value for ground floors is dependent upon size, shape, soil type, edge, insulation etc, it is not possible to quote specific values. The following tables show the insulation thickness required to suit floor types based on their P/A ratio.

Construction 1: Ground bearing slab

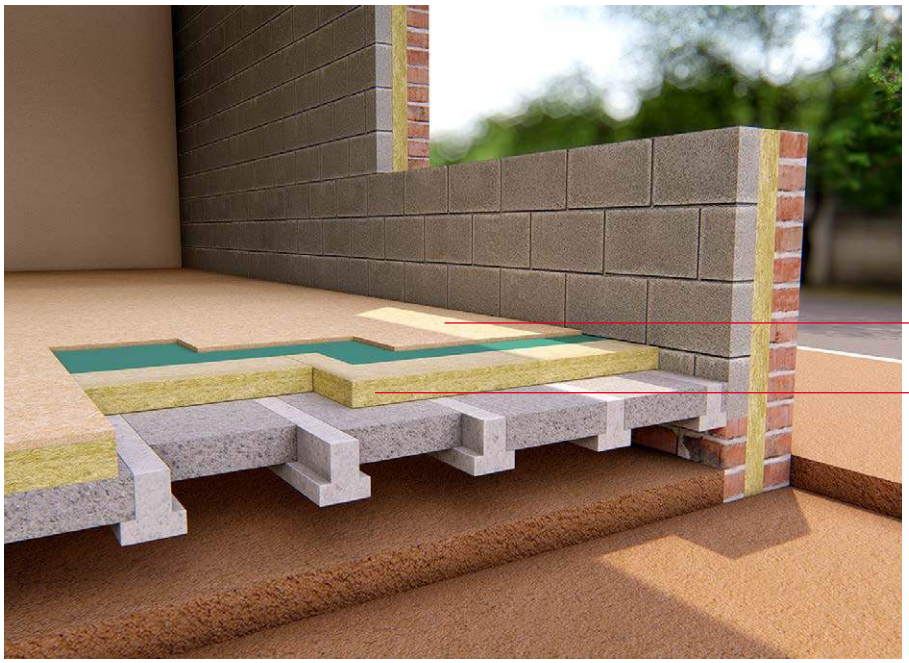
Thermal ROCKFLOOR® can be installed below the concrete slab or below screed.

	U-value (W/m²K)			
	0.25	0.22	0.20	0.18
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	nil	nil	nil
0.2	30	50	65	90
0.3	60	80	95	120
0.4	75	95	110	130
0.5	85	105	120	140
0.6	90	110	130	150
0.7	95	115	130	150
0.8	105	120	140	160
0.9	105	125	140	160
1.0	110	130	145	175



Construction 2: Suspended beam and block
ROCKWOOL Thermal ROCKFLOOR® is laid over the dense beam and block floor below screed or t&g flooring grade chipboard where floor heights are limited.

	U-value (W/m²K)			
	0.25	0.22	0.20	0.18
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	30	50	70
0.2	65	80	100	120
0.3	80	100	120	140
0.4	95	115	130	150
0.5	100	120	135	160
0.6	105	125	140	160
0.7	105	130	145	165
0.8	110	130	145	165
0.9	115	130	150	170
1.0	115	135	150	170



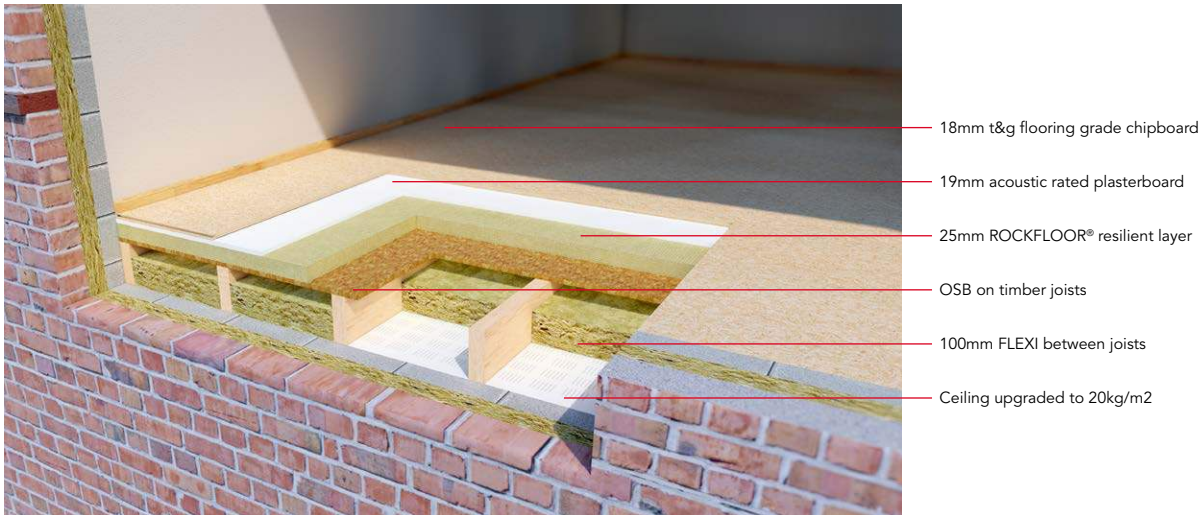
Acoustic ROCKFLOOR®

Separating floors
The Approved Document E describes a range of constructions that should achieve the standards if built correctly.

Service runs
Service runs can be accommodated by recessing the ROCKFLOOR® and a minimum thickness of 50mm of the insulation is required to achieve this

Separating Timber Floor Upgrade (Material Change of Use): ADE Section 4
Airbourne DnT,w + Ctr 43dB (or more)
Impact L'nT,w 64dB (or less)

- Floating layer: A minimum of 2 layers of board material are required to provide a minimum total mass of 25Kg/m², spot bonded together with joints staggered (eg 18mm t&g flooring grade chipboard and 19mm plasterboard plank).
- The floating layer should be loose laid over the ROCKFLOOR®.
- A minimum of 25mm of ROCKWOOL ROCKFLOOR® resilient layer should be laid on the existing floor deck on existing timber floor joists.
- 100mm of ROCKWOOL Flexi should be used between joists.
- Existing ceiling upgraded to 20Kg/m²: If the existing ceiling consists of lath and plaster it should be retained, providing it satisfies Part B (Fire Safety). If in doubt, underdraw it with an additional layer of 12.5mm Firecheck board before screwing into the joists.
- Pre-completion site testing required



Note: If the existing ceiling is being replaced the sound performance of the floor can be further enhanced by fitting resilient bars which isolate the ceiling from the floor structure.

By adopting this method, Site Test Report no. 2271 showed that the construction exceeded ADE performance requirements:

Airborne: Rw 48 dB DnTw + Ctr
Impact: 58 dB LnTw

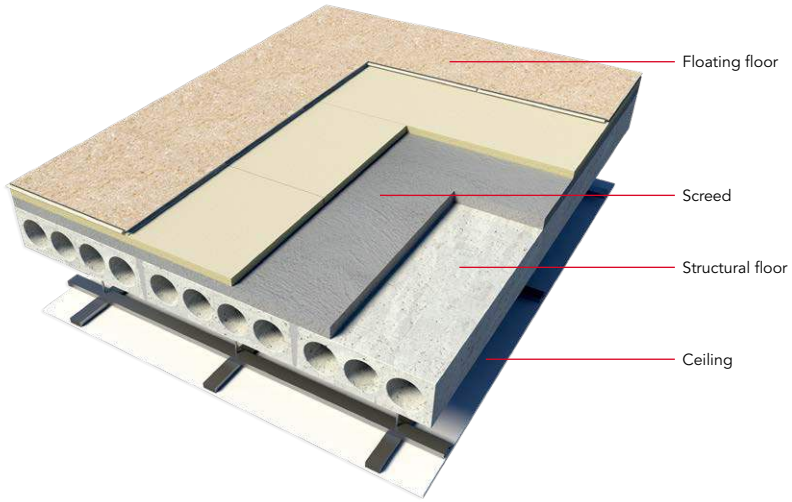
Robust details – Acoustic solutions

The Approved Document E includes references to Robust Details (RDs) for use in new build separating wall and floor applications in dwellings. Compliance with the RDs will negate the requirement for pre-completion testing of new build separating wall and floor constructions.

Robust Details are based upon meeting sound test-values in excess of those required by Approved Document E.

This guide highlights RDs involving ROCKWOOL ROCKFLOOR® products:

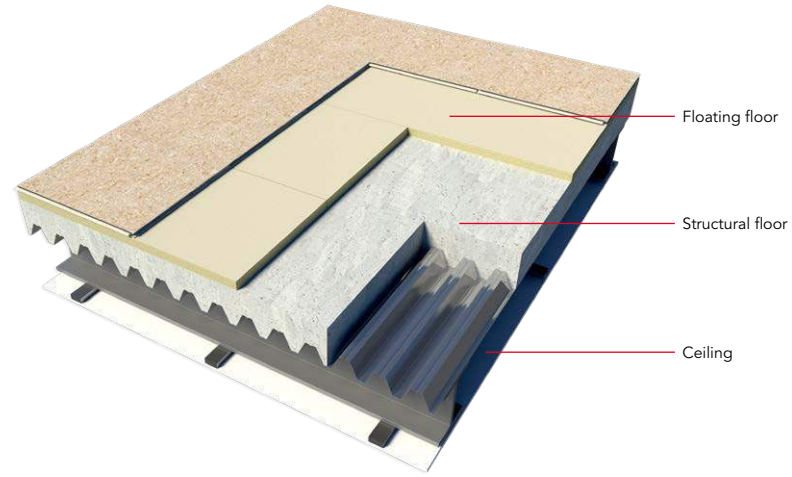
Separating floors – concrete



1. Precast concrete plank - E-FC-1

Robust Details platform floor finish FFT4:

- T&g flooring board on 25mm ROCKWOOL ROCKFLOOR® (shown)
- Screed: 40mm (min) screed nominal 80Kg/m² mass
- Structural floor: 150mm (min) pre-cast concrete floor plank, minimum 300Kg/m² mass per unit area
- Ceiling finish: See Robust Detail handbook for suitable ceiling options



2. Steel-concrete composite - in-situ concrete slab supported by profiled metal deck E-FS-1

Robust Details platform floor finish FFT4:

- T&g flooring board on 30mm ROCKWOOL
- Acoustic ROCKFLOOR®
- Structural floor: In-situ concrete slab, min density
- 2200Kg/m³, supported by profiled metal decking
- Concrete thickness: 80mm (min) at shallowest point and-130mm (min) at deepest point
- Ceiling finish: See Robust Detail handbook for suitable ceiling options

Installation instructions

Installation considerations
ROCKWOOL ROCKFLOOR® has a high compressive strength making it suitable for use in a wide range of applications. This means ROCKFLOOR® can support typical loads that arise in dwellings, offices, shops and similar areas, for further details contact the ROCKWOOL Technical Solutions team. The compressive strength is based on evenly distributed loading, and as such the boards should be protected where there is frequent footfall, step down areas and access routes whilst exposed during installation, and prior to the laying of a permanent covering.

Care must be taken to ensure the boards are not exposed to the wet and moisture, before and during installation, until the floor is permanently covered and protected.

Laying method
The ROCKFLOOR® boards should be laid lengthways to the longest wall, in a staggered joint pattern, tissue face upwards. The joints should be laid with tightly butted joints. There should be no gaps at abutments. For dual layered systems, always ensure the tissue face is laid facing upwards, and with vertically staggered joints. The offcut at one end of the first row is then used to start the next row and similarly with subsequent rows.

An upstand of ROCKFLOOR® should be placed around the perimeter to isolate the screed thermally and acoustically from the wall. ROCKFLOOR® is water resistant but requires a DPM to protect against rising damp. The DPM should be laid on an even flat surface, sealed with the DPC and not be holding water on its surface.

Applications

Screeds:

Traditional sand and cement screeds
Standard sand and cement screeds should be laid at a minimum 65mm thick. The screed should contain a light wire mesh reinforcement and be laid strictly in accordance with BS 8204.2003+A1:2009 Part 1.

Calcium sulphate / anhydrite screeds
Where thinner, high performance screeds are required, these must be laid in accordance to the manufacturer's guidelines. Anhydrite screeds provide an ideal flat surface, can reduce installation time and offer floor to ceiling height advantages over traditional sand and cement screeds. Typically laid at a minimum of 40mm thick, wire mesh re-enforcement is not usually required.

Under slab application
ROCKFLOOR® can also be placed under the slab, provided the slab is only supporting normal floor loads. The ROCKFLOOR® should be placed on the DPM prior to pouring the concrete. An upstand of ROCKFLOOR® must be placed around the perimeter to isolate the floor slab thermally from the wall.

Boarded applications
Ensure the sub-floor is level. ROCKFLOOR® will absorb minor imperfections but if the floor is generally uneven a levelling screed should be applied. On suspended timber floors the ROCKFLOOR® should be supported on 15mm thickness plywood nailed to the joists.

It is recommended that a polyethylene VCL (min. 1200 gauge) be installed either immediately below or above the insulation to protect the chipboard from moisture migration.

To allow for expansion of the chipboard a minimum gap of 10mm should be provided around the room perimeter. ROCKFLOOR® should also be installed in this gap, and where acoustic insulation is required a gap of approximately 5mm should be left between the chipboard and the bottom edge of the skirting.

At thresholds, stair landings, or where a change in floor construction occurs, the insulation should be cut back and a timber batten of the same thickness as the insulation inserted to reinforce the edge. Where acoustic insulation is required, the batten thickness should be reduced to include a 6mm thick neoprene isolation strip bonded to the batten.

Other installation considerations

Heavy fixtures (such as baths, kitchen units etc.)
It is recommended that permanently fitted heavy items such as baths, WCs, kitchen units and the like should be supported directly from the sub-floor or via previously positioned timber battens recessed within the insulation layer.

Service runs
Services may be accommodated by either recessing the insulation or, where access is required, by using purpose made ducts. Consideration should be given to the local Water Bye-Laws (Bye-Law 58) regarding the provision of access to pipes. When electrical conduit is to be placed within or below the insulation, the electrical sub-contractor should check whether the size of the cables needs to be increased to comply with IEE Wiring Regulation.

Specification clauses

The following NBS clauses include ROCKFLOOR:
E20:30, E20:200, K11:25, K11:215, K11:225, K11:235, K:11:245, K21:111, M10:40, M10:290, M10:295, M13:20, M13:260, M13:265

Sustainability

As an environmentally conscious company, ROCKWOOL promotes the sustainable production and use of insulation and is committed to a continuous process of environmental improvement.

All ROCKWOOL products provide outstanding thermal protection as well as four added benefits:

- **Fire resistance**
- **Acoustic comfort**
- **Sustainable materials**
- **Durability**

Health & Safety

The safety of ROCKWOOL stone wool is confirmed by current UK and Republic of Ireland health & safety regulations and EU directive 97/69/EC:ROCKWOOL fibres are not classified as a possible human carcinogen.

A Material Safety Data Sheet is available and can be downloaded from www.rockwool.co.uk to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

Environment

Made from a renewable and plentiful naturally occurring resource, ROCKWOOL insulation saves fuel costs and energy in use and relies on trapped air for its thermal properties.

ROCKWOOL insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

ROCKWOOL is approximately 97% recyclable. For waste ROCKWOOL material that may be generated during installation or at end of life, we are happy to discuss the individual requirements of contractors and users considering returning these materials to our factory for recycling.

Interested?

For further information, contact the Technical Solutions Team on 01656 868490 or email technical.solutions@rockwool.co.uk

Visit www.rockwool.co.uk to view our complete range of products and services.

The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the word.

The ROCKWOOL trademark is one of the largest assets in the ROCKWOOL Group, and thus well protected and defended by us throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion. You must apply for a Trade Mark Usage Agreement. To apply, write to: marketcom@rockwool.com.

Trademarks

The following are registered trademarks of the ROCKWOOL Group:

ROCKWOOL®

ROCKCLOSE®

RAINSCREEN DUO SLAB®

HARDROCK®

ROCKFLOOR®

FLEXI®

BEAMCLAD®

FIREPRO®

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