

HEALTH AND ENVIRONMENTAL PROTECTION

The incorporation of insulation material from mineral wool makes it possible to build healthy and comfortable living spaces as its properties improve the microclimate in a room and, at the same time ensure excellent thermal, sound and fire protection. Products are tested according to Directives 97/69/EC, for which they were granted the »Test Certificate of Bio-solubility«, demonstrating their health safety. Knauf Insulation products are also ecologically oriented, as they reduce the consumption of thermal energy sources, thereby reducing environmental pollution. It is also of great importance that the production procedure of mineral wool is carried out in a closed circuit, i.e. production process waste is recycled in briquette manufacturing and then returned back to the production line.

As part of our policy of continuous product development, we reserve the right to revise specifications without notice. The information given in the brochure is correct to the best of our knowledge. It provides general information only and users should verify whether the products described are suitable for their specific requirements.



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Insulation boards for fire doors DRS FIRE BOARD 2D & 3D

Knauf Insulation DRS Fire Board 2D & 3D



ROCK MINERAL WOOL – MAIN FEATURES AND CHARACTERISTICS

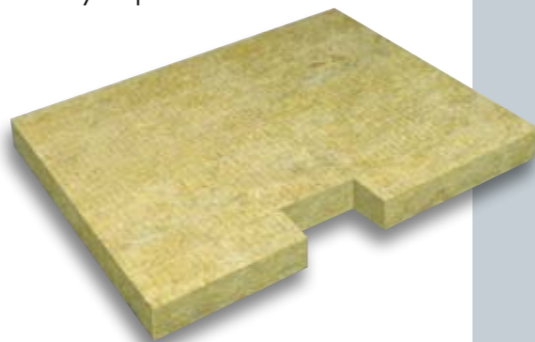
- **THERMAL INSULATION PROPERTIES;** Rock mineral wool has excellent thermal conductivity properties.
- **NON-COMBUSTIBILITY;** Rock mineral wool boasts the highest possible Euroclass A1 fire rating according to European standards (melting point above 1,000°C).
- **SUPERB ACOUSTIC PERFORMANCE;** Due to its open fibrous structure rock mineral wool is able to absorb and significantly reduce high levels of sound.
- **ENERGY SAVING MATERIAL;** Lower energy consumption and reduced CO₂ emissions.
- **VAPOUR PERMEABILITY;** Owing to its fibrous structure rock mineral wool is vapour permeable.
- **WATER REPELLENT;** The wool fibres are permanently water-repellent.
- **HIGHLY SUSTAINABLE;** Rock mineral wool is non-hazardous for both personal health and for the environment. It is entirely free of CFCs, HCFCs and all other ozone depleting materials, both in manufacture and end-content, and represents no known threat to the environment.
- **PERMANENTLY STABLE DIMENSIONS;** Rock mineral wool products remain integral, and do not change shape or fluctuate in dimensions (length or width), regardless of changes in humidity or temperature.
- **RESISTANCE TO MICROORGANISMS;** Rock mineral wool remains clean and hygienically sound, is non-hygroscopic, rot-proof, and will not sustain vermin nor encourage the growth of fungi, mould or bacteria.



KNAUF INSULATION DRS FIRE BOARD 2D & 3D* Superior fire-resistance performance and more efficient door production ... all-in-one for door producers

Fire-resistant doors demand the highest performance insulation cores, especially on fire break-through most sensitive upper part of the doors. Knauf Insulation, a leading European supplier of rock mineral wool for metal fire protection doors, has developed a **new, state of the art patented product: insulation cores featuring innovative density distribution within the same board, delivering supreme fire-resistance performance in the most critical areas.** These unique cores not only offer exceptional fire performance but contribute to your production efficiency as well.

A new generation of rock mineral wool cores for fire-doors is here:
Knauf Insulation DRS FIRE BOARD 2D and Knauf Insulation DRS FIRE BOARD 3D.



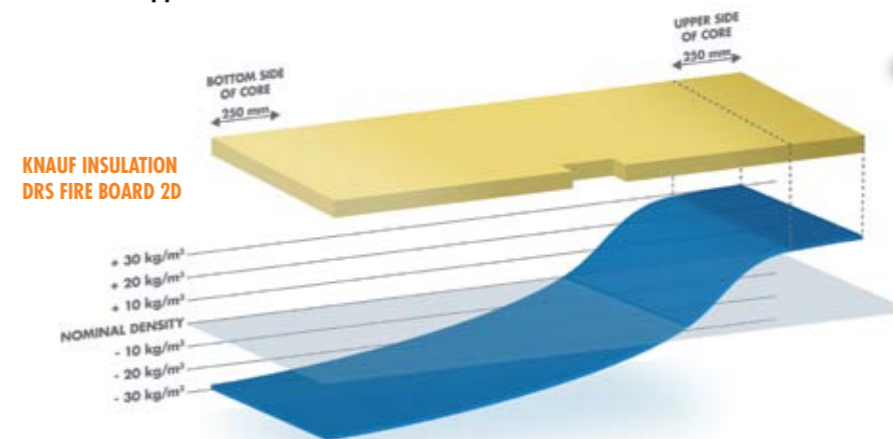
BENEFITS FOR DOOR PRODUCERS

FEATURES – KNAUF INSULATION DRS FIRE BOARD 2D & 3D	YOUR BENEFITS
Unique and patented technological process	State of the art insulation core in your products
Higher density of insulation core on fire-sensitive parts of doors	Supreme fire resistance
Lighter door insulation core for the same fire resistance performances	Lighter doors, easier handling and installation
Elimination of fire resistant additives in door production	Savings on door-production costs
No additional treatment to improve fire-resistance of cores necessary	Door production process can run continuously; faster door production time
Custom designed boards according to your specifications and requirements	Door-core perfectly suitable for production processes
Rock mineral wool core for excellent fire protection	Doors classified as EI30 and EI60 fire protection doors (Euroclass A1, EN 13501)
Excellent thermal conductivity and acoustic insulation	Excellent thermal door insulation and sound absorption provide maximum comfort and energy savings for your end-users
Excellent mechanical properties	Structural stability
Environmental solution, non-hazardous to personal health and environment	Door cores in line with future technology trends preferring sustainable materials for energy savings
Performance within norms of upcoming fire & smoke standards	Door-core compliance with European standards
Worldwide production	Availability
Knauf Insulation OEM Solutions as your business partner	Outstanding partnership through excellent service and support for your development projects

*Knauf Insulation DRS Fire Board 2D & 3D are not for sale or use in Germany, other than to licensees of German patent DE 103054221 of Hörmann KG Freisen

KNAUF INSULATION DRS FIRE BOARD 2D & 3D* Insulation cores with innovative density distribution – for supreme fire-resistance performance in the most critical areas

KNAUF INSULATION DRS FIRE BOARD 2D is rock mineral wool board produced in a patented technological process that provides a **higher density on the fire-critical upper side** of the door core.

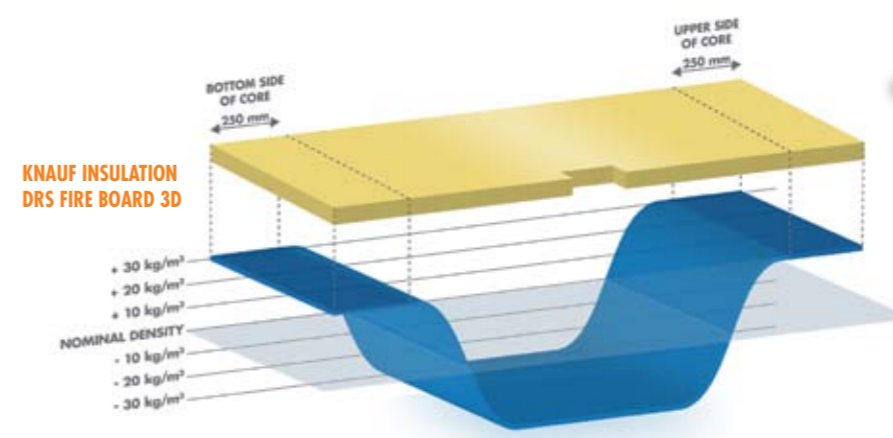


APPLICATION

- Insulation cores for fire resistant steel doors (industry, public, leisure, hotels, education, health, housing etc.) specified by European standards as: **Class EI30, Class EI60**

Blue line depicts the density distribution across the insulation board Knauf Insulation **DRS FIRE BOARD 2D**. Compared to the nominal density in the middle, the density is higher on the upper side of the board (up to + 30 kg/m³) and lower on the bottom side of the board (down to - 30 kg/m³). **For example (board with nominal density 190 kg/m³): 160 kg/m³ – bottom part of board 190 kg/m³ – middle part of board 220 kg/m³ – upper part of board**

KNAUF INSULATION DRS FIRE BOARD 3D is rock mineral wool board produced in a patented technological process that provides a **higher density on the upper and the bottom side** of the door core (suitable for door production with left or right door-openings).



Blue line depicts the density distribution across the insulation board Knauf Insulation **DRS FIRE BOARD 3D**. Compared to the nominal density of the board, the density is higher on the upper and bottom part of the board (up to + 30 kg/m³) and lower in the middle part of the board (down to - 30 kg/m³). **For example (board with nominal density 190 kg/m³): 220 kg/m³ – upper and bottom part of board 160 kg/m³ – middle part of board**

TECHNICAL PROPERTIES

- Reaction to fire: Euroclass A1 (EN 13501)
- Melting point above 1.000°C
- Dimensional stability
- Minimum amount of organic adhesives
- Product customized according to needs of the customer

KNAUF INSULATION DRS FIRE BOARD 2D & 3D are ideal as a **supreme fire-resistant cores in EI30 and EI60 fire protection doors.**

Due to optimal fire-resistance density distribution within a single board the overall core density is lower. Door insulation cores are **lighter**, while maintaining the same supreme fire performance characteristics. Your **handling and installation is easier and faster.**

As **no additional treatment to improve fire resistance of cores is required**, your door production process can run continuously, as cores are already fitted to be used directly on the line, making your door production **faster and more efficient.**

Excellent acoustic insulation and thermal door insulation for maximum comfort, energy savings for your end-users, and worldwide production are just some of the additional benefits.

STANDARD DIMENSIONS

- **Nominal density of the board:** 120 kg/m³ – 190 kg/m³
- **Length:** min 1800 mm – max 2100 mm
- **Width:** min 600 mm – max 1250 mm
- **Thickness:** min 30 mm – max 75 mm (tolerance +/- 0,5 mm upon request)