Marine & Offshore Insulation

Health & Safety

High-alumina, low-silica wool

ROCKWOOL®
FIRESAFE INSULATION
MARINE & OFFSHORE

Who are we?

Rockwool Marine & Offshore is one of the leading suppliers of fire safe insulation for the marine and offshore sector worldwide. We can offer competitive solutions for e.g. A and H constructions, bulkheads and decks, penetrations, pipes, vessels and tanks and Sub Sea pipe lines.

Rockwool Marine & Offshore is part of the Rockwool International Group, which is the world's largest manufacturer of stone wool with over 20 factories and representation in numerous countries all over the world. This means that we can offer a solution worldwide. Our production facilities are ISO 9001:2000 and ISO 14001 certified, demonstrating our commitment to consistently high-quality products, as well as our respect for the quality of human life and the environment.

Rockwool Marine & Offshore maintains a high level of knowledge sharing and co-operation with its parent company and subsidiaries, using the experience, knowledge and resources of the entire Rockwool International Group.

High-alumina, low-silica fibres

Introduction

The purpose of this brochure?
Rockwool Marine & Offshore often receives enquiries from customers and other people who are interested in our products. They want to know more about quality, but also about the health and safety aspects of these products. It is part of our mission to meet customer requirements. For this reason, we regularly list the points of interest and make our position on quality, health and safety clear. This brochure will tell you about the high-alumina, low-silica wool we manufacture.
If, after reading it, you still have questions, do not hesitate to contact us.

Contents

The Knowledge

Newer fibres, such as our high-alumina low-silica wool, have been tested in experimental animals and have been found to be non-carcinogenic.

Scientific research of man-made mineral fibres goes back to 1930; to the beginning of the production of these fibres, which has expanded enormously in a wide range of insulation applications since. The growth in the use of mineral fibres – also known as Man-Made Vitreous Fibres (MMVFs) – has meant that scientists have needed to describe the effects on public health. Independent institutes worldwide have, consequently, been carrying out extensive animal and epidemiological studies of mineral (glass, rock and slag) wool workers for more than seventy years.

Over seventy years of research

Epidemiological studies are long-term studies that cover several decades. The health history of production workers in the mineral wool industry has been monitored throughout the period. The investigation also includes studies to determine whether these workers run an increased risk of contracting cancer. Using epidemiological research, in 2001, the International Agency for Research on Cancer – IARC – reassessed the risk of carcinogenicity from airborne man-made vitreous fibres. (1)

Evaluation of carcinogenicity

The IARC concluded that only the more biopersistent materials could still be IARC-classified as possible carcinogens (Group 2B). The more commonly used vitreous fibre wools, including insulation glass wool, rock (stone) wool and slag wool are now considered not classifiable as to carcinogenicity to humans (Group 3). Newer fibres, such as our high-alumina, low-silica wool, have been tested in experimental animals and have been found to be non-carcinogenic.

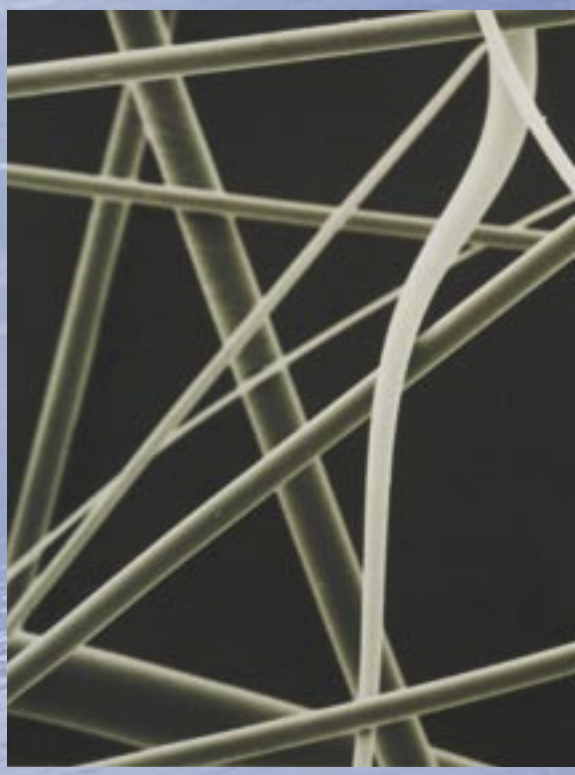
According to European Legislation, described in the Commission Directive 97/69/EC, mineral wool is classified in category 3: possible carcinogenic. In order to be exonerated from this classification mineral wool has to meet defined criteria.

1 monographs.iarc.fr and www-cie.iarc.fr/htdocs/announcements/vol81.htm

Rockwool International has taken the lead, where the health and safety aspects of products are concerned. Encouraged by changing legislation and the environmental sensitivity of customers, the Rockwool Group was the first producer to launch an entirely new wool type onto the market. This wool has excellent credential in respect of legal and environmental aspects – meeting both the IARC and EU criteria for non-carcinogenicity – while retaining product performance (the performance that you have come to expect from us!). In short: our traditional mineral wool is good, our new high-alumina, low-silica wool is even better!

Changing regulations and requirements

Rockwool Marine & Offshore is part of the Rockwool Group and one of Rockwool's largest R&D projects ever resulted in the high-alumina low-silica wool generation. This is a quality wool with higher bio-solubility as a result of it's chemical composition (see box) and thus a wool with an increased safety margin in comparison with traditional mineral wool.
This means that Roxul®1000 satisfies the EU Directive's exoneration criteria (Note Q of the Directive 97/69/EC). The product quality of this wool is, of course, consistently high, retaining all technical features.



Chemical composition high-alumina, low-silica wool.

	Roxul®1000 wool typical average values
SiO_2	41
Al_2O_3	20
TiO_2	2
Fe_2O_3	6
CaO + MgO	25
$Na_2O + K_2O$	4
Other Oxides	2

Chemical Abstract Service (CAS) Registry Number for Roxul®1000 wool: RN 287922-11-6

The Hallmarks

Satisfies the EU exoneration criteria
The new chemical compositions increase bio-solubility, resulting in a lower persistence of fibres in the lungs. The high-alumina, low-silica wool disappears approximately ten times faster from the lungs than our traditional mineral wool. High-alumina, low-silica wool has been tested at qualified, independent laboratories of RCC and Frauenhofer ITEM (previously known as ITA) pursuant to appropriate European Guidelines. The animal test results were below regulatory thresholds; accordingly Roxul®1000 is not classified as a carcinogen and thus is to be considered exonerated within the EU classification system.

Since the market introduction of the high-alumina, low-silica wool product range (at the beginning of 1997), our production has switched to this new generation: a clear result of accommodation to the current health and safety standards.

EUCEB-Trademark
The European Certification Board for Mineral Wool Products, a not-for-profit association, certifies the conformity of mineral wool with Note Q of the Directive 97/69/EC.

The EUCEB-Trademark(2) stands for proven and reliable quality according to a precisely defined system of monitoring and controlling. The Trademark is a confirmation of a high quality of products, which are manufactured in accordance with the requirements laid down in the EUCEB-constitution, which as core elements contain the exoneration criteria of Directive 97/69/EC enlarged by regulations for proceeding of the external third party controls.

For the sake of conformity to ensure that the chemical composition of our high-alumina low-silica wool is within the acceptable range, an external conformity inspection takes place regularly, twice per calendar year, in laboratories designated by the Quality Board using the fibres tested in the report submitted to the European Certification Board for Mineral Wool Products.

The right to use the EUCEB-Trademark is granted to Rockwool, because it fulfils several requirements. EUCEB certifies that the mineral fibre is exonerated from classification.

Being prepared for the future
Regulatory bodies are continually aiming for the highest health standards. This is a clear tendency and they will, accordingly, require adherence to such standards.

Increasingly more companies worldwide are encouraging the use of exonerated mineral wool in their projects. Some even make it obligatory.

What's more, high-alumina, low-silica wool offer added value in terms of improved health and safety, which makes it smart to start taking advantage of this as soon as possible.

2 www.euceb.org

Supplement

Facts & figures	Legislation on Classification	
Wool type	**Europe**	**WHO/IARC**
Roxul®1000 (high-alumina, low-silica wool)	Exonerated from classification as a carcinogen	Non carcinogenic in experimental animals
Traditional wool	Classified in category 3: Possibly Carcinogenic	Group 3: not classifiable as to their carcinogenicity to humans

Currently produced wool type	**Facts** **CAS RN**	**Proven exoneration**
Roxul®1000 (high-alumina, low-silica wool)	287922-11-6	RCC/ITEM certified

Terminology

EU: European legislation as described in Commission Directive 97/69/EC (amending Council Directive 67/548/EEC) – note Q.

WHO: World Health Organisation

IARC: International Agency for Research on Cancer

CAS NR: Chemical Abstracts Service Registry Number

Exonerated: Exempted from classification as Category 3. Commission Directive 97/69/EC, Note Q allows for exemption from classification based on the successful completion of one of four animal tests as defined under EU protocol.

RCC Switzerland: Independent, qualified laboratory certifying that a Roxul®1000 composition has T1/2 ≤40 days after Intratracheal Instillation according to the Hazardous Substances Ordinance (Gefahrenstoffverordnung).

ITEM: Institut Toxikologie and Experimentelle Medizin Hannover. Independent, qualified laboratory (previously known as ITA) certifying that the Roxul®1000 composition has a T1/2 <40 days after Intratracheal Instillation according to the protocol of the European commission and the German Dangerous Substances Act (Gefahrstoffverordnung).

T1/2: Measurement of fibre persistence in the lungs. The time to eliminate half of the fibres from the lungs.

How to contact us:

Rockwool Marine & Offshore is part of Rockwool International A/S

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