

# EUROGEL

IT'S ALL ABOUT LIFE

LET US PROPERLY INTRODUCE  
EUROGEL TO YOU





**EUROGEL  
CREATED FOR  
SPACE. NOW  
FOR SEA, AIR  
AND LAND.**

"EUROGELS Elite Thermal Insulation Technology", provides you with information about our elite innovative insulation materials that will improve your company's services, products and sales. A unique opportunity. Our insulation, "EUROGEL", was developed for aerospace and is used by NASA as protection against heat. Eurogel is used by icon companies in the world. NASA asked our production department to develop elite protection against heat.

Eurogel Thermal Insulation Technology Materials have thermal conductivity at normal temperature: 0.016 mW/mK. Hydrophobic rate reaches 99% under normal temperature. Eurogel blankets, in rolls and sheets, are the crown product of Blue Whale Elite Thermal Insulation Technology in Netherlands /Europe. Made by compounding silica aerogel with organic fibers or with ceramics. It has elite insulation properties, surface hydro-phobicity and heat protection properties.

Eurogels consists of two types. Eurogel and Eurogel Elite. First one protecting against cold. And the last one protecting against extreme heat. Both are superior, wafer-thin, reinforced non-woven insulations made of high-performance fibers.



***With properties maximized by embedding aerogel particles in the fiber matrix, due to their extremely low thermal conductivity (0.016 mW/mK) Eurogels are produced in very thin layers. Weight, bulk, costs, are minimized. We did find out, that fewer trucks are needed for transportation. Which also helps the environment. Both formulations are moist resisant and (again) available in roll and sheets.***

**EUROGEL-Elite is the standard formulation best suited for almost every application.**

Eurogel Elite is the optimal solution for high temperature applications requiring a thin profile with maximum thermal insulation performance has been developed based on silica aerogel. Reinforced (ceramic fibers) for temperatures up to 650 / 700 °C.

- EUROGEL is water repellent, breathable and reinforced with natural fibers and organic binders
- Thermal Value is 0.016 mW/mK, making it most advanced in the world.
- It is wafer thin, namely 0.7 mm and 1 mm. Making it easy to use in clothing. (Luxury ski, polar gear, diving, performance, mountaineering fire protective clothing)
- It is easy to glue/laminate, to cut and sew and to quilt. And it protects against temperatures between -25 and 70 degrees Celcius.
- Eurogels have unique flexibility

"Eurogel" can be used in many markets and construction works all over the planet.

Textile/Laminating	Ship and yacht building	Military	Watersports
Automotive	Building & Construction	Oil & Gas	Diving
Energy	Electronics	Outdoor	Rescue teams
Clothing	Equipment	Batteries	Yacht construction

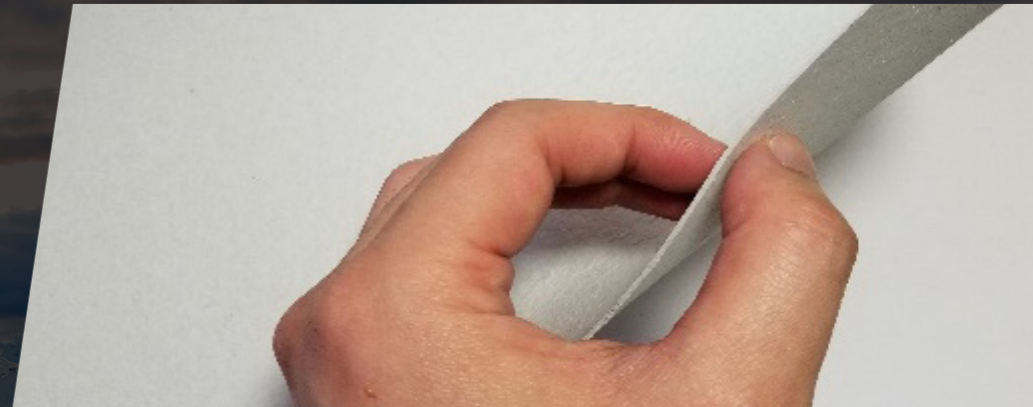
EUROGEL Thermal Insulation Technology, is a new Division of Blue Whale Insulation Technology and specialized, by years of experiences, in active control of hypothermia (undercooling) in international markets for boating, law enforcement, special forces, professional divers, rescue workers, battery protection and outdoor markets. If you would like information, wish to make an appointment, please contact us by mail.

Eurogel is processed in a patented technological process at NASA's request into an inorganic and organic non-woven material. And impregnated with silicon hydrogel. Moisture is extracted under supercritical conditions, after which "Eurogel" is created. An elite product, which leaves our factory as a semi-finished product to be sold in Europe and other parts of the world.

Eurogel is produced by subjecting a normal silicon hydrogel to high temperature and pressure until a supercritical phase is reached. The moment in which there is no longer any difference between the liquid and gas phases. Then supercritical fluid is removed. As a result, there is no longer a gas-liquid interface. And therefore, no surface tension. This allows moisture to be removed without damaging structure. When the moisture is removed, the spaces between all polymers are filled with air. This brings us Eurogel that can carry 1500 times its own weight. Physical properties of silicon aerogel are characterized by a density of 0.001 mg/cm<sup>3</sup>. The lowest density ever measured for a solid. Temperature tolerance lies in - 273 degrees/ 650 degrees Celsius.



This makes Eurogel best insulation material in the world. We developed better process, with which the insulation value has been determined in our laboratory at 0.016 wM/wK!!



**IT IS ALL ABOUT SAFETY,  
COMFORT AND SAVING LIVES  
BLUE WHALE ELITE THERMAL  
INSULATION TECHNOLOGY**



**EUROGELS ARE LIGHTER THAN  
AIR AND CAN CARRY IT'S OWN  
BODYWEIGHT UP TO 1500 TIMES**

**EUROGEL-ELITE CAN BE BUILT  
INSIDE FIRE PROTECTION SUITS,  
PLANES, CARS, BUILDINGS,  
SPACECRAFT**



We are a unique team of very dedicated, special combination of highly, by years of experiences, loyal professionals. Division of Blue Whale Elite Thermal.

We are proven trustworthy developer and manufacturer of elite thermal insulation products for endless applications for many markets, products, and constructions where people and creations need protection against extremely high as well as low temperatures. We help companies to scale their sales by identifying what your markets need, improving performance by innovation, redesigning our products, elite service, quality, guarantees. And the certainty that we offer best possible quality and price ratio. We are not the cheapest on the markets. But that also applies to cars in the highest classes.

We specialized ourselves in designing and manufacturing, almost made to measure, products whose highest capacities and industrial properties have been studied from all sides. And holistically checked for correctness with our relations in the markets. We work with superior internal and co-operative external knowledge. As real physical team, we ensure success for and with you. From good ideas to applicable disruptive reality.

Our knowledge, passion, long term, deep empathy, and commitment to developing our customers products and success in close cooperation with you, will create good foundations for superior, mind-blowing successes. What we deliver, "is much more than just words from some far away friend". In highest thinkable honesty, respect and understanding you as an entrepreneur with all connected responsibilities and needs.



## OUR APPROACH

Because your mission is unique, our approach is tailored to fit. We provide holistic product development, customer specific approaches for different sizes and markets.

We help our clients develop a detailed perspective on future successes, competitive position and market opportunities. In combination with better understandings of your processes and clients. We help companies with our elite developed products that fit in their strategies and plans that meets the future planning for business-growth.

1. Market, industry, customer, competitive insights.
2. Product development, application advice and implementations.
3. Regular consultation with our key contacts inside your company

## INSULATION RATIOS EUROGELS

The "lambda value" is the degree of heat conduction. The higher the value, the better heat is conducted. With better conduction of heat, material insulates less well. For insulation in residential construction, low values are better, because little heat is lost. Lambda values are expressed on packaging with the symbol  $\lambda$ .

### What is the lambda value for insulation?

The lambda value is used to determine the thermal conductivity of the chosen insulation material. This value is always mentioned on the packaging or in the specifications of the materials. Insulating power, is mentioned as mW/mK (Watt / meter Kelvin) For Eurogels this is: 0.016. The lowest number in the world for thicknesses of 0.7 mm and 1 mm. And thus the highest insulation values! An absolute world record!!!

### Lambda value for insulation materials?

Do materials with lower values insulate better than materials in higher values? No! Lambda value does not take into account the thicknesses. Due to multiple layers, insulation materials can have higher insulation values. EUROGEL however, is incredibly thin. Only: 0.7 -1 mm. "Eurogel Elite Thermal Insulation Technology" sells only environmentally friendly and works with elite fabrics.

### Lambda value for insulation

- "Lambda value", is important for the insulating power ( $\lambda$ ).
- For the thermal resistance of the material, we know the "rd-value".
- For the thermal resistance of the construction, we know the "rc value".
- For the lambda value the following applies: "The lower the measured values are, the better insulation materials can insulate. For rd and rc values, the higher the value, the better the insulation value.



Until 2021, it was unimaginable, that products from the nano range, were suitable for use as insulation materials. Nano is the term used to describe the smallest particles. One nano corresponds to one-millionth of one meter. We know nanotechnology from many fields of application. Automotive industry, aviation, medical technology.

Eurogel Insulation Technology made even more possible in Europe. Under the name "EUROGEL". A new division of Blue Whale Thermal Insulation Technology Netherlands. The parent company selling equipment to markets worldwide in the areas of water, mountain, construction, We work with a few governments on elite insulating clothing.

"Eurogel". The name of silicon dioxide aerogel products. Invented in 1931, it became useful for markets, thanks to new production technologies of Blue Whale Thermal Insulation Technology in 2021. Which gave it unique properties as extremely thin, highly flexible, infrared blocking, sound insulation, unique thermic insulation.

Eurogel shows superiority when everything is combined. The grain size is in the mm range, thanks to pore size of 20 nanometers a thermal conductivity of 0.016 mW/mK is achieved. An absolute top value, after Blue Whale came up with improvement programs from its own laboratory There in close cooperation with government personnel, to test products in practice and toughest conditions like polar-expeditions, boating, diving, boating in cold conditions, hydraulic engineering, constructing, police, fire prevention. Electronics, battery protection are familiar for us.



The first fields of application today, are hardly to be enumerated. Eurogel provides uni-que, elite, thermal insulation in thousands of applications and products. Perhaps, you can think of some. Eurogel opens up many new architectural possibilities. A second application currently being discussed is the filling of air-layers of less than 2-3 cm. In construction, it was difficult to retrofit thermal insulation. As well as in air layers, which cannot be enlarged by the construction, but where the best improvement can be achieved with Eurogel because of elite thermal insulation.

"Eurogel Netherlands is a division of Blue Whale Thermal Insulation Technology B.V. And has relations and customers, all over the world, including production facilities for Eurogels in America, South America, Poland and the Netherlands.

## **BODY PROTECTION, SAFETY AND ENERGY CONSERVATION IN BUILDINGS NANOTECHNOLOGY IN THERMAL INSULATION**

## DATASHEET

*EuroGel and EuroGel Elite are superior, wafer-thin, reinforced fibrous non-woven insulations made of high-performance fibres. Thermal insulation properties maximized by embedding aerogel particles in the fiber matrix. Due to their extremely low thermal conductivity, these insulations are produced in thin layers so that weight, bulk and cost in products can be minimized. Efficiency, cost savings are maximized. Both formulations are made for extreme environment, provide maximum thermal insulation performance.*

EuroGel Elite heatblocker, is the standard formulation best suited for almost every application. EuroGel Elite is the optimal solution for high temperature applications requiring thin profile with max. thermal insulation performance. For EuroGel Elite ceramic fibers used for operating temperatures up to 650 C.

Eurogel, coldblocker, is designed for (water)sports clothing, is waterproof and machine washable. Eurogel is a thin, light clothing insulation for gloves, boots, jackets, diving suits, etc. It protects up to 70 C (158 F) Natural fibers are used in Eurogel for clothing applications. Organic binders are added to ease assembly and add flexibility. Can be sewn or laminated/glued.

## Technical Information

Properties	EuroGel Elite	EuroGel
Description	High Performance fibrous insulation with reinforced aerogel. Hydrofobic, Heat resistance	Natural Fiber (wool, alpaca, cotton) insulation engineered to withstand 20 washings. Waterproof.
Color	Light Blue	Light Red
Thickness	0.7 mm 1.0 mm	0.7 mm 1.0 mm
Density	267 kg/m <sup>3</sup> (17 lb/ft <sup>3</sup> )	190 kg/m <sup>3</sup> (12lb/ft <sup>3</sup> )
Flexibility	Flexible. Bends around ½ inch radius. Creases without breaking. Can be sewn.	Flexible. Bends around ½ inch radius. Creases without breaking. Can be sewn/glued
Maximum Operating Temperature	-25 C - +650 C (1200 F)	-25 C - +70 C (158 F)
Thermal Conductivity	0,016 mW/mK 0.12 BTU-in/hr-ft <sup>2</sup> -F	0,016 mW/mK 0.13 BTU-in/hr-ft <sup>2</sup> -F
Delivery	Thin Roll: 60 cm. x 3 m.	Thin Roll: 30 cm. x 3 m.





**Eurogels**

(Division of Blue Whale Elite B.V.)

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Europe

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