stiferite®
thermal insulation

save
Energy
care about your
Future

MADE IN ITALY

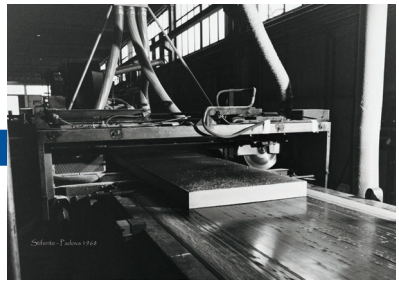
OUR FIRST 50 YEARS IN ITALY AND AROUND THE WORLD

1963

Ferdinando Stimamiglio was the first to use rigid polyurethane foam for refrigerator insulation

The first production line in the new production site in Padua

1968

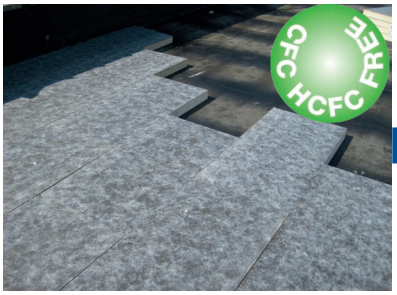


1973

The first worldwide petrol crisis contributes to establishing STIFERITE thermal insulation products for buildings

STIFERITE is leader on the Italian market, and expands the factory, installing a second production line

1980



1990

STIFERITE develops new products for specific building applications.
New STIFERITE foams are CFC- and HCFC-free

STIFERITE introduces the new polyiso foams, with improved performance

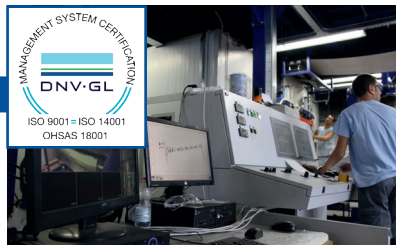
2000

2005

A new production line is inaugurated. Development of new panels for external insulation applications and ventilated façades

2010

STIFERITE certifies the quality of its production system, developing products with excellent fire performance and strengthening its presence on the world market

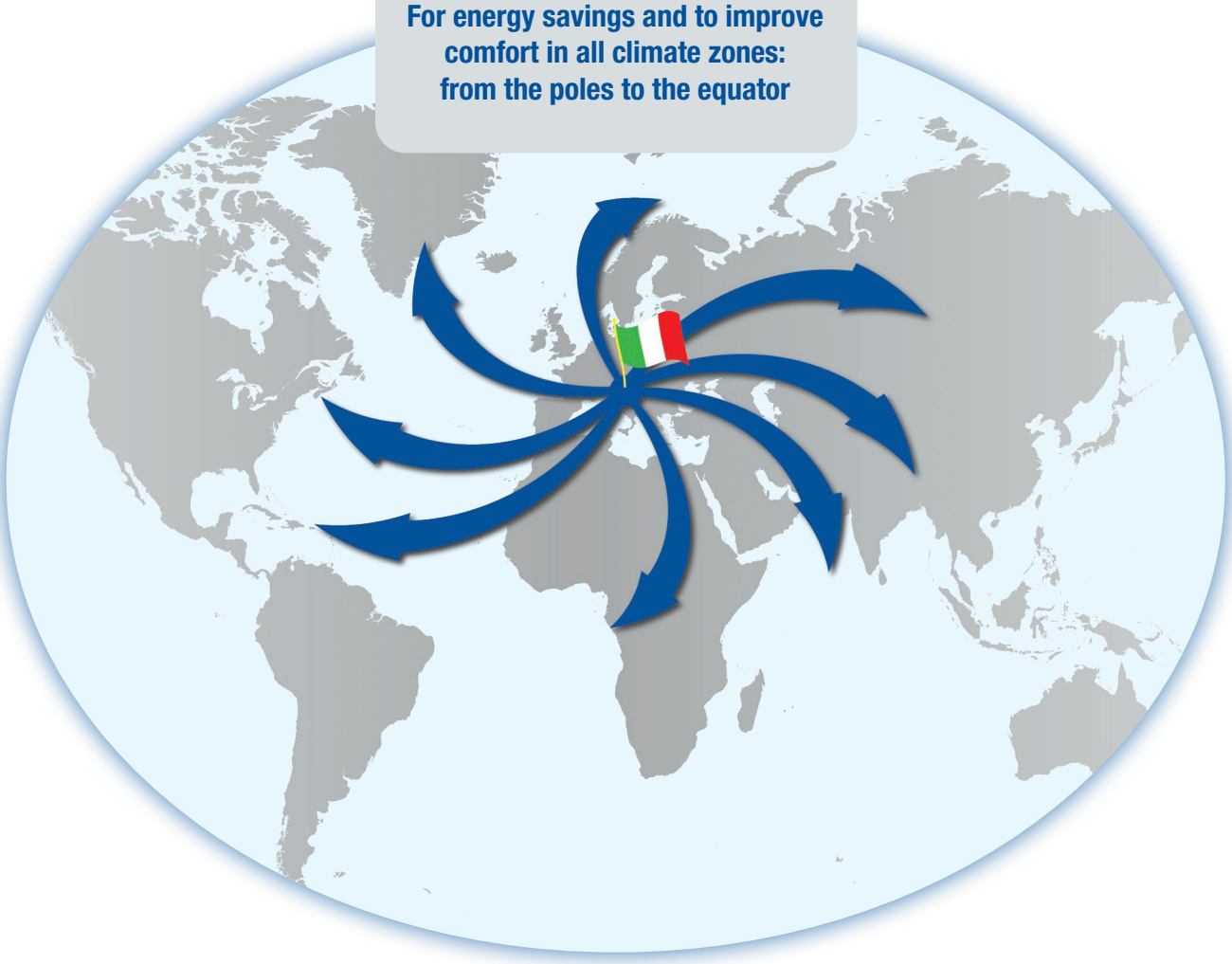


2015

The third production line is inaugurated, for panels up to 200 mm thick. STIFERITE certifies the environmental performance of its products with level III EPD.

TODAY

STIFERITE products are sold in 5 continents.
For energy savings and to improve comfort in all climate zones: from the poles to the equator



QUALITY, EFFICIENCY AND RESPECT FOR THE ENVIRONMENT

Quality Control Systems and Certifications

MANAGEMENT SYSTEM CERTIFICATION
DNV
ISO 9001 · ISO 14001
ISO 45001

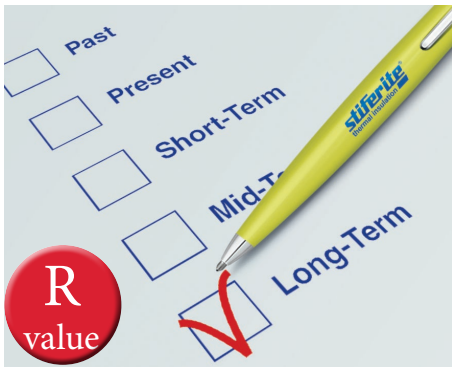
STIFERITE's processes are subjected to strict controls within its internationally recognised voluntary certification systems:

ISO 9001	**Quality Management System**
ISO 45001	**Health and Safety of Workers**
ISO 14001	**Environmental Management System**

CE marking

STIFERITE panels are subject to the controls laid down in the Construction Products Regulation (CPR - Reg. EU 305/2011) in force in all European countries.
The harmonised reference standard for polyurethane insulating panels (code PU) is EN 13165 and the technical data indicated for STIFERITE are given in compliance with the procedures and test methods indicated in the standard.
STIFERITE products have been CE marked since 2003 and the Declarations of Performance (DOP) are available on-line on the website www.stiferite.com

Efficient performance for the whole building life cycle

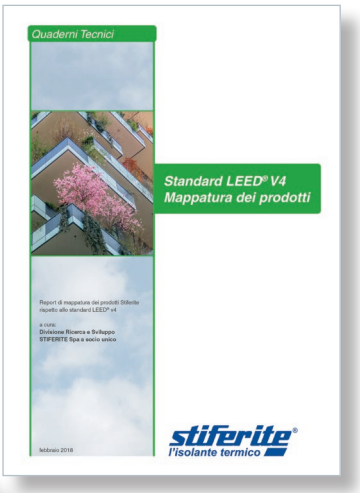


Thermal insulation of buildings improves environmental comfort, reduces energy consumption for heating and cooling and limits harmful atmospheric emissions.
The PIR foams used in STIFERITE are, among all conventional materials, those which ensure the highest levels of insulating performance in relation to thickness.
Moreover STIFERITE insulating panels offer excellent performance during the whole life cycle of the building: according to the European standards used, **the Thermal resistance (R) values declared represent the average performance over 25 years of operation.**

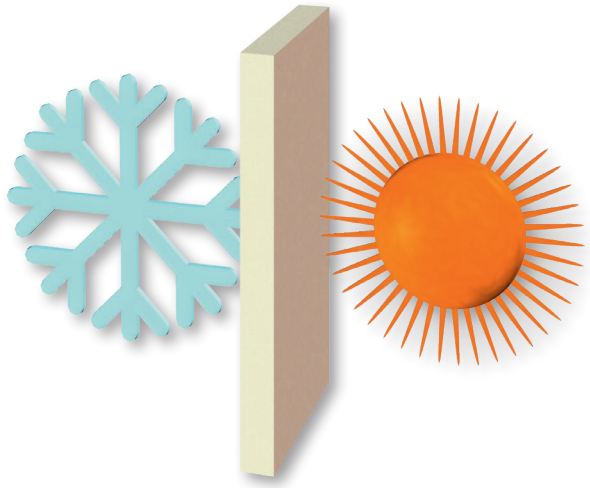
Environmental sustainability

Institut Bauen und Umwelt e.V.

The thermal efficiency and lightness of STIFERITE panels limit the volumes and weights of the materials used in buildings. This also reduces consumption and environmental impacts determined by transport, installation and, at end-of-life, product disposal or recycling.
The assessment of the environmental impacts of STIFERITE panels is certified by level III Environmental Product Declarations (EPD), checked by the German Institute IBU (Institut Bauen und Umwelt).
To promote the development of green building, STIFERITE has published a mapping of their products for the application of the LEEDR protocol for the environmental certification of buildings.
This mapping aims to highlight the thematic areas, requirements and relative credits that can STIFERITE insulating products contribute to obtaining.



MAIN PERFORMANCE EATURES



Well-being and environmental comfort in all seasons

STIFERITE panels insulate against both the heat and the cold; it is not by chance that rigid polyurethane form is the preferred insulating material in domestic and industrial refrigeration sectors.

The thermal insulation of buildings is also essential to guarantee well-being inside during the warmer seasons and climatic regions.

THERMAL CONDUCTIVITY - λ [W/mK]
s the quantity of heat that crosses one square metre of a material with a thickness of one metre in one hour of time when the difference in temperature between the two faces is one degree. The lower the value of λ, the greater the insulating power of the material.
According to European standards, the value indicated for **STIFERITE products represents the weighted value of thermal conductivity during 25 years of operation, thus already including the increases due to ageing.**

THERMAL RESISTANCE - R [m²K/W] = d/λ
is the ratio between the thickness of the insulating materials used (d, expressed in metres) and the declared thermal conductivity λ.
The higher the value, the higher the insulating capacity.

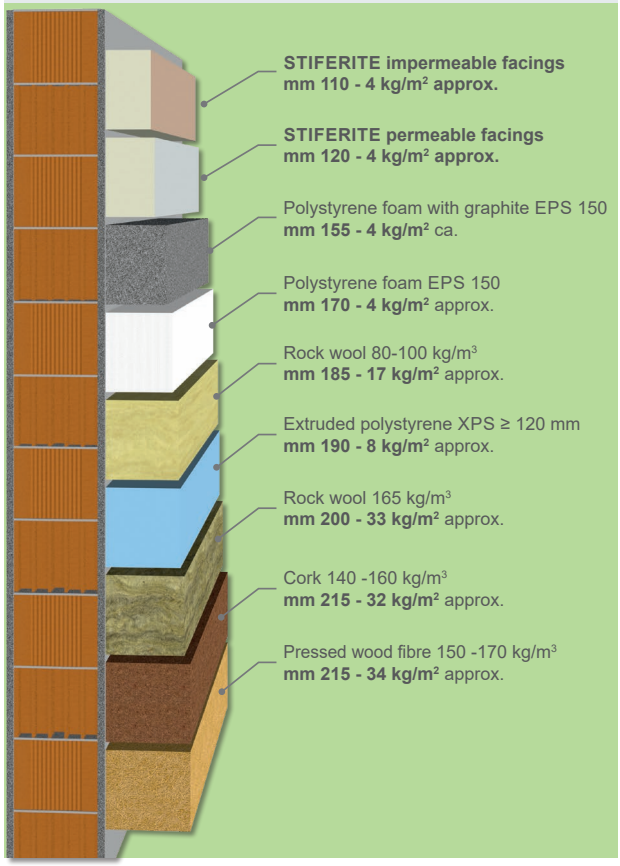
THERMAL TRANSMITTANCE OR CONDUCTIVITY - U [W/m²K] = λ/d
is the ratio between the thermal conductivity and the thickness of the insulating material used (d, expressed in metres). Peak transmittance values correspond to high values of thermal insulation.

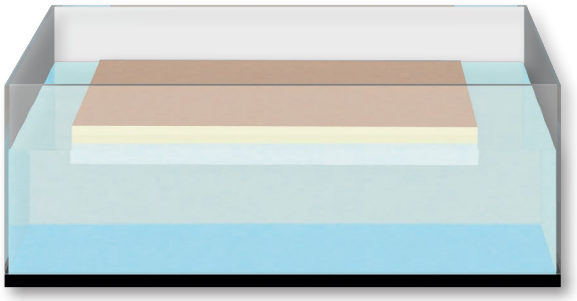
The most effective thermal insulation

U Using STIFERITE panels, you obtain effective thermal insulation with considerably lower thicknesses and densities to those required by other insulating materials.
Using STIFERITE insulating materials is therefore an advantage that offers:

- **smaller structure size**
- **more useful internal space**
- **reduced weight of materials used**
- **fewer resources consumed**
- **lower transport costs**
- **lower installation costs**

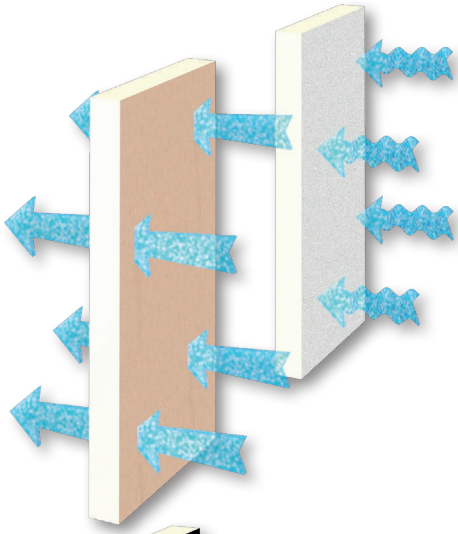
Comparison between thicknesses and relative densities of different insulating materials
Thermal resistance R = 5,00 m²K/W





Waterproof

Water is an excellent heat conductor and insulating materials must not be able to absorb it.
The foam in STIFERITE panels has a closed-cell structure that makes it waterproof. Some minor absorption may be recorded only along the thickness of the panel, where the foam is cut, or in facings according to their hygroscopic or waterproofing characteristics.

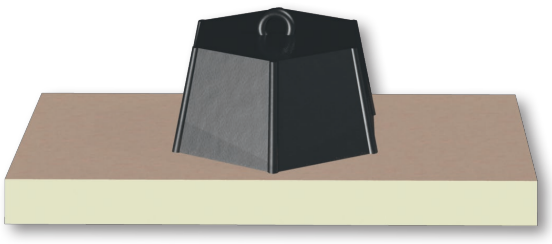


Vapour Permeability or Impermeability

Polyurethane foam without facing is permeable to water vapour.
Thanks to the range of facings available, STIFERITE panels can ensure vapour permeability or impermeability, depending on the specific applications. In some structures, vapour permeability is useful as it helps to regulate the flow of vapour from inside to outside, in others, for example, where there is a high percentage of humidity or extreme temperature differences, it may be necessary to ensure a vapour barrier on the warm side of the structure and/or use impermeable insulating materials which act as a vapour barrier.

Fire performance

The fire performance of STIFERITE varies depending on the type of foam and the nature of the facings, from Euroclass F (for panels with paper or bitumen facing) up to B s1 d0, for panels for applications requiring excellent fire performance.
STIFERITE panels are made from a thermoset polymer and, in contrast to other insulating plastics, in the presence of flames or high radiant heat, they carbonise into a chemical structure that is no longer able to burn. This transformation is an effective form of “passivisation” of the material, as it slows the fire propagation.
This characteristic, along with the contribution of the facing, has allowed the STIFERITE FIRE B panel to obtain Euroclass B s1d0 without facings or additional protection.

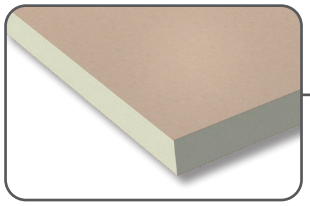


Mechanical resistance

The mechanical performance of STIFERITE panels are suited to bearing floors or roofing with even heavy static or dynamic loads, such as the floors of cold stores or walk-on roofs.

PANELS, BONDED PANELS AND SPECIAL PROCESSES

PANELS



GT

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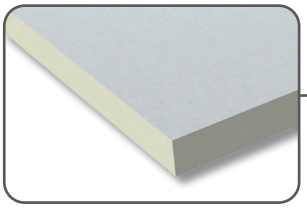
Facing: Gas Tight triple layer



Class S

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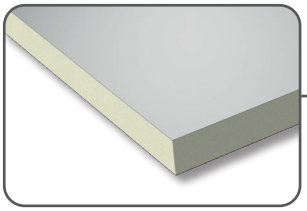
Facing: mineral fibre



GTE

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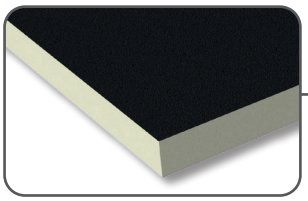
Facing: multi-layer aluminium



FIRE B

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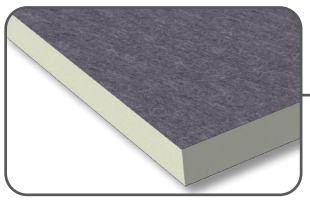
Facings: glass tissue STIFERITE FIRE B facer®



Class B

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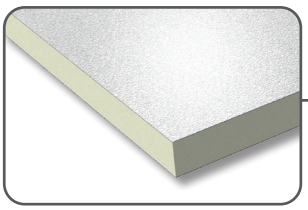
Facings: bituminous mineral fibre and mineral fibre



AI6

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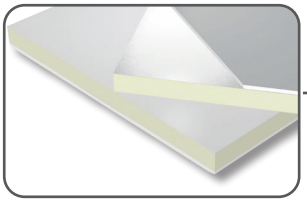
Facing: embossed aluminium 60 µ

BONDED PANELS



RP

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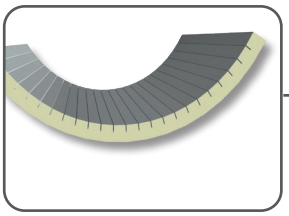
STIFERITE panel bonded to plasterboard
13 mm thick

SPECIAL PROCESSES



Processing examples

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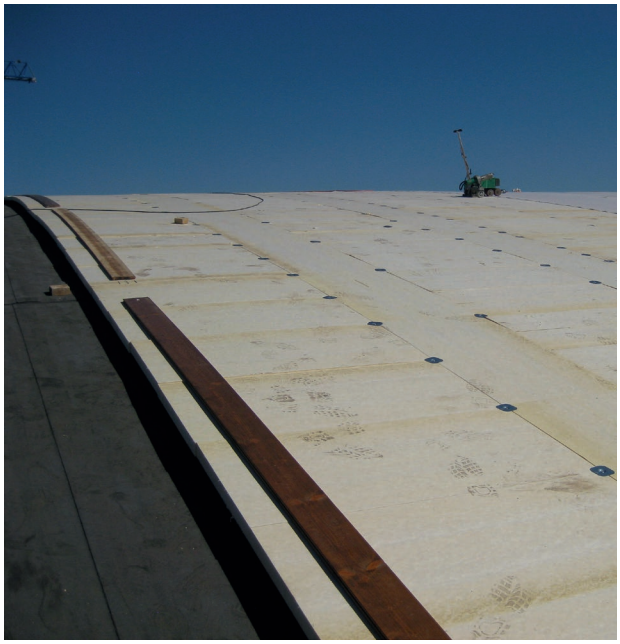
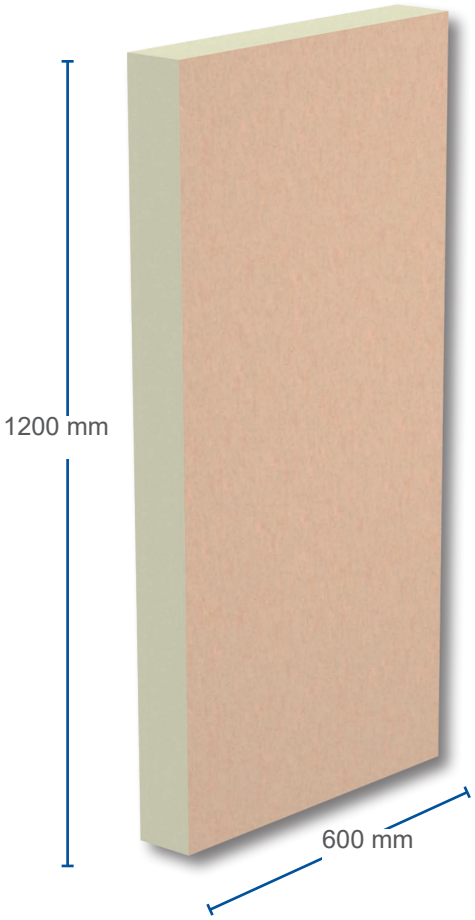


PANELS

GT



STIFERITE GT is a polyiso foam insulating panel with triple layer Gas Tight facing on both sides.

Standard dimensions: 600 x 1200 mm
Available on request and for minimum quantities:
1200 x 3000 mm also rabbeted
Thicknesses: 20 - 140 mm

Thermal conductivity

λ_D = 0,022 W/mK all thicknesses

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
20	**0,91**	1,10
30	**1,36**	0,73
40	**1,82**	0,55
50	**2,27**	0,44
60	**2,73**	0,37
70	**3,18**	0,31
80	**3,64**	0,28
90	**4,09**	0,24
100	**4,55**	0,22
120	**5,45**	0,18
140	**6,36**	0,16

MAIN APPLICATIONS

Walls Floors Roofing

Panel density
Average value including facings

36 kg/m³ ± 1,5

Specific heat

1453 J/kg K

Vapour diffusion resistance factor
[EN 12086]

μ = 148 ± 24

Reaction to Fire Euroclass
[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

F

Water absorption
Total immersion for 28 days [EN 12087]

< 1% in weight

Compressive strength stability
2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

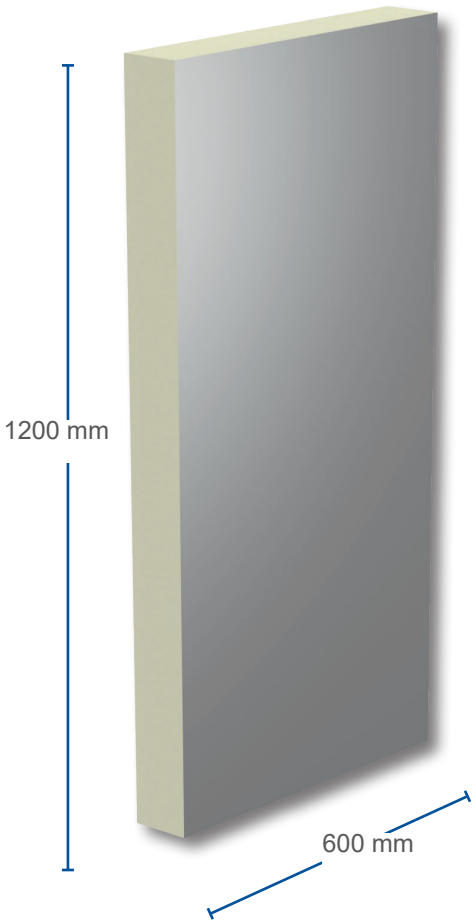
Temperature stability

Used for continuous temperatures between -40 °C e +110 °C.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

PANELS

GTE



STIFERITE GTE is a polyiso foam insulating panel with multi-layer aluminium gas-tight facing on both sides, with fibreglass mesh insert on one side.

Standard dimensions: 600 x 1200 mm
Thicknesses: 20 - 120 mm

Thermal conductivity

λ_D = 0,022 W/mK all thicknesses

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
20	**0,91**	1,10
30	**1,36**	0,73
40	**1,82**	0,55
50	**2,27**	0,44
60	**2,73**	0,37
70	**3,18**	0,31
80	**3,64**	0,28
90	**4,09**	0,24
100	**4,55**	0,22
120	**5,45**	0,18

MAIN APPLICATIONS

Walls Floors

Panel density
Average value including facings

34 kg/m³ ± 1,5

Specific heat

1442 J/kg K

Vapour diffusion resistance factor
[EN 12086]

μ = 89900

Reaction to Fire Euroclass
[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

E

Water absorption
Total immersion for 28 days [EN 12087]

< 1% in weight

Compressive strength stability
2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

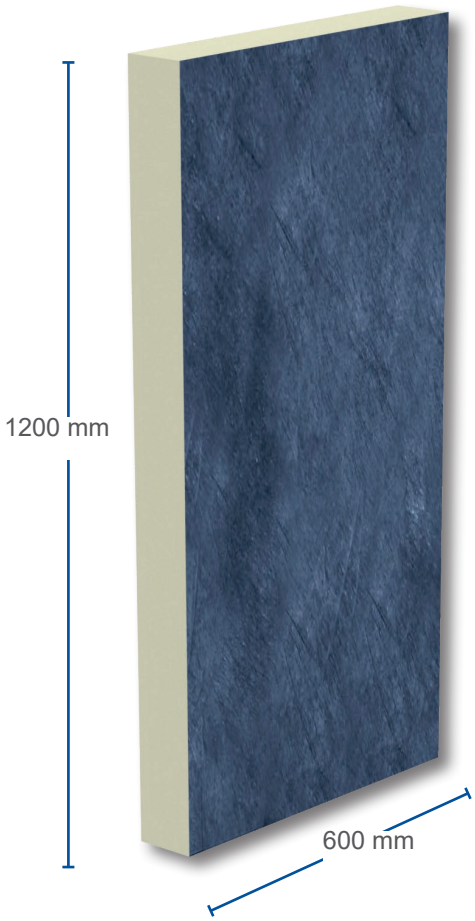
Temperature stability

Used for continuous temperatures between -40 °C e +110 °C.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

PANELS

Class B



STIFERITE Class B is a polyiso foam panel faced on the upper side with bituminous glass tissue, specific for scorching applications under a bituminous layer, with glass tissue on the other side.

Standard dimensions: 600 x 1200 mm
Thicknesses: 30 - 160 mm

Thermal conductivity

λ_D = 0,027 W/mK from 30 to 40 mm
λ_D = 0,026 W/mK from 50 to 90 mm
λ_D = 0,025 W/mK from 100 to 160 mm

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
30	1,11	0,90
40	1,48	0,68
50	1,92	0,52
60	2,31	0,43
70	2,69	0,37
80	3,08	0,33
90	3,46	0,29
100	4,00	0,25
120	4,80	0,21
130	5,20	0,19
140	5,60	0,18
160	6,40	0,16

MAIN APPLICATIONS

Roofing

Panel density

Average value including facings

44 kg/m³ ± 1,5

Specific heat

1458 J/kg K

Vapour diffusion resistance factor

[EN 12086]

μ = 33 ± 2

Reaction to Fire Euroclass

[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

F

Water absorption

Immersión total 28 días [EN 12087]

thickness 30 - 110 mm < 2% in weight
thickness ≥120 mm < 1% in weight

Compressive strength stability

2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

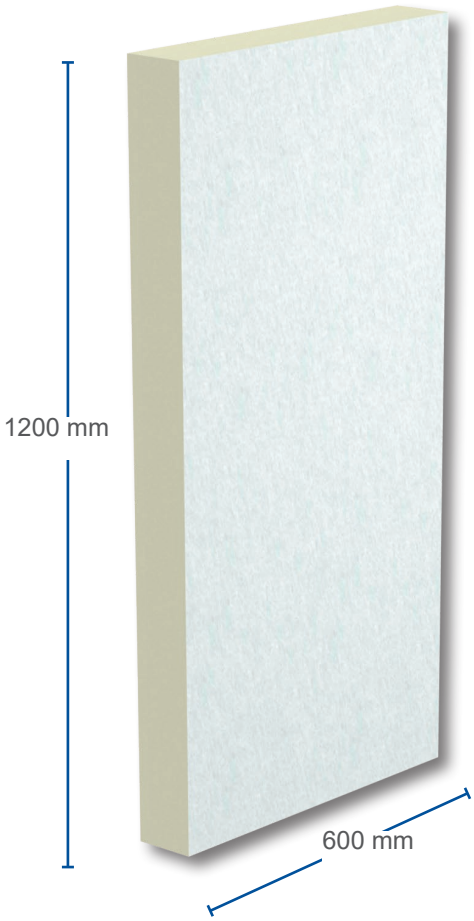
Temperature stability

Used for continuous temperatures between -40 °C and +110 °C.
For short periods they may also cope with temperatures up to + 200 °C, or equivalent to the bitumen temperature, without any particular problems.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

PANELS

Class S



STIFERITE Class S is a polyiso foam insulating panel faced on both sides with glass tissue.

Standard dimensions: 600 x 1200 mm
Thicknesses: 20 - 200 mm

Thermal conductivity

λ_D = 0,027 W/mK from 20 to 40 mm
λ_D = 0,026 W/mK from 50 to 90 mm
λ_D = 0,025 W/mK from 100 to 160 mm
λ_D = 0,024 W/mK from 180 to 200 mm

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
20	0,74	1,35
30	1,11	0,90
40	1,48	0,68
50	1,92	0,52
60	2,31	0,43
70	2,69	0,37
80	3,08	0,33
90	3,46	0,29
100	4,00	0,25
120	4,80	0,21
140	5,60	0,18
160	6,40	0,16
180	7,50	0,13
200	8,33	0,12

MAIN APPLICATIONS

Walls Floors Roofing

Panel density

Average value including facings

35 kg/m³ ± 1,5

Specific heat

1464 J/kg K

Vapour diffusion resistance factor

[EN 12086]

μ = 56 ± 2

Reaction to Fire Euroclass

[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

E

Water absorption

Total immersion for 28 days [EN 12087]

thickness 20 - 110 mm < 2% in weight
thickness ≥120 mm < 1% in weight

Compressive strength stability

2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

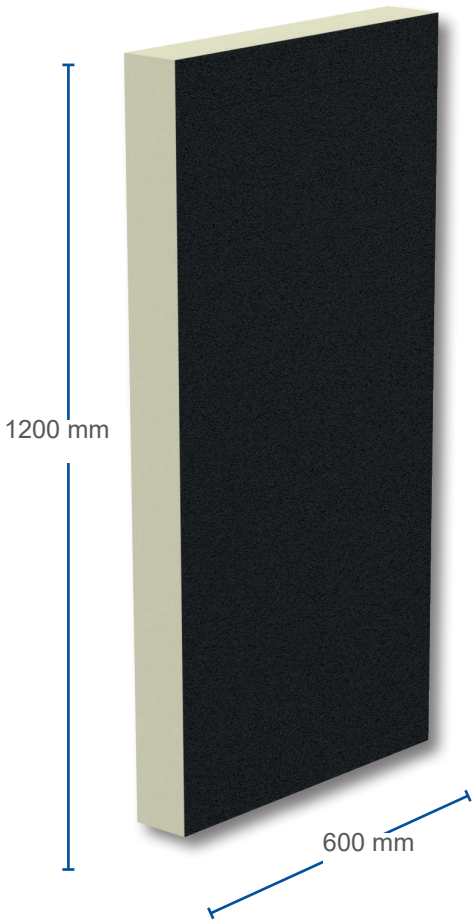
Temperature stability

Used for continuous temperatures between -40 °C and +110 °C.
For short periods they may also cope with temperatures up to + 200 °C, or equivalent to the bitumen temperature, without any particular problems.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

PANELS

FIRE B



STIFERITE FIRE B is a polyiso foam insulating panel faced on one side with glass tissue and on the other with STIFERITE FIRE B facer®.
Specific for applications requiring high fire performance.

Standard dimensions: 600 x 1200 mm
Thicknesses: 20 - 200 mm

Thermal conductivity

λ_D = 0,027 W/mK from 20 to 40 mm
λ_D = 0,026 W/mK from 50 to 90 mm
λ_D = 0,025 W/mK from 100 to 160 mm
λ_D = 0,024 W/mK from 180 to 200 mm

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
20	0,74	1,35
30	1,11	0,90
40	1,48	0,68
50	1,92	0,52
60	2,31	0,43
70	2,69	0,37
80	3,08	0,33
90	3,46	0,29
100	4,00	0,25
120	4,80	0,21
140	5,60	0,18
160	6,40	0,16
180	7,50	0,13
200	8,33	0,12

MAIN APPLICATIONS

Walls

Panel density
Average value including facings

47 kg/m³ ± 1,5

Specific heat

1464 J/kg K

Vapour diffusion resistance factor
[EN 12086]

μ = 56 ± 2

Reaction to Fire Euroclass
[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

B s1 d0 - lato FIRE B facer®

Water absorption
Total immersion for 28 days [EN 12087]

spessori da 20 a 110 mm < 2% in weight
spessori ≥120 mm < 1% in weight

Compressive strength stability
2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

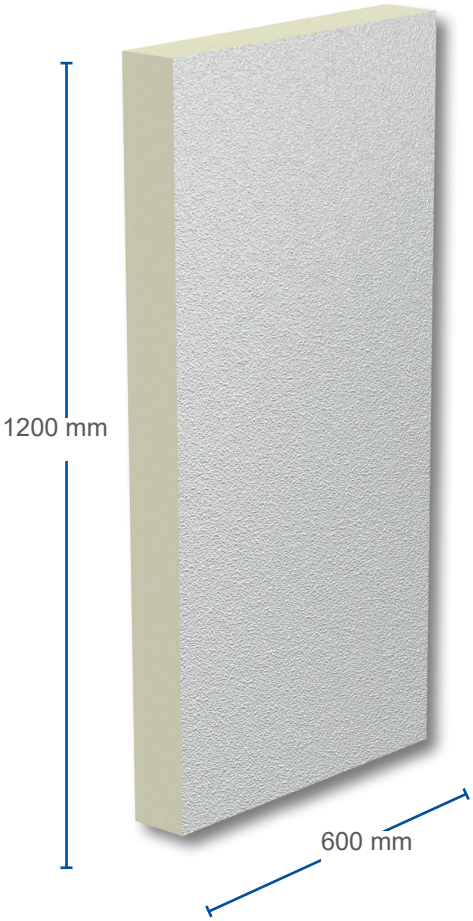
Temperature stability

Used for continuous temperatures between -40 °C and +110 °C.
For short periods they may also cope with temperatures up to + 200 °C, or equivalent to the bitumen temperature, without any particular problems.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

PANELS

AI6



STIFERITE AI6 is a polyiso foam insulating panel faced on both sides with 60 µm embossed aluminium.

Standard dimensions: 600 x 1200 mm
Thicknesses: 20 - 60 mm

Thermal conductivity

λ_D = 0,022 W/mK all thicknesses

Thickness d (mm)	Thermal Resistance R (m^2K/W)	Thermal Transmittance U (W/m^2K)
20	**0,91**	1,10
30	**1,36**	0,73
40	**1,82**	0,55
50	**2,27**	0,44
60	**2,73**	0,37

MAIN APPLICATIONS

Walls
Floors

Panel density
Average value including facings

40 kg/m³ ± 1,5

Specific heat

1370 J/kg K

Vapour diffusion resistance factor
[EN 12086]

µ = ∞

Reaction to Fire Euroclass
[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

D s2 d0

Water absorption
Total immersion for 28 days [EN 12087]

< 1% in weight

Compressive strength stability
2% and 10% crushing (EN 826)

2% > 5000 kg/m²
10% > 150 kPa

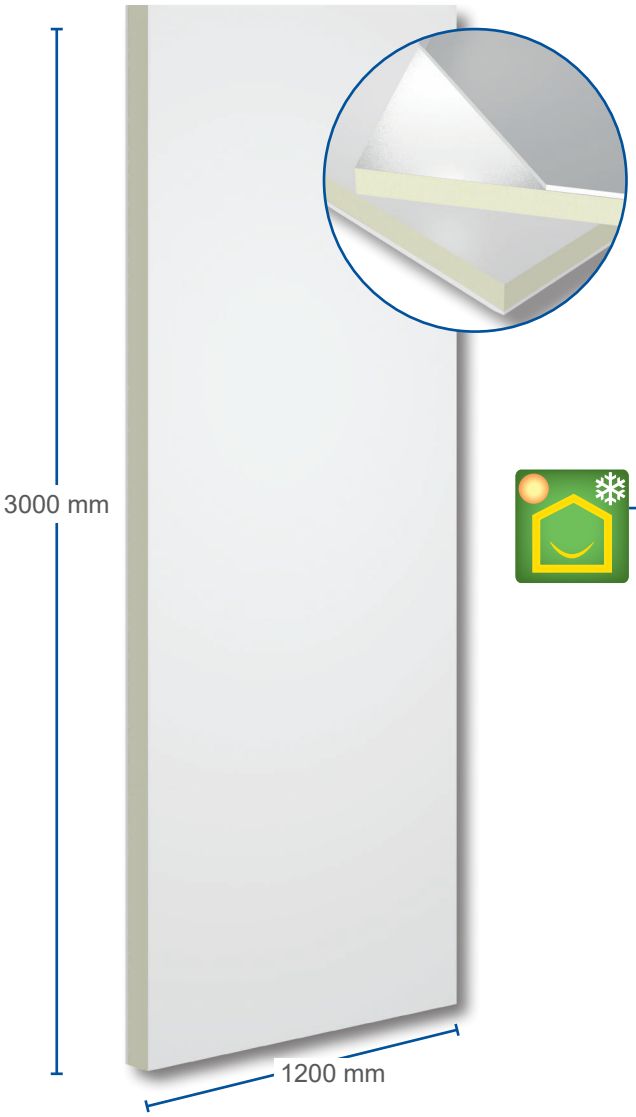
Temperature stability

Used for continuous temperatures between -40 °C e +110 °C.

For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

BONDED PANELS

RP



STIFERITE RP is a rigid polyiso foam panel with multi-layer gas-tight facing with integrated vapour barrier in contact with the plasterboard sheet, suited for gluing, bonded to a 13 mm thick plasterboard sheet.

Standard dimensions: 1200 x 3000 mm
Available on request and for minimum quantities:
1200 x 2000 mm
Thicknesses: 33 - 153 mm total

Thermal conductivity

PU λ_D = 0,022 W/mK all thicknesses
CG λ_D = 0,210 W/mK all thicknesses

Thickness d (mm) Totale	Thermal Resistance R (m^2K/W) PU + plasterboard	Thermal Transmittance U (W/m^2K) PU + plasterboard
33	0,97	1,03
43	1,42	0,70
53	1,88	0,53
63	2,33	0,43
73	2,79	0,36
83	3,24	0,31
93	3,70	0,27
103	4,15	0,24
113	4,60	0,22
123	5,06	0,20
133	5,51	0,18
153	6,42	0,16

MAIN APPLICATIONS

Walls

Density

RP: PU 34 kg/m³ ± 1.5
Plasteboard 737 kg/m³ ± 30

Specific heat

RP: PU 1442 J/kg K
CG 837 J/kg K

Reaction to Fire Euroclass
[EN 13501 -1] - [EN 13501 -2] [EN 13823 -SBI]

B s1 d0

On request available bonded to:
- 10 mm thick plasterboard sheets
- waterproof and other types of plasterboard sheets
- fibre cement sheets
- special bonded materials

Vapour diffusion resistance factor
[EN 12086]

RP: PU μ 89.900
CG μ 10

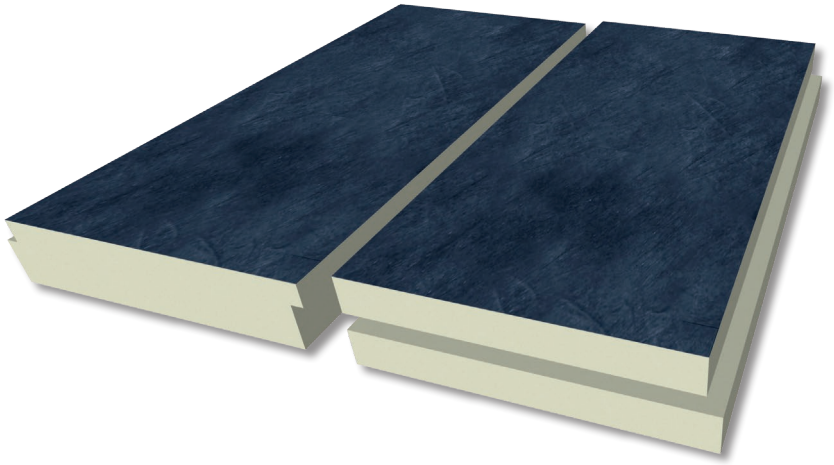
For Technical Specifications and other features and performance refer to the on-line technical data sheet www.stiferite.com

SPECIAL PROCESSES

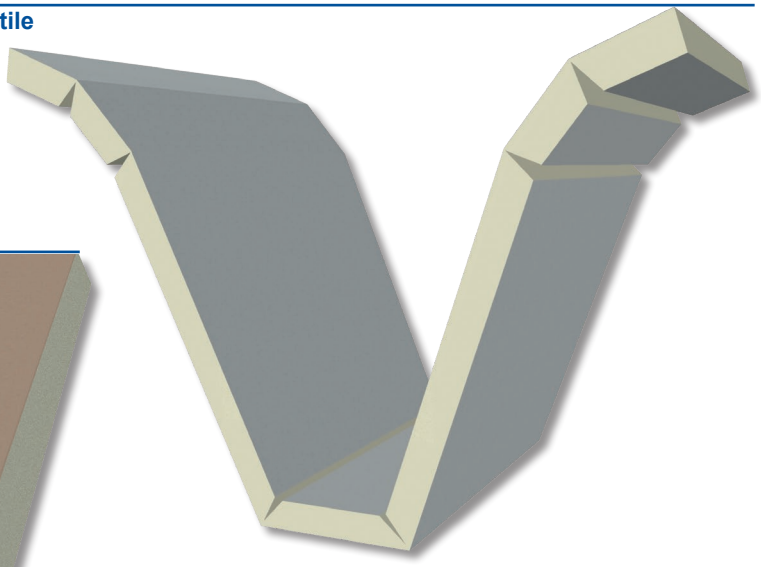
All STIFERITE panels, for minimum quantities to be agreed, can be produced to size and/or processed to specific request, including rabbeting, cutting, engraving and milling, to ensure full adhesion even on uneven surfaces.

Special processes on request, developed according to detailed construction specifications, can also be produced on bonded panels with bituminous polymer membrane, selected from a wide range of characteristics and performances.

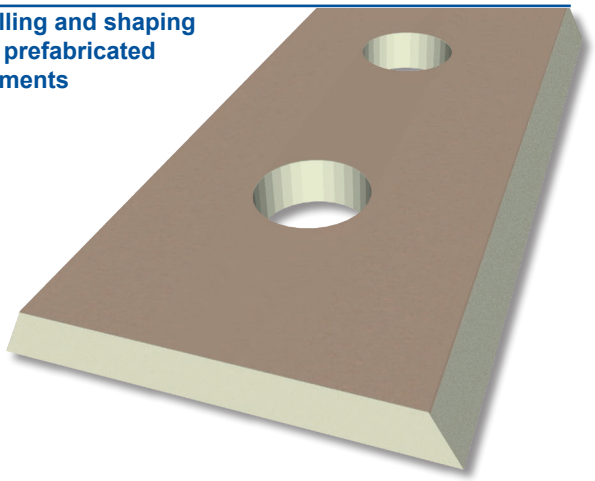
Rabbeted on two or four sides



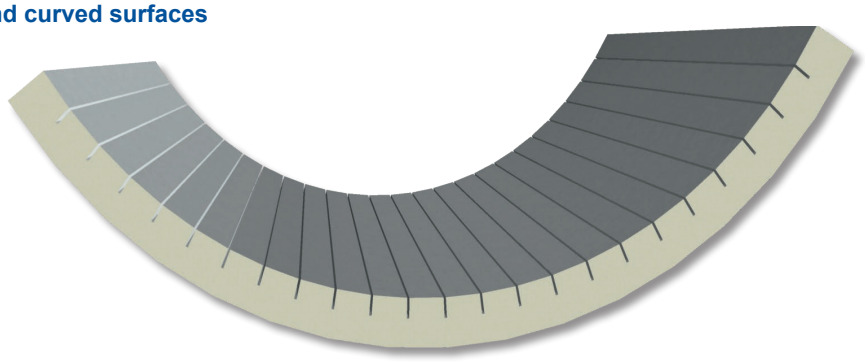
Engraving and shaping for prefabricated roof tile



Drilling and shaping for prefabricated elements



Milled insulation panels for tanks and curved surfaces




vodafone

CONTACTS

For more information on the full range of STIFERITE products, their technical features and performance, please refer to the full documentation and technical data sheets for each product, available on request and published on the website:

WWW.STIFERITE.COM

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STIFERITE SpA with sole shareholder is subject to the management and coordination of F.Stimamiglio & C. SpA.

Warnings

STIFERITE reserves the right to modify or improve its products and the related documents at any time without notice. For more information consult the website www.stiferite.com

stiferite®
thermal insulation

www.stiferite.com

MANAGEMENT SYSTEM CERTIFICATION
DNV
ISO 9001 · ISO 14001
ISO 45001

Company Certifications
ISO 9001 - Quality System
ISO 14001 - Environmental management system
ISO 45001 - Health and safety of workers

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