SpreFix™
BY OVACON

Spray-on insulation –
We eliminate your weakest points

Spray-on insulation for fire protection, sound reduction, thermal and condensation control

Fighting fire, noise, heat, cold and condensation

Fire protection is always a serious matter, particularly onboard ships, on offshore oil rigs and in other sensitive environments. Energy conservation is also a serious matter, in all kinds of buildings and vehicles. Without proper condensation control you are likely to encounter costly problems with corrosion or rot. Noise is a potential health hazard in many workplaces and public areas. All these challenges can be met with efficient insulation.

Conventional techniques with pre-fabricated insulation elements have a number of built-in limitations; weak points that can seriously impair the efficiency and economies of your protective shield.

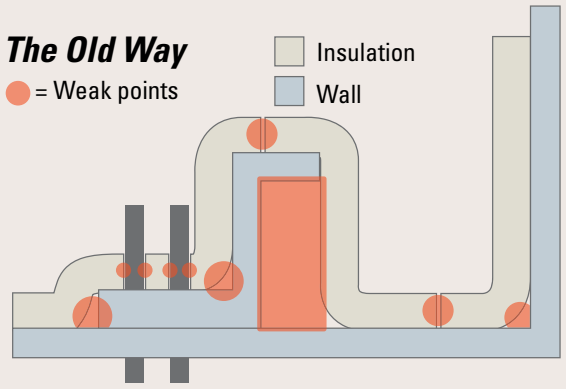
So, before beginning your next insulation project, be sure to consider the cost-effective and environmentally sound alternative presented on the following pages.

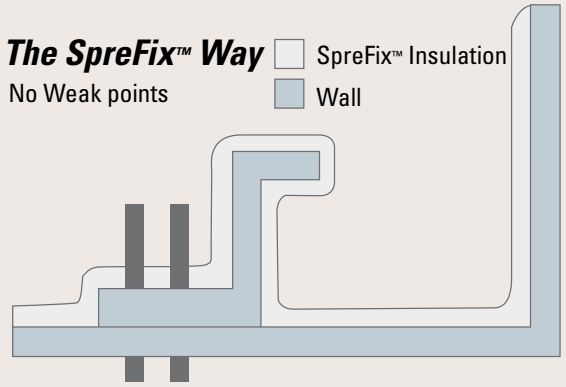
The SpreFix™ solution has obtained all certifications required in the marine and offshore sectors. It is widely used in extreme environments such as on oil rigs in the North Sea.

The Sprefix™ Way

- A self-adhesive glass or stone wool, sprayed directly onto a surface.
- Easily applied to wood, steel, plastic or other surfaces without any mechanical fasteners whatsoever.
- No risk of air pockets between the insulation material and the underlying surface, now or later.
- No gaps or cracks between pre-fabricated elements. It's seamless!
- Easily applied onto flat, curved or uneven surfaces, inside ducts, around corners, on already installed equipment, onto electrical or plumbing fixtures.
- Entirely free of any additives such as solvents, asbestos, cement or fusible silicates.
- Not affected by vibrations caused by, for example, industrial machinery, ship's engines or drilling equipment.

Eliminate your weakest points





Our quality management system is certified according to ISO 9001. As for fire protection in the marine and offshore sectors, some of the toughest environments in the world, the SpreFix™ solution fulfils every single requirement stipulated by regulating agencies – anywhere.

The economies of spray-on insulation

Most importantly, the SpreFix™ solution enables you to save money. The total cost for a completely insulated surface is normally much lower than with conventional techniques. Spray-on insulation eliminates the need for mechanical fasteners. It also eliminates the need for manual cutting of pre-fabricated standard sized insulation elements around corners, pre-installed electrical or plumbing fixtures and other potential obstacles. Our experienced SpreFix™ contractor simply sprays the granulated insulation material around or behind any obstacles.

Your architect will love it

For normal use you do not even need to coat the insulation surface. Many architects love the white or grey surface *au naturel* or, alternatively, spray-painted in any other color. In other words, the labor cost tends to be lower, and the work can be done much faster so you can get on with your business.

Saving time and materials

All the cutting and fitting of conventional methods often results in some 20-30 percent wasted insulation material; a considerable loss, both economically and in environmental terms. With the SpreFix™ solution, applied by one of our specially trained and licensed contractors, the corresponding figure is only 2-3 percent.

Any cost comparison is of course affected by the job at hand: The more challenging the conditions, the better the reason to go for the spray-on SpreFix™ alternative.

The total cost is normally much lower than with conventional insulation techniques.

A safe investment

SpreFix™ has been widely used in several European countries since the mid-1980s, and customer satisfaction is still consistent with the officially certified quality of the solution.

Our quality management system is certified according to ISO 9001. As for specific industry requirements we meet the world's most demanding regulations in extreme conditions, such as the offshore oil rigs in the North Sea. As for your industry, our licensed contractors always strive to work closely with our customers to respond to their needs in the most professional way.

Superior energy-efficiency and reduced waste

From an environmental point-of-view, SpreFix™ is the obvious choice. There is far less waste compared to conventional insulation methods, and seamless insulation is bound to be more energy-efficient. The materials are entirely free of any additives such as solvents, asbestos, cement or fusible silicates. Looking ahead, we systematically strive to further enhance insulation efficiency and reduce the environmental load.

SpreFix™ materials are entirely free of any additives such as solvents, asbestos, cement or fusible silicates.

Fighting fire, noise, heat, cold and condensation

SpreFix™ is used for multifunctional insulation purposes by demanding customers around the world.

A competitive shipyard in Korea

The safety and comfort required in today's shipping industry calls for first class fire protection as well as thermal insulation, condensation control and sound reduction: All unaffected by stormy weather or by the vibrations from ship engines or propellers.

In South Korea, Dae Hyup SpreFix Co Ltd provides complete professional insulation services to major shipbuilders in the region. The success of SpreFix™ in the Korean market has resulted in a large number of major contracts with leading ship owners and operators.

Oil rigs in the North Sea

Statoil, the Norwegian petroleum company, asked us to secure the safety and comfort on a number of oil rigs in the North Sea. Fire hazards and extreme weather conditions are just two of the challenges encountered on oil rigs and other offshore installations. A typical platform is also the home and workplace of hundreds of people. All workshops, offices and living quarters must be shielded from the intense noise and vibrations caused by the huge drilling equipment.

'Impossible' ventilation ducts in a high-rise building

Skanska – one of the world's largest construction companies – assigned us to insulate the narrow vertical ventilation ducts (some of them are only 70 x 80 cm!) of a major high-rise building.

New and renovated railway cars

Imagine the foods and other sensitive goods rushed from the warmth of Spain or Italy to the wintry coldness of Russia. Or an enjoyable ride in a safe, comfortable train car, efficiently shielded from the noise and vibrations of the train at full speed. These are only some of the challenges encountered by our customers – and our insulation solution – in the railway business.

In several European countries thousands of train cars have been insulated , using our spray-on system. This includes new cars as well as old cars renovated to modern standards.

A large mosque in Dubai

In Dubai 40,000 m2 of SpreFix™ insulation was applied to the walls and ceilings of the King Faisal Mosque to improve the acoustics. This was prescribed by the architect to enhance acoustics during religious services.

Applications

Fire Protection

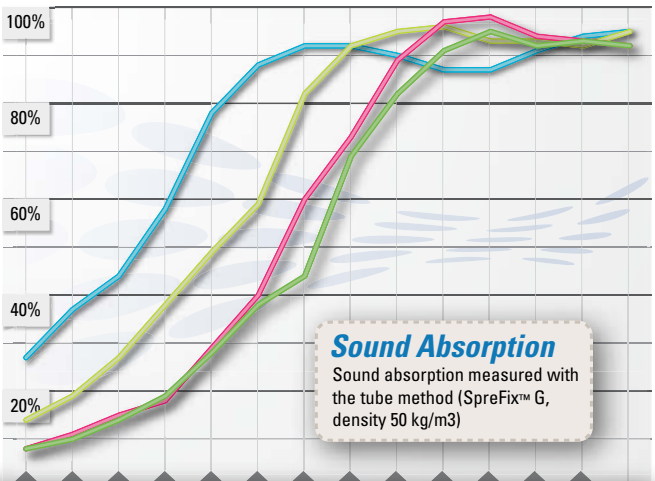
Manufactured from diabase or basalt, SpreFix™ S can withstand more than 1,100°C. Unlike conventional insulation elements, it does not require any mechanical fasteners, and the seamless application technique further adds to safety.

SpreFix S has with good margin proven to withstand the toughest approval test for fire resistance in marine applications. Therefore SpreFix™ S has been acknowledged with the highest level of product certificates, level D, with most of the largest and most important registration bodies such as DNV, USCG , Lloyds, ABS, etc.

Sound Reduction

SpreFix has excellent properties for reducing the general noise level in industrial, commercial and public areas and vehicles. This includes the lingering time note that often occurs in large public spaces such as indoor sports arenas and airports.

Reduction of Structure-Born Sound Transmissions, SBST: By gluing the insulation fibers directly onto the surface, a majority of the structure-born sound transmissions onboard marine vessels are eliminated. This unique SpreFix™ feature gives ship owners and their passengers around the world a quieter and more comfortable ship.



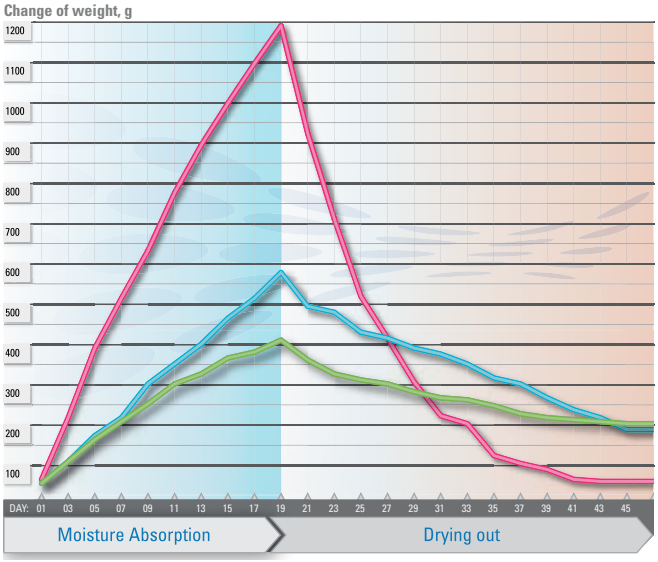
	FREQUENCY, HZ													
THICKNESS	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
25	8	10	14	19	28	38	44	69	82	91	95	92	93	92
30	8	11	15	18	29	40	60	73	89	97	98	94	93	92
40	14	19	27	38	49	59	82	92	95	96	93	93	92	95
50	27	37	44	58	78	88	92	92	90	87	87	91	94	95

Thermal insulation

SpreFix™ G is a lightweight non-combustible material (density 45-50 kg/m2) ideal for fast and efficient application of thermal insulation, also in the most challenging environments including airports, and on commercial and industrial sites. When the combined function of thermal and fire protection is needed, we recommend the stone wool version, SpreFix™ S.

Condensation Control

SpreFix™ G has the ability to quickly bind and re-emit air humidity condensate to a greater extent than any other material on the market, thus eliminating potential moisture-related problems such as corrosion and rot.



Three different insulation systems are placed as a lid on top of a freezer. Room temperature 22°C, RN 70%. Moisture absorption during 20 days and drying out during 28 days in normal room conditions.

- *SpreFix™ G*
- *Mineral Wool Board*
- *Cellular Plastic Board*

SpreFix™ G absorbs 360 g/m² and day and dries at 760 g/m² and day.

The Application, step-by-step

Wall

SpreFix™ Insulation

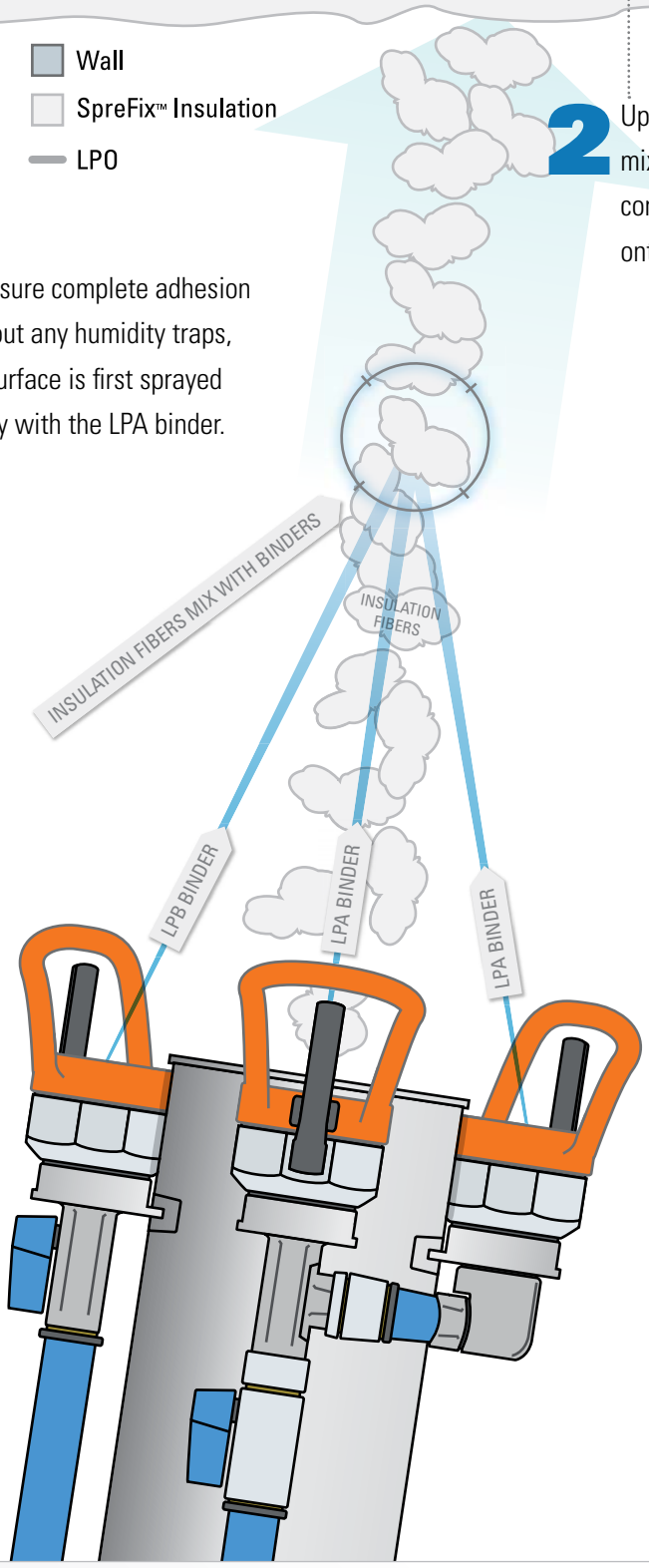
LPO

1 To ensure complete adhesion without any humidity traps, the surface is first sprayed lightly with the LPA binder.

2 Up to 100 mm of wool - effectively mixed with the LPA and LPB binder components in the air - is applied onto the surface in a single round.

3 A special tool is used to measure the thickness precisely, and a padding board is used to ensure the right hardness and to adjust fine edges and corners.

4 To withstand repeated high-pressure cleaning, the surface can be coated with a specially developed substance, SpreFix Seal (In South Korea it is called LPO).



The SpreFix™ System

The licensed SpreFix™ contractor uses a thoroughly tested solution comprising:

- Application machine
- 3-way nozzle
- Two-component binder
- Insulation fibers – glass or stone wool

See product data sheets for more information. Visit our website to see a demo video: *www.sprefix.com*

SpreFix™ today

The SpreFix™ solution was invented in France in the 1980s. As the inventors retired in 1995, the Swedish representative continued global expansion. Today all SpreFix™ patents are owned and controlled by Ovacon in Sweden.

In the Nordic countries the system is marketed under the SprayTec™ brand.

Based in Trosa, Sweden, Ovacon AB is wholly owned and fully financed by a group of independent and actively involved business entrepreneurs, all represented on the Board of Directors.

The company's quality management system is certified according to ISO 9001, and major efforts are continually being invested in ensuring the same high standards with all licensed contractors around the world. One highly prioritized task of Ovacon's management is to continually make sure that the solution is consistent with the most stringent quality and safety requirements stipulated by the responsible agencies.

A professional partner close to you

The result and economies of SpreFix™ insulation is, to a great degree, dependent on the people on site. Therefore the work is always done by a licensed contractor with in-depth knowledge of the SpreFix™ spray-on technique. This is your best guarantee for an effective result that will truly withstand the test of time.

The same high standards are maintained by all licensed contractors around the world.

Challenge us!

SpreFix™ is a uniquely cost-efficient all-in-one solution for fire protection, sound reduction, and thermal and condensation control. The seamless, self-adhesive glass or stone wool is sprayed directly onto virtually any surface. It is certified to meet the most stringent regulations in the world's most challenging environment – the oil rigs of the North Sea. And it can be installed by a licensed contractor near you.

Is SpreFix™ the answer to your next insulation challenge? To find out, simply give us the basic facts by e-mail or phone today.

SpreFix™ BY OVACON

Spray-on insulation –
We eliminate your weakest points

Ovacon AB
P O Box 64
SE-619 22 Trosa
Sweden

Phone: +46 (0)156-130 80
Fax: +46 (0)156-164 20

Visiting address:
Viktoriagatan 21, Trosa

info@sprefix.com
www.sprefix.com

SPRAY-ON INSULATION SYSTEM:

SpreFix™ S - Stone Wool Insulation

Certificates issued for SpreFix™ S - Stone Wool Insulation by Det Norske Veritas (DNV):

MED-D-954, A and B
Class divisions, fire integrity

MED-B-3608
A-60 Bulkhead, Steel
General application

MED-B-4501
A-60 Bulkhead, Steel
Restricted application

MED-B-3609
A-60 deck, Steel
General application

MED-B-6396
SpreFixTMS, A-60 Bulkhead, Aluminium
General application

MED-D-955
Non-Combustible Materials

MED-B-3614
Non-Combustible Materials

SpeFix™ S - Stone Wool Insulation, for fire protection and all-purpose insulation

Manufactured from diabase or basalt, SpreFix™ S - stone wool insulation can withstand more than 1,100°C.
The insulation is spray-applied using SpreFix™ S - stone wool fibers in combination with the unique two-component waterbased SpreFix™ binder system and unlike conventional insulation elements it does not require any mechanical fasteners. The seamless application technique reduces waste and installation time, enhances safety and prolongs service life. The fact that the insulasion adheres to the underlying surface eliminates potential moisture related problems caused by condensation such as corrosion and rot.
The spray-on application system allows it to be applied to virtually any surface configuration.
The SpreFix™ S - stone wool insulation is acknowledged with the highest level of product certificates, level D for marine applications. Certificates are registered with leading, globally recognized registration bodies such as DNV, USCG , Lloyds, ABS, etc.
To withstand repeated high-pressure cleaning, oil-vapour etc, the surface can be coated with aaluminum foil.

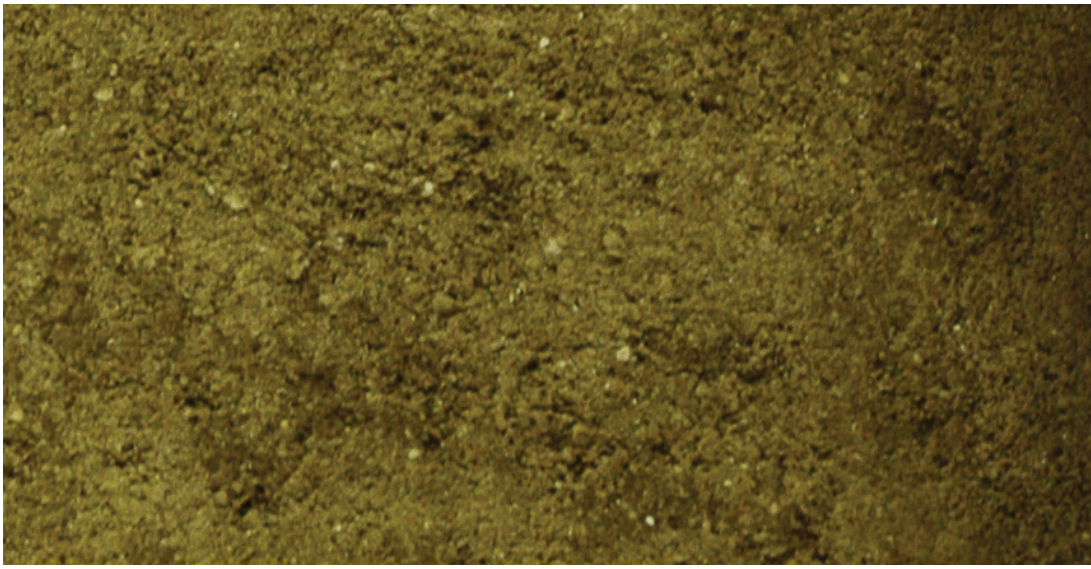
Technical data

Product type:	Stone Wool insulation for fire protection and all-purpouse insulation.
Colour:	Grey-green.
Installation temp:	+4°C to +30°C air and surface temperature during application and drying out time.
Drying time:	30mm; 72h at 20°C.
Therm conduct:	λ_{10} = 0,038 W/mK
Sound absorpt:	α_w = 1,00 ISO 11654 Thickness =50mm

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ S - Stone Wool Fibers



Certificates issued for SpreFix™ S - Stone Wool Insulation by Det Norske Veritas (DNV):

MED-D-954, A and B
Class divisions, fire integrity

MED-B-3608
A-60 Bulkhead, Steel
General application

MED-B-4501
A-60 Bulkhead, Steel
Restricted application

MED-B-3609
A-60 deck, Steel
General application

MED-B-6396
SpreFixTMS, A-60 Bulkhead, Aluminium
General application

MED-D-955
Non-Combustible Materials

MED-B-3614
Non-Combustible Materials

SpreFix™ S - Stone Wool Fibers, the only stone wool fibres approved to be used for SpreFix™ S - Stone Wool Insulation.

Manufactured from diabase or basalt, SpreFix™ S Fibres can withstand more than 1,100°C.
It is spray-applied using a unique two-component waterbased binder system and unlike conventional insulation elements it does not require any mechanical fasteners.

For further information please refer to PDS for SpreFix™ S - Stone Wool Insulation.

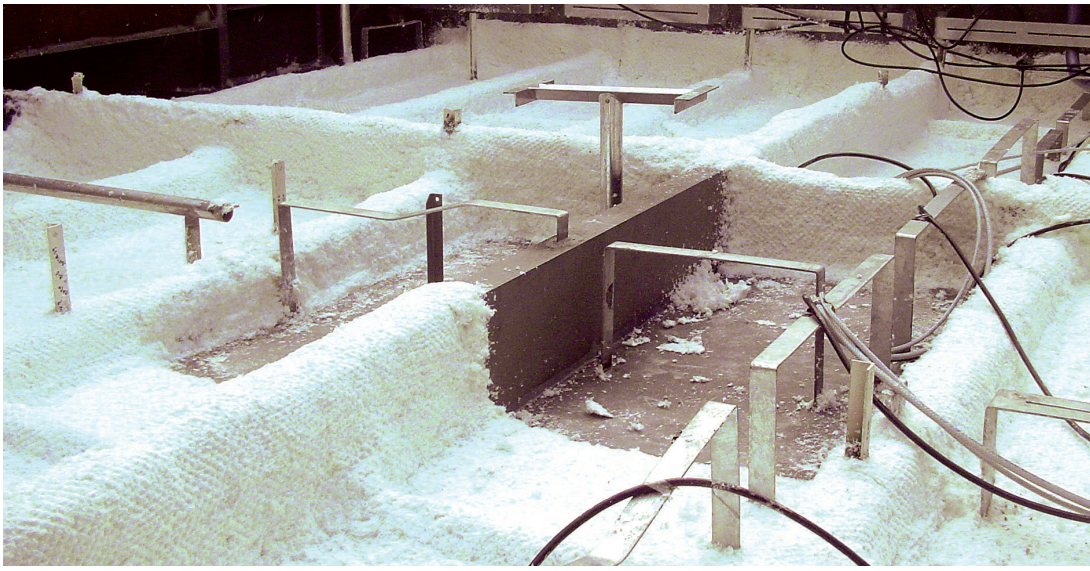
Technical data

Product type:	Stone Wool from diabase or basalt.
Colour:	Grey-green.
Pack size:	18 kg bag.
Storage:	0-30°C, dry conditions. Keep from freezing, avoid sunlight.
Shelf life:	Eighteen (18) months.

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ G - Glass Wool Insulation



Certificates issued for SpreFix™ G - Glass Wool Insulation by Det Norske Veritas (DNV):

MED-D-955
Non-Combustible Materials

MED-B-4938
Non-Combustible Materials

SpreFix™ G - Glass Wool Insulation, for thermal insulation, sound reduction, acoustic- and condensation control

SpreFix™ G - Glass Wool Insulation is a lightweight white non-combustible insulation system (density 45-55 kg/m3) ideal for all-round insulation purposes. The insulation is spray-applied using SpreFix™ G-glass wool fibers in combination with the unique two-component waterbased SpreFix™ binder system and unlike conventional insulation elements it does not require any mechanical fasteners. The seamless application technique reduces waste and installation time, enhances safety and prolonges service life. It has the ability to quickly bind and re-emit air humidity condensation to a greater extent than any other material on the market. This property combined with the fact that the insulation adheres to the underlying surface eliminates potential moisture related problems such as corrosion and rot. The spray-on application system allows it to be applied to virtually any surface configuration.
SpreFix™ G Insulation also has excellent properties for reducing the general noise level, dampening structural borne noise as well as the lingering time note.
To withstand repeated high-pressure cleaning, the surface can be coated with a specially developed coating, SpreFix™ Seal.

Technical data

Product type:	Self-adhesive glass wool insulation.
Colour:	White.
Installation temp:	+4°C to +30°C. air and surface temperature during application and drying out time.
Drying time:	30mm; 72h at 20°C
Therm cond:	λ_{10} = 0,032 W/mK

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ G - Glass Wool Fibers

Certificates issued for SpreFix™ G - Glass Wool Insulation by Det Norske Veritas (DNV):

MED-D-955
Non-Combustible Materials

MED-B-4938
Non-Combustible Materials

SpreFix™ G - Glass Wool Fibers, the only glass wool fibers approved to be used for SpreFix™ G - Glass Wool Insulation.

SpreFix™ G Fibres, lightweight white non-combustible glass wool fibres.
Spray-applied using the unique SpreFix™ two-component waterbased binder system.
The fibres provide exellent intallation economy, enabling high installation speed combined with low waste.

For further information please refer to PDS for SpreFix™ G - Glass Wool Insulation.

Technical data

Product type:	Glass wool.
Colour:	White.
Pack size:	15,5 kg bag.
Storage:	0-30°C, dry conditions. Keep from freezing, avoid sunlight.
Shelf life:	Eighteen (18) months.

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ Binder System

Certificates issued for SpreFix™ Insulation by Det Norske Veritas (DNV):

MED-D-954, A and B
Class divisions, fire integrity

MED-B-3608
SpreFix™ S, A-60 Bulkhead, Steel
General application

MED-B-4501
SpreFix™ S, A-60 Bulkhead, Steel
Restricted application

MED-B-3609
SpreFix™ S, A-60 deck, Steel
General application

MED-B-6396
SpreFixTMS, A-60 Bulkhead, Aluminium
General application

MED-D-955
Non-Combustible Materials

MED-B-3614
SpreFix™ S
Non-Combustible Materials

MED-B-4938
SpreFix™ G
Non-Combustible Materials

The unique binder system used for SpreFix™ Insulation

The SpreFix™ Insulation solution includes a two-component, water based, non-toxic binder system.
SpreFix™ LPA, the binder part of the system, is a semi-transparent, stable and reactive liquid.
The setting agent, SpreFix™ LPB, is a clear solution of boron salts. Both LPA and LPB are 100% soluble in water. Neither LPA nor LPB has any known negative health effects, accidental ingestion, skin or eye contact can be easily managed with soap and water.
When LPA and LPB are mixed they will congeal immediately. Therefore it is essential that the components are kept separated at all times before application.
SpreFix™ LPA and SpreFix™ LPB are to be used exclusively together with SpreFix™ S-fibers for fire protection and SpreFix™ G-fibers for allround insulation purposes.

Technical data LPA

Product type:	Water based binding agent.
Apperance:	Semi-transparent.
Odour:	Weak specific.
Viscosity:	300-500 mPa.s (Brookfield at 20°C).
pH:	5,0-7,0
Dry solids:	8%
Density:	1000kg/m3
Dilution:	Mix 1 part LPA with 2 parts of fresh, clean water.
Usage temp:	Do not use below +5°C, air or surface temp.
Pack size:	15 liter bucket, 1000 liter IBC-container.
Storage:	+10 to +40°C. Storage below +10°C destroys the product. Avoid direct sunlight.
Shelf life:	Twelve (12) months
Cleaning:	Water, preferably warm.

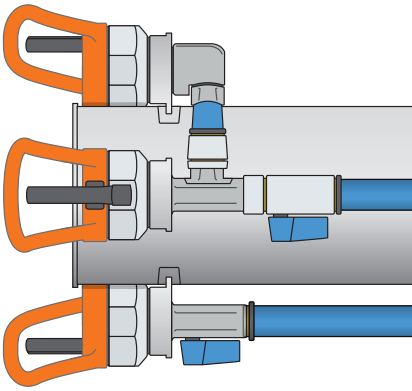
Technical data LPB

Product type:	Water based setting agent.
Apperance:	Clear.
Odour:	Weak specific.
Viscosity:	<10 mPa.s (Brookfield at 20°C).
pH:	7,5-8,5
Dry solids:	11-13%
Density:	1050kg/m3
Dilution:	Mix 1 part LPB with 4 parts of fresh, clean water.
Usage temp:	Do not use below +5°C, air or surface temp.
Pack size:	15 liter bucket, 1000 liter IBC-container.
Storage:	+10 to +40°C, Storage below +10°C causes crystallisation. Keep from freezing, avoid direct sunlight.
Shelf life:	Twelve (12) months
Cleaning:	Water, preferably warm.

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ MiniJet SP



Certificates issued for SpreFix™ Insulation by Det Norske Veritas (DNV):

MED-D-954, A and B
Class divisions, fire integrity

MED-B-3608
SpreFix™ S, A-60 Bulkhead, Steel
General application

MED-B-4501
SpreFix™ S, A-60 Bulkhead, Steel
Restricted application

MED-B-3609
SpreFix™ S, A-60 deck, Steel
General application

MED-B-6396
SpreFixTM S, A-60 Bulkhead, Aluminium
General application

MED-D-955
Non-Combustible Materials

MED-B-3614
SpreFix™ S
Non-Combustible Materials

MED-B-4938
SpreFix™ G
Non-Combustible Materials

To ensure the right quality of SpreFix™ Insulation it must always be applied with the right equipment.

The SpreFix™ Minijet SP machine integrates:
XC38 steel mixer with a polyurethane flap for mixing of the fibres
Six (90-shore polyurethane blades to ensure the tightness between the fibres and the air distribution system
Distribution trap to control the particle size and fibre flow through the gate for optimized performance.

The spray gun with the 3-way nozzle is used to mix and apply the insulation wool (SpreFix™ G fibers or SpreFix™ S fibers) and the two-component binder system.

Technical data

Electrical:	2x 230V, 16 A
Cables supplied:	2 x 40 m 230V rubber cable with euro connectors.
	1 x 40 m remote control cable with connector and switch.
Hose for wool:	2 x 20 m 50mm spiral hose with connectors.
	Max total hose lengt is 40 m.
	Max vertical difference between machine and spray gun is 20 m.
Tube for binder:	4 x 25 m high pressure tube with connectors.
Storage:	10-30°C, dry conditions. Keep from freezing. If stored or transported below 0°C, make sure to completely drain the high pressure pumps or run through with anti-freeze.
Cleaning:	For the pumps and spraygun use water, preferably hot.
	For the wool distribution system use brush, vaccum cleaner and compressed air.

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ Accessories

To facilitate the installation of SpreFix™ Insulation it is important to use the right accessories.

The SpreFix™ Accessories Kit includes all the equipment you need to get started. installing SpreFix™.

Contents

Binders:	1 x Binder Barrel, Grey, 167 L for LPA
	1 x Lid for Binder Barrel, Grey
	1 x Binder Barrel, Red, 121 L for LPB
	1 x Lid for Binder Barrel, Red
	2 x Trolley for Binder Barrel
Personal Protection:	5 x Dust Mask class P2 (FFP2S)
	5 x TyVec Overall with hood
	5 pair of protective gloves
Tool and supplies:	2 x Padding Tool, steel
	2 x Pading Tool, plastic
	1 x Padding Board, plastic
	1 x Graded bucket, 10 L
	1 roll Duct Tape
	1 roll Tape, Blue for marking LPA-hoses
	1 roll Tape, Red for marking LPB-hoses
	1 x Hex Wrench, 5mm
	1 x Thickness meter, Stainless

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

SPRAY-ON INSULATION SYSTEM:

SpreFix™ Training and Licensing

To ensure the right quality of the insulation and that the insulation complies with the certicates issued by DNV, SpreFix™ Insulation must always be applied by a specially trained and licensed applicator with documented skills and experience, and in accordance with the SpreFix™ Technical manual.

To this end Ovacon AB offers a complete 5-day training course on a suitable location near the contractor.

Certificates issued for SpreFix™ Insulation by Det Norske Veritas (DNV):

MED-D-954, A and B
Class divisions, fire integrity

MED-B-3608
SpreFix™ S, A-60 Bulkhead, Steel
General application

MED-B-4501
SpreFix™ S, A-60 Bulkhead, Steel
Restricted application

MED-B-3609
SpreFix™ S, A-60 deck, Steel
General application

MED-B-6396
SpreFixTMS, A-60 Bulkhead, Aluminium
General application

MED-D-955
Non-Combustible Materials

MED-B-3614
SpreFix™ S
Non-Combustible Materials

MED-B-4938
SpreFix™ G
Non-Combustible Materials

Day 1, Practical training

The SpreFix™ ISO MiniJet machine.
Unpacking, connecting hoses, connecting spray gun, electrical connections, remote control.
The SpreFix™ binder system.
LPA and LPB – function and handling, mixing the binders with water.
The SpreFix™ fibers
SpreFix™ G – Glass Wool Fibers.
SpreFix™ S – Stone Wool Fibers.
Sector of application, filling the machine.
Health, safety and protection.
Operating the system.
Check before start, the remote control, adjusting air and speed, adjusting distribution trap, cleaning the nozzles, start practicing spraying, daily cleaning and maintenance.

Day 2, Practical training

Individual practice
SpreFix™ G - Glass Wool Insulation
Spraying and padding bulkhead/wall, spraying and padding deck/ceiling, daily cleaning and maintenance

Day 3, Practical training

Individual practice
SpreFix™ S - Stone Wool Insulation,
Spraying and padding bulkhead/wall, spraying and padding deck/ceiling, daily cleaning and maintenance

Day 4, Classroom training and Practical examination

The SpreFix™ manual.
Calculating
Material consumption, U-value
Certificates for A-60 and other standards.
How to apply, performance,
Practical examination
Spraying SpreFix™ G - Insulation
spraying SpreFix™ S - Insulation

Day 5, Examination and licensing

Theoretical examination
Licensing and certification.

OVACON AB BOX 64 SE-619 22 TROSA SWEDEN TEL: +46 (0)156 130 80 WWW.SPREFIX.COM

May 2011

Global Marine Applications

Certificates of Assessments (DNV)

Ovacon AB of Trosa, Sweden has achieved the following type approvals for their complete range of insulation products/quality systems in global marine applications.
Certificates are issued by Det Norske Veritas (DNV), and has a 5 years validity.

Fire:

MED-B-6869	SpreFix™ S, Vertical A-60
MED-B-4501	SpreFix™ S. Vertical A-60 reduced thickness
MED-B-6870	SpreFix™ S, Horizontal A-60
MED-B-6396	SpreFix™ S, Vertical A-60 Aluminium
MED-D-954	SpreFix™ S, A and B, Class Divisions, Fire Integrity

Non Combustible Materials:

MED-B-6874	SpreFix™ S, Non Combustible Materials
MED-B-4938	SpreFix™ G, Non Combustible Materials
MED-D-955	SpreFix™ S and G, Non Combustible materials

All above certificates are also valid for USCG with following ref. No:

SpreFix™ S (vertical A-60)	USCG no 164.107/EC0575/6869
SpreFix™ S (vertical A-60 reduced)	USCG no 164.107/EC0575/4501
SpreFix™ S (horizontal A-60)	USCG no 164.107/EC0575/6870
SpreFix™ S (vertical A-60 Aluminium)	USCG no 164.107/EC0575/6396
SpreFix™ S (Non Combustible)	USCG no 164109/EC0575/6874
SpreFix™ G (Non Combustible)	USCG no 164109/EC0575/4938

Ovacon's quality management system is certified according to ISO 9001.

For details, see the respective certificates below or at www.sprefix.com

Ovacon AB . Box 64 . SE-61922 Trosa . Sweden
Telephone: +46 (0)156 130 80 . Fax: +46 (0)156 164 20
info@ovacon.se . http://www.sprefix.com

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2009/26/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. **MED-B-6869**

This is to certify that the
"A" Class divisions, fire integrity

with type designation(s)
SpreFix S (vertical A-60)

Manufacturer
Ovacon AB
TROSA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO FTP Code.

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2011-05-12
for **Det Norske Veritas AS**

Eivind Mykland
Head of Department

Notified Body No.: **0575**

DNV local office:
Stockholm

This Certificate is valid until
2016-05-12

Øyvind Hoff
Surveyor

The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix S (vertical A-60)"
composed of steel bulkhead insulated with "SpreFix S", density 140 kg/m^3, 60 mm between stiffeners and 30 mm around stiffeners.

For further details, see the Type Examination documentation below.

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

General application: Fire against either side.

The insulation material and any adhesives and surface materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

To be applied in accordance with "Technical manual for SpreFix machine and spraying".

Type Examination documentation

Test report No. 20012124 dated 27 June 2002 from FILK, Gyeonggi-Do, Korea.

"Technical manual for SpreFix machine and spraying" from manufacturer.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable (see below).

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

DET NORSKE VERITAS * 1864 *

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-B-4501
This Certificate consists of 3 pages

This is to certify that the
"A" Class divisions, fire integrity

with type designation(s)
SpreFix S (reduced thickness)

Manufacturer
Ovacon AB
OSKARSHAMN, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO FTP Code.

Further details of the product and conditions for certification are given overleaf.

Place and date
Høvik, 2007-11-07
for DET NORSKE VERITAS AS

for Kristen Ulveseter
Manager, MTPNO370
Department Systems & Components

Notified Body No. 0575

This Certificate is valid until
2012-11-07

Helge Bjørnarå
Surveyor

DNV local office:
DNV Stockholm

NORWEGIAN ACCREDITATION PROD 002

Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.
The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix S (reduced thickness)
composed of steel bulkhead insulated on the stiffened side with min. 30 mm "SpreFix S", density 140 kg/m^3, between and around stiffeners.

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

Restricted application: Fire against insulated side.

The insulation material and any surface materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

To be applied in accordance with "Technical manual for SpreFix machine and spraying".

Type Approval documentation

Test report No. 20012070 dated 28 May 2002 from Fire Insurers Laboratories of Korea (FILK), Gyeonggi-Do, Korea.

"Technical manual for SpreFix machine and spraying" from manufacturer.

Tested according to IMO FTPC Part 3 (IMO Res. A. 754(18)).

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, the Mark of Conformity and USCG marking (see page 3).

Cert. No.: MED-B-4501
Job Id.: 344.1-000381
Item No.: A1/3.11A

Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who shall issue a Certificate o Conformity.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine" signed 17 October 2005.

END OF CERTIFICATE

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2009/26/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. **MED-B-6870**

This is to certify that the
"A" Class divisions, fire integrity

with type designation(s)
SpreFix S (horizontal A-60)

Manufacturer
Ovacon AB
TROSA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO FTP Code.

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2011-05-12
for **Det Norske Veritas AS**

Eivind Mykland
Head of Department

Notified Body No.: **0575**

DNV local office:
Stockholm

This Certificate is valid until
2016-05-12

Øyvind Hoff
Surveyor

DET NORSKE VERITAS * 1864 *

NORWEGIAN ACCREDITATION

The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix S (horizontal A-60)"
composed of steel deck insulated with min. 30 mm "SpreFix S", density 140kg/m^3, between stiffeners and 20 mm on the stiffeners.

For further details, see the Type Examination documentation below.

Application/Limitation

Approved for use as a horizontal fire retarding division of class A-60.

The insulation material and any adhesives and surface materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

To be applied in accordance with "Technical manual for SpreFix machine and spraying".

Type Examination documentation

Test report No. 20012072 dated 27 June 2002 from FILK, Gyeonggi-Do, Korea.

"Technical manual for SpreFix machine and spraying" from manufacturer.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable (see below).

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

DET NORSKE VERITAS * 1864 *

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2009/26/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. **MED-B-6396**

This is to certify that the
"A" Class divisions, fire integrity

with type designation(s)
SpreFix A-60 BH Aluminium

Manufacturer
Ovacon AB
TROSA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO FTP Code.

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2010-11-09
for **Det Norske Veritas AS**

Eivind Mykland
Head of Department

Notified Body No.: **0575**

DNV local office:
DNV Stockholm

This Certificate is valid until
2015-11-09

Amir Dzaferi

Amir Dzaferi
Surveyor

The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix A-60 BH Aluminium"
composed of 6 mm aluminium core spray insulated with 65 mm stone wool system "SpreFix S" (compressed), with density of 140 kg/m^3 on the both sides of aluminium core (on the unexposed side 65 mm between and upon stiffeners).
Total thickness of bulkhead 136 mm (excl. insulated stiffeners).

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

The insulation material and any adhesives and surface materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test report File No. PG 12229 Serial No. 12551 dated 15 July 2010 dated 31 May 2010 from Danish Institute of Fire and Security Technology, Hvidovre, Denmark, including drawing 10-005312-B from Ovacon.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, MED Mark of Conformity and USCG approval if applicable (see below).

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

DET NORSKE VERITAS

QS - CERTIFICATE OF ASSESSMENT - EC

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-D-954

This Certificate consists of 2 pages

This is to certify that the Quality System for the product

"A" and "B", Class divisions, fire integrity

with product designation(s) as specified in the Appendix to this certificate

Manufactured by

Ovacon AB

OSKARSHAMN, Sweden

is found to comply with the requirements applicable to it.

The quality system for the product, defined in Annex A.1, Item No. A.1/3.11 has been assessed with respect to the procedure of conformity assessment described in Annex B, Module D in the directive.

Limitations:

Modifications made to the Quality System shall immediately be reported to Det Norske Veritas AS in order to examine whether this Certificate remains valid. Annual periodical audits will be held to verify the validity of the certificate.

Place and date
Høvik, 2007-09-14
for DET NORSKE VERITAS AS

Kristen Ulveseter
Manager, MTPNO370
Department Systems & Components

Notified Body No.: 0575

This Certificate is valid until
2012-09-14

Helge Bjørnarå
Surveyor

DNV local office:
DNV Stockholm

NORWEGIAN ACCREDITATION PROD 002

Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

Cert. No.: MED-D-954
Case No.: 344.1-000381-7
344.1-002753-1
File No.: A.1/3.11

APPENDIX, REV. NO. 4

QS - Certificate of Assessment - EC, Certificate No. MED-D-954

Type designation	*EC Type-Ex. Cert. No.*	*Expiry date*	*QS Assess. Rep. dated*	*USCG approval number*
SpreFix S (vertical A-60)	MED-B-6869	2016-05-12	2011-04-14	164.107/EC0575/6869
SpreFix S (horizontal A-60)	MED-B-6870	2016-05-12	2011-04-14	164.107/EC0575/6870
SpreFix S (reduced thickness)	MED-B-4501	2012-11-07	2011-04-14	164.107/EC0575/4501
Spraytec S (vertical A-60)	MED-B-6871	2016-05-12	2011-04-14	164.107/EC0575/6871
Spraytec S (horizontal A-60)	MED-B-6872	2016-05-12	2011-04-14	164.107/EC0575/6872
Spraytec S (reduced thickness)	MED-B-6873	2016-05-12	2011-04-14	164.107/EC0575/6873
SpreFix A-60 BH Aluminium	MED-B-6396	2015-11-09	2011-04-14	164.107/EC0575/6396

The manufacturer complies with the Council Directive 96/98/EC on Marine Equipment and is allowed to affix the Mark of Conformity followed by the DNV identification number 0575 and the two last digits of the number of the year in which the product is produced.

Example: ⊙ 0575/11

The manufacturer shall issue a Declaration of Conformity for each product with reference to the EC Type–Examination Certificate and this QS – Certificate of Assessment – EC.

USCG approval and marking

Based on the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005, the manufacturer is allowed to affix the U.S. Coast Guard approval number mentioned in the table above (when applicable).

Place and date
Høvik, 2011-05-12

DET NORSKE VERITAS * 1864 *

Øyvind Hoff
Surveyor

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2009/26/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. **MED-B-6874**

This is to certify that the
Non-combustible materials

with type designation(s)
SpreFix S

Manufacturer
Ovacon AB
TROSA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.13 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3 II-2/5, II-2/9 & X/3, 2000 HSC Code 7 and IMO FTP Code

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2011-05-12
for **Det Norske Veritas AS**

Eivind Mykland
Head of Department

Notified Body No.: **0575**

DNV local office:
Stockholm

This Certificate is valid until
2016-05-12

Øyvind Hoff
Surveyor

The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix S"
composed of mineral wool and equally mixed binder (LPA and LPB). Nominal density is 140 kg/m^3.

Application/Limitation

Approved for use as non-combustible materials.

May be used as an integrated part of approved fire resisting divisions only when tested as such.

To be applied in accordance with "Technical manual for SpreFix machine and spraying".

Type Examination documentation

Test report No. 2002155320-1 dated 29 May 2002 from KIMM, Daejeon, Korea.

"Technical manual for SpreFix machine and spraying" from manufacturer.

Tested according to IMO FTPC Part 1 (IMO Res. A.799(19)).

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable (see below).

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

DET NORSKE VERITAS * 1864 *

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-B-4938
This Certificate consists of 3 pages

This is to certify that the product

Non-combustible materials

with the type designation(s)

SpreFix G

Manufactured by

Ovacon AB
TROSA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.13 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/3.33, X/3, 2000 HSC Code 7.2.3 and IMO FTP Code.

Further details of the product and conditions for certification are given overleaf.

Place and date
Høvik, 2008-10-29

This Certificate is valid until
2013-10-29

for DET NORSKE VERITAS AS

Kristen Ulveseter
Manager, MTPNO370
Department Systems & Components

Notified Body No. 0575

Amir Dzaferi
Surveyor

DNV local office:
DNV Stockholm

NORWEGIAN ACCREDITATION PROD 002

Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.
The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Product description

"SpreFix G"
composed of glass fiber, binder etc.

Nominal density is approximately 75 kg/m^3.

Applications/Limitations

Approved for use as non-combustible material. Not to be used as an integrated part of fire retarding division, unless tested as such.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test report No. 2008-0167 dated in May 2008 from FILK, Gyeonggi-Do, Korea.

Tested according to IMO FTPC Part 1.

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, Mark of Conformity and USCG approval number if applicable (see below and page 3).

Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D:	The quality system for production and testing shall be approved by the Notified Body.
Module E:	The quality system for inspection and testing shall be approved by the Notified Body.
Module F:	Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

Cert. No.: MED-B-4938
Job Id.: 344.1-001585-1
File No.: A.1/3.13

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

END OF CERTIFICATE

DET NORSKE VERITAS

QS - CERTIFICATE OF ASSESSMENT - EC

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-D-955

This Certificate consists of 2 pages

This is to certify that the Quality System for the product

Non-combustible materials

with product designation(s) as specified in the Appendix to this certificate

Manufactured by

Ovacon AB

OSKARSHAMN, Sweden

is found to comply with the requirements applicable to it.

The quality system for the product, defined in Annex A.1, Item No. A.1/3.13 has been assessed with respect to the procedure of conformity assessment described in Annex B, Module D in the directive.

Limitations:

Modifications made to the Quality System shall immediately be reported to Det Norske Veritas AS in order to examine whether this Certificate remains valid. Annual periodical audits will be held to verify the validity of the certificate.

Place and date
Høvik, 2007-09-14
for DET NORSKE VERITAS AS

This Certificate is valid until
2012-09-14

Notified Body No.: 0575

Kristen Ulveseter
Manager, MTPNO370
Department Systems & Components

Helge Bjørnarå
Surveyor

DNV local office:
DNV Stockholm

NORWEGIAN ACCREDITATION PROD 002

Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

Cert. No.: MED-D-955
Case No.: 344.1-000381-7
344.1-001585-3
File No.: A.1/3.13

APPENDIX, REV. NO. 3

QS - Certificate of Assessment - EC, Certificate No. MED-D-955

Type designation	*EC Type-Ex. Cert. No.*	*Expiry date*	*QS Assess. Rep. dated*	*USCG approval number*
SpreFix S	MED-B-6874	2016-05-12	2011-04-14	164.109/EC0575/6874
SprayTec S	MED-B-4708	2012-11-07	2011-04-14	164.109/EC0575/4708
SpreFix G	MED-B-4938	2013-10-29	2011-04-14	164.109/EC0575/4938
SprayTec G	MED-B-5076	2014-02-24	2011-04-14	164.109/EC0575/5076

The manufacturer complies with the Council Directive 96/98/EC on Marine Equipment and is allowed to affix the Mark of Conformity followed by the DNV identification number 0575 and the two last digits of the number of the year in which the product is produced.

Example: ⊙ 0575/11

The manufacturer shall issue a Declaration of Conformity for each product with reference to the EC Type–Examination Certificate and this QS – Certificate of Assessment – EC.

USCG approval and marking

Based on the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005, the manufacturer is allowed to affix the U.S. Coast Guard approval number mentioned in the table above (when applicable).

Place and date
Høvik, 2011-05-12

Øyvind Hoff
Surveyor

DET NORSKE VERITAS * 1864 *

Trosa, Sweden 17 August 2010

SpreFix™ by Ovacon certified by Lloyd's

SpreFix™ by Ovacon has received Lloyd's certificates of fire approval for marine spray-on insulation. SpreFix™ by Ovacon is the only spray-on solution in the world to have earned this quality distinction.

After extensive testing, specified and thoroughly monitored by Lloyd's in London, SpreFix™ by Ovacon passed all parts of these tests to their full satisfaction. Our unique set of product claims are verified with Lloyd's Register Type Approval
(Certificates SAS F100205, SAS F100206, SAS F100207 and SAS F100208).

Note: Lloyds and other SpreFix™ Type Approvals are only valid for genuine SpreFix™ by Ovacon, exclusively supplied and applied by our authorized contractors.

Do not hesitate to call us for more information about SpreFix™, the Lloyd's Type Approval, updated contact details for authorized SpreFix™ contractors and any other questions regarding safe, reliable and cost-efficient spray-on insulation.

We look forward to hearing from you soon.

Yours sincerely,

Björn Jacorelli, CEO
+46 70 541 12 00

CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Ovacon AB
Address	Box 64 SE-61922 TROSA Sweden
Type	**NON-COMBUSTIBLE MATERIALS**
Description	Fire Resisting Material "SpreFix G" Spray-on Glass Wool Insulation (75 kg/m³ density)
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1, Part 1 IMO MSC/Circ.1120

The attached Design Appraisal Document forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	9 August 2010	Expiry date	8 August 2015
Certificate No.	SAS F100206	Signed	
Sheet No	1 of 2	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Lloyd's Register EMEA
Stockholm office
Lloyd's Register
Endorsed 2010-08-16

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register EMEA
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email tad@lr.org

Document number
SAS F100206

Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
9 August 2010	LDSS/TA/SFS/MF

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F100206

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

(FILK) Fire Insurers Laboratories of Korea, Gyeonggi-Do, Korea, Test Report No. 2008-0167 dated 27 May 2008.

CONDITIONS OF CERTIFICATION

1. Consisting of: "SpreFix G" spray-on glass wool thermal insulation (75kg/m^3 density) with a polymeric binder/resin type "SpreFix LPA/LPB"
2. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.

PLACE OF PRODUCTION

Ovacon AB
Box 64
SE-61922 TROSA
Sweden

Martin Farrier
Lead Specialist
Statutory Fire & Safety
London Design Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
Stockholm office
Endorsed 2010-08-16

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).

CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Ovacon AB
Address	Box 64 SE-61922 TROSA Sweden
Type	**NON-COMBUSTIBLE MATERIAL**
Description	Fire Resisting Material "SpreFix S" Spray-on Mineral Wool Insulation (140 kg/m^3 density)
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1, Part 1 IMO MSC/Circ.1120

The attached Design Appraisal Document forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	9 August 2010	Expiry date	8 August 2015
Certificate No.	SAS F100205	Signed	
Sheet No	1 of 2	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Lloyd's Register EMEA Stockholm office Lloyd's Register

Endorsed 2010-08-16

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register EMEA
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email tad@lr.org

Document number
SAS F100205

Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
9 August 2010	LDSS/TA/SFS/MF

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F100205

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

(FILK) Fire Insurers Laboratories of Korea, Gyeonggi-Do, Korea, Test Report No. 20012124 dated 27 June 2002 and Exova Warringtonfire, Warrington, United Kingdom, Test Report No. 193026 dated 18 June 2010.

CONDITIONS OF CERTIFICATION

1. Consisting of: "SpreFix S" spray-on mineral wool insulation (140kg/m^3 density) with a polymeric binder/resin type "SpreFix LPA/LPB"
2. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.

PLACE OF PRODUCTION

Ovacon AB
Box 64
SE-61922 TROSA
Sweden

Lloyd's Register EMEA Stockholm office Lloyd's Register
Endorsed 2010-08-16

Martin Farrier
Lead Specialist
Statutory Fire & Safety
London Design Support Office
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).

CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Ovacon AB
Address	Box 64 SE-61922 TROSA Sweden
Type	**A-60 BULKHEAD**
Description	Fire Resisting Steel Bulkhead Insulated on One Side with "SpreFix S-0201" Spray-on Mineral Wool Insulation (60mm thick, 140 kg/m^3 density)
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1 Part 3 IMO MSC/Circ.1120

The attached Design Appraisal Document forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	9 August 2010	Expiry date	8 August 2015
Certificate No.	SAS F100207	Signed	
Sheet No	1 of 2	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Lloyd's Register EMEA Stockholm office
Lloyd's Register
Endorsed 2010-08-16

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register EMEA
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email tad@lr.org

Document number
SAS F100207

Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
9 August 2010	LDSS/TA/SFS/MF

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F100207

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

(FILK) Fire Insurers Laboratories of Korea, Gyeonggi-Do, Korea, Test Report No. 20012124 dated 27 June 2002 and Exova Warringtonfire, Warrington, United Kingdom, Test Report No. 193026 dated 18 June 2010.

CONDITIONS OF CERTIFICATION

1. Consisting of: one layer of "SpreFix S-0201" spray-on mineral wool insulation (60mm thick, 140kg/m^3 density) on steel plate and (30mm thick, 140kg/m^3 density) over stiffeners, on one side of the bulkhead. All retained to the shot-blasted and primed steel substrate with a polymeric binder/resin type "SpreFix LPA/LPB" contained in the spray-on SpreFix insulation.
2. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.

PLACE OF PRODUCTION

Ovacon AB
Box 64
SE-61922 TROSA
Sweden

Martin Farrier
Lead Specialist
Statutory Fire & Safety
London Design Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA Stockholm office Lloyd's Register
Endorsed 2010-08-16

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).

CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Ovacon AB
Address	Box 64 SE-61922 TROSA Sweden
Type	**A-60 DECK**
Description	Fire Resisting Steel Deck Insulated On Underside With "SpreFix S-0301" Spray-on Mineral Wool Insulation (30mm thick, 140 kg/m^3 density)
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1 Part 3 IMO MSC/Circ.1120

The attached Design Appraisal Document forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	9 August 2010	Expiry date	8 August 2015
Certificate No.	SAS F100208	Signed	Lloyd's Register EMEA Stockholm office Endorsed 2010-08-16
Sheet No	1 of 2	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register EMEA
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email tad@lr.org

Document number
SAS F100208
Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
9 August 2010	LDSS/TA/SFS/MF

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F100208

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

(FILK) Fire Insurers Laboratories of Korea, Gyeonggi-Do, Korea, Test Report No. 20012072 dated 27 June 2002 and Exova Warringtonfire, Warrington, United Kingdom, Test Report No. 193026 dated 18 June 2010.

CONDITIONS OF CERTIFICATION

1. Consisting of: one layer of "SpreFix S-0301" spray-on mineral wool insulation (30mm thick, 140kg/m^3 density) on steel plate and (20mm thick, 140kg/m^3 density) over stiffeners, on the underside of the deck. All retained to the shot-blasted and primed steel substrate with a polymeric binder/resin type "SpreFix LPA/LPB" contained in the spray-on SpreFix insulation.
2. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.

PLACE OF PRODUCTION

Ovacon AB
Box 64
SE-61922 TROSA
Sweden

Lloyd's Register EMEA
Stockholm office
Endorsed 2010-08-16

Martin Farrier
Lead Specialist
Statutory Fire & Safety
London Design Support Office
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).

March 2010

Global Construction Applications

Certificates of Classifications (SP)

Ovacon AB of Trosa, Sweden has achieved the following classifications for the following products used in global construction.

SpreFix™ G
Reaction to fire classification: **Euroclass A1**
Test and classification has been done according to EN 13501-1:2007.
Certificates are issued by SP Technical Research Institute of Sweden.

SpreFix™ S
Reaction to fire classification: **Euroclass A1**
Test and classification has been done according to EN 13501-1:2007.
Certificates are issued by SP Technical Research Institute of Sweden.

Ovacon's quality management system is certified according to ISO 9001.

For details, see the respective certificates below or at www.sprefix.com

Ovacon AB . Box 64 . SE-61922 Trosa . Sweden
Telephone: +46 (0)156 130 80 . Fax: +46 (0)156 164 20
info@ovacon.se . http://www.sprefix.com

REPORT
issued by an Accredited Testing Laboratory

Date 2010-02-15
Reference PX00008A
Page 1 (3)

1002
ISO/IEC 17025

Handled by, department
Marina C Andersson, kb
Fire Technology
+46 10 516 52 92, marinac.andersson@sp.se

Ovacon AB
Box 64
SE-619 22 TROSA

Reaction to fire classification report

1 Introduction

This classification report defines the classification assigned to the product "SpreFix™ G" in accordance with the procedure given in EN 13501-1:2007.

2 Details of classified product

2.1 General

The product "SpreFix™ G" is defined as glass wool fibres for insulation. Its classification is valid for the following end use application:

"SpreFix™ G" is spray-applied using a two-component binder system designated "SpreFix™ Binder System".

2.2 Product description

The product, "SpreFix™ G", is fully described in the test reports provided in support of classification listed in Clause 3.1.

3 Test reports & test results in support of classification

3.1 Test reports

This classification is based on the test reports listed below:

Name of laboratory	Name of sponsor	Test report ref no	Accredited test method
SP	Ovacon AB	PX00008	EN ISO 1182
SP	Ovacon AB	PX 00008-01:F	EN ISO 1716

3.2 Test results

Test method	Parameter	Number of tests	Results	
			Continuous parameter mean (m)	Compliance with parameters
EN ISO 1182		5		
	ΔT (°C)		4	Compliant
	Δm (%)		3	Compliant
	T_f (s)		0	Compliant
EN ISO 1716		3		
	PCS (MJ/kg)		0.58	Compliant

4 Classification and field of application

4.1 Reference and direct field of application

This classification has been carried out in accordance with clause 11 and 15 of EN 13501-1:2007.

4.2 Classification

The product called "SpreFix™ G" in relation to its reaction to fire behaviour is classified:

A1

The format of the reaction to fire classification for construction products excluding floorings and linear pipe thermal insulation product is:

Fire Behaviour		Smoke Production			Flaming Droplets	
A1	-	**s**	-	,	**d**	-

Reaction to fire classification: *A1*

4.3 Field of application:

This classification is valid for the following product parameters:

Nominal density: 45 - 55 kg/m^3.

The sample was delivered by the client. SP Fire Technology was not involved in the sampling procedure.

5 Limitations

This classification document does not represent type approval or certification of the product.

SP Technical Research Institute of Sweden
Fire Technology - Fire Dynamics

Per Thureson
Technical Manager

Marina C Andersson
Technical Officer

Handled by, department
Marina C Andersson, kb
Fire Technology
+46 10 516 52 92, marinac.andersson@sp.se

Ovacon AB
Box 64
SE-619 22 TROSA

Reaction to fire classification report

1 Introduction

This classification report defines the classification assigned to the product "SpreFix™ S" in accordance with the procedure given in EN 13501-1:2007.

2 Details of classified product

2.1 General

The product "SpreFix™ S" is defined as stone wool fibres for insulation. Its classification is valid for the following end use application:

"SpreFix™ S" is spray-applied using a two-component binder system designated "SpreFix™ Binder System".

2.2 Product description

The product, "SpreFix™ S", is fully described in the test reports provided in support of classification listed in Clause 3.1.

3 Test reports & test results in support of classification

3.1 Test reports

This classification is based on the test reports listed below:

Name of laboratory	Name of sponsor	Test report ref no	Accredited test method
SP	Ovacon AB	PX00008C	EN ISO 1182
SP	Ovacon AB	PX 00008-01:G	EN ISO 1716

3.2 Test results

Test method	Parameter	Number of tests	Results	
			Continuous parameter mean (m)	Compliance with parameters
EN ISO 1182		5		
	ΔT (°C)		5	Compliant
	Δm (%)		2	Compliant
	T_f (s)		0	Compliant
EN ISO 1716		3		
	PCS (MJ/kg)		0.22	Compliant

4 Classification and field of application

4.1 Reference and direct field of application

This classification has been carried out in accordance with clause 11 and 15 of EN 13501-1:2007.

4.2 Classification

The product called "SpreFix™ S" in relation to its reaction to fire behaviour is classified:

A1

The format of the reaction to fire classification for construction products excluding floorings and linear pipe thermal insulation product is:

Fire Behaviour		Smoke Production			Flaming Droplets	
A1	**-**	**s**	**-**	**,**	**d**	**-**

Reaction to fire classification: *A1*

4.3 Field of application:

This classification is valid for the following product parameters:

Nominal density: 140 kg/m^3.

The sample was delivered by the client. SP Fire Technology was not involved in the sampling procedure.

5 Limitations

This classification document does not represent type approval or certification of the product.

SP Technical Research Institute of Sweden
Fire Technology - Fire Dynamics

Per Thureson
Technical Manager

Marina C Andersson
Technical Officer

ISO 9001

CERTIFIKAT

CERTIFICATE

Härmed intygas att kvalitetssystemet för

This is to certify that the Quality system of

Ovacon AB

Org.nr / *Reg no.* 556588-5364

är i överensstämmelse med standarden SS-EN ISO 9001:2008.
has been approved according to SS-EN ISO 9001:2008 standard.

Kvalitetsledningssystemet omfattar verksamheten:
The Quality management system is applicable to:

I samarbete med contractors förse marknaden med lösningar inom området sprutisolering avseende brand-, kondens-, akustik- samt termisk isolering.

In cooperation with contractors implement solutions within spray-on insulation application areas regarding fire-, condensation-, acoustics and thermal insulation.

Certifieringens omfattning och villkor framgår av certifieringsbeslutet.
The scope and conditions of certification are specified in the certification decision.

Certifikat nr
Certificate no 14502046

Göteborg den ..6. september 2009

BMG TRADA Certifiering AB

.....

BMG TRADA CERTIFIERING

SWEDAC ACKREDITERING
1450
ISO/IEC 17021

SpreFix™ S – Stone Wool Fibers

1. Identification of the preparation and company

1.1	**Product Name**	SpreFix™ S – Stone Wool Fibers
1.2	**Product Type**	Loose engineered mineral fibers for spray-on insulation. Man-Made Vitreous (silicate) Fibre (MMVF34) based on High-Alumina, Low-Silica Fibres, RIF41001, HT-Fibre.
1.3	**Company Name**	OVACON AB PO Box 64 SE-619 22 TROSA, SWEDEN
	Telephone	+46 (0) 156 130 80
	Telefax	+46 (0) 156 678 309
	Internet	www.sprefix.com
	E-mail	info@sprefix.com

2. Hazard identification

Mineral fibers are irritating to skin. High levels of mineral fiber dust may cause irritation to eyes, nose and throat. Mineral fiber does not cause any chronic effect when used in normal conditions.

3. Composition and information on ingredients

SpreFix™ S – Stone Wool Fibers consists of engineered inert vitreous silicate loose mineral fibres. Also contains de-dusting oil.

Ingredient.	**CAS No**	**Concentration**	**Symbol(s)**	**Risk phrase(s)**
Synthetic vitreous (silicate) fibers	**65997-17-3**	99-100%	Xi	R38
De-dusting oil	**n.a.**	<1%		

4. First aid measures

4.1	**Inhalation**	When affected leave the dusty area and breathe fresh air
4.2	**Skin contact**	When irritated; Avoid itching. Rinse with cold, fresh water then wash with soap and water.
4.3	**Eye contact**	When irritated: Rinse with fresh cold water for at least 10 minutes. Avoid rubbing your eyes. If inconvenience remains, seek medical advice.

n.a. = not applicable

5. Fire-fighting measures

5.1	**Flammability**	The product is non-combustible and does not pose any fire hazard. However, packaging material may burn.
5.2	**Suitable extinguishing media**	Use normal extinguishing media.

6. Accidental release measures

Large pieces may be placed in plastic bags or waste bins. Granules or dust should be collected using vacuum cleaning or dampening down with water spray prior to brushing up.
Minimise exposure to dust. See Section 8 for recommended personal protection measures.
Handle waste according to local, national or EU-regulations. See section 13.

7. Handling and storage

7.1	**Handling**	Handle the product in a way that minimizes dusting. SpreFix™ S Stone Wool Fibers is installed by spraying with special equipment. When spraying, a 2-component water-based binder system is added which reduces dusting. Air-borne dust is spread when opening bales or sacks and when filling the machine. Keep working area clean.
7.2	**Storage**	Keep the material in original packaging until it is to be used. Store in a dry place. Avoid damage to the packaging.

8. Exposure controls and personal protection

Local regulations may apply.

8.1	**Exposure**	Provide good ventilation. Avoid contact with skin or eyes.
8.2	**Personal Protection**	**Respiratory ways;** Use dust filter class FFP2 **Hands:** Wear protective gloves for comfort. **Eyes:** With heavy dust development, wear protective glasses **Skin:** Wear loose fitting, long-sleeved, long-legged protective clothes. Cover sensitive skin such as neck and wrists. After work is finished, shower and change clothes completely. Protective clothes must be washed separately and kept separated from other clothes.

9. Physical and chemical properties

9.1	**Physical state**	Solid fibers supplied in bales
9.2	**Colour**	Grey-green
9.3	**Odour**	n.a.
9.4	**pH**	7-8 (DIN 54275)
9.5	**Boiling point**	n.a.
9.4	**Melting point**	Above 1000°C
9.5	**Flash point**	Non-flammable DIN 4102
9.6	**Flammability**	Non-flammable DIN 4102
9.7	**Autoflammability**	Non-flammable DIN 4102
9.8	**Explosive properties**	Non-flammable DIN 4102
9.9	**Oxidising properties**	
9.10	**Vapour pressure**	
9.11	**Fiber density**	Approx. 2,6 g/cm^3
9.12	**Solubility**	n.a.
9.7	**Partition coefficient**	n.a
9.8	**Other data**	n.a

10. Stability and reactivity

10.1	Stability	Stable.
10.2	Reactivity	Not reactive
10.3	Thermal decomposition products	n.a

When mineral wool is heated above 220°C, this starts a decomposition reaction of the dust binding mineral oil or the sizing, the result of which can be detected by their odour. Emissions usually occur only during the first heating. It is advisable to ensure good ventilation when such appliances are first put into service
The decomposition products are those that would be expected from any organic (carbon containing) material, and are mainly derived from pyrolysis or burning the mineral oil or the sizing. These decomposition products are mainly carbon dioxide, carbon monoxide, carbon particles, water, and trace gasses (e.g. nitrogen dioxide, sulphur dioxide).

11. Toxicological information

11.1 **Coarse fibers**

Coarse fibres can cause itching of the skin, foreign body reaction in the upper respiratory system (mucous membranes), and in the eyes. The itching and possible inflammation are a mechanical reaction to the coarse fibres (of more than about 5 µm in diameter) and are not damaging in the way chemical irritants may be. They generally abate within a short time after the end of exposure. When products are handled continually, the skin itching generally diminishes.

11.2 **Respirable fibers**

Animal studies
If fibres are very durable (biopersistent) and present in high concentrations they may lead to disease. This product has been tested in long-term carcinogenicity studies [inhalation and intraperitoneal injection (i.p.)] with no significant increase in lung tumours or abdominal tumours. Short-term biopersistent (inhalation and intratracheal injection) studies have shown that the fibres disappear very rapidly from the lung.
In October 2001, the International Agency for Research on Cancer (IARC) evaluated that there is inadequate evidence in experimental animals for this product (high-alumina low-silica (HT) wool).

Experiences in humans (Epidemiological Studies)
Large morbidity and mortality studies of both European and North American mineral wool [rock (stone) and slag wool] manufacturing workers have been conducted with the traditional mineral wools. The studies have found no significant evidence of non-malignant lung disease (e.g. fibrosis).
In October 2001, IARC classified rock (stone) wool as Group 3, "not classifiable as to its carcinogenicity to humans". The 2001 decision was based on the latest epidemiological studies and animal inhalation studies that show no relation between inhalation exposure and the development of tumours.
The Group 3 overall evaluation was based on inadequate evidence in humans and limited evidence in experimental animals due to a significant increase in abdominal tumours after intraperitoneal injection of high doses of fibres.
This product has not been subject to epidemiological studies but consists of the less bio persistent fibres (lowsilica, high-alumina (HT) wool), which will disappear even faster from the lung than the rock (stone) wool fibres.

12. Ecological information

Stable product with no known adverse environmental effects.

13. Disposal considerations

Material that is not recycled can be deposited as non-hazardous waste.

14. Transport information

14.1	**Road and railroad transport**	
	-ARD	Not dangerous goods
	-RID	Not dangerous goods
14.2	**Domestic sea transport**	
	ADNR	Not dangerous goods
14.3	**Sea transport**	
	-IMDG/UN	Not dangerous goods
14.4	**Air transport**	
	-ICAO/IATA-DGR	Not dangerous goods
14.5	**Mail and courier**	Allowed
14.6	**Identification**	This product is not classified as dangerous goods for transportation

15. Regulatory information

In accordance with EC Directive 88/379/EEC and the Chemicals (Hazard Information and Packaging for Supply) Regulations SI /3247/1994 this product is labelled as follows:

15.1	**Symbol**	Xi, irritant [(1)]
15.2	**R-phrase**	R 38 Irritating to skin
15.3	**S-phrases**	S 36/37 Wear suitable protective clothing and gloves

The product contains Mineral Fibres [Man-made vitreous (silicate) fibres]
This product is exonerated from classification as a carcinogen according to Note Q in EU Commission Directive 97/69/EC.
This product is exonerated from classification as a carcinogen according to the German Hazardous Substances Ordinance Annex V Nr. 71 as of 1 October 2000

[(1)] SpreFix™ Stone Wool Fibers passes the R38 tests proving that SpreFix™ Stone Wool Fibers is not chemical irritant.EU is currently considering the anomaly that SpreFix™ Stone Wool Fibers is classified R38 despite not being chemical irritant.

n.a. = not applicable

16. Other information

This MSDS is according to 91/155/EEG.

All information and data in this MSDS is only applicable to the specifically identified material. We believe that this information is correct as described in this MSDS.

Due to the fact that the purpose and condition when using the product is beyond the control of our company the customer is responsible to decide upon safety measures upon using the product.

Our company cannot be held responsible for damage or obligations caused by wrongful use of this product.

This MSDS is not a sales specification or manual stating any specific use of the product.

Sprefix system
The product SpreFix™ S – stone wool fibers shall be used together with the binders SpreFix™ LPA and SpreFix™ LPB
The components shall be applied using a special spray-on machine operated by qualified personnel.

n.a. = not applicable

SpreFix G - Glass Wool Fibers

1. Identification of the preparation and company

1.1	**Product Name**	SpreFix G – Glass Wool Fibers
1.2	**Product Type**	Un-resinated glass woolblowing wool for spray-on insulation
1.3	**Company Name**	OVACON AB PO Box 64 SE-619 22 TROSA, SWEDEN
	Telephone	+46 (0) 156 130 80
	Telefax	+46 (0) 156 678 309
	Internet	www.sprefix.com
	E-mail	info@sprefix.com

2. Hazard identification of the product

Fibres may cause temporary (but reversible) skin irritation by mechanical action.
Handling may create dust. High dust levels may irritate the throat or eyes.

3. Composition/information on ingredients

SpreFix G – Glass Wool Fibers consists of Inert vitreous silicate mineral wool fibres containing up to 0.06% of refined mineral oil.

4. First aid measures

4.1	**Inhalation**	When affected leave the dusty area and breathe fresh air
4.2	**Skin contact**	When irritated; Avoid itching. Rinse with cold, fresh water then wash with soap and water.
4.3	**Eye contact**	When irritated: Rinse with fresh cold water for at least 10 minutes. Avoid rubbing your eyes. If inconvenience remains, seek medical advice.
4.4	**Ingestion**	Drink plenty of water if accidentally ingested.

5. Fire-fighting measures

5.1	**Flammability**	The product is non-combustible and does not pose any fire hazard. However, packaging material may burn.
5.2	**Suitable extinguishing media**	Use normal extinguishing media.

6. Accidental release measures

Large pieces may be placed in plastic bags or waste bins. Granules or dust should be collected using vacuum cleaning or dampening down with water spray prior to brushing up.
Minimise exposure to dust. See Section 8 for recommended personal protection measures.
Handle waste according to local, national or EU-regulations. See section 13.

7. Handling and storage

7.1	**Handling**	Handle the product in a way that minimizes dusting. SpreFix G is installed by spraying with special equipment. When spraying, a 2-component water-based binder system is added which reduces dusting. Air-borne dust is spread when opening bales or sacks and when filling the machine. Keep working area clean.
7.2	**Storage**	Keep the material in original packaging until it is to be used. Store in a dry place. Avoid damage to the packaging.

8. Exposure controls and personal protection

Local regulations may apply.

8.1	**Exposure**	Provide good ventilation. Avoid contact with skin or eyes.
8.2	**Personal Protection**	**Respiratory ways;** Use dust filter class FFP2 **Hands:** Wear protective gloves for comfort. **Eyes:** Wear protective glasses **Skin:** Wear loose fitting, long-sleeved, long-legged protective clothes. Cover sensitive skin such as neck and wrists. After the work is finished, shower and change clothes completely. Protective clothes must be washed separately and kept separated from other clothes.

9. Physical and chemical properties

9.1	**Physical state**	Solid fibers supplied in bales
9.2	**Colour**	White
9.3	**Odour**	Odourless
9.4	**Melting point**	600°C
9.5	**Flash point**	N/A
9.6	**Solubility in water**	Insoluble
9.7	**Viscosity**	N/A
9.8	**pH**	N/A
9.9	**Density installed**	Approx 45-55kg/m^3

10. Stability and reactivity

No special physical conditions need to be avoided.
No restrictions regarding incompatible components.
Additives will decompose above 220°C. Decomposition products principally carbon dioxide, carbon monoxide and some trace gases, but do not constitute a hazard in normal ventilated areas.

11. Toxicological information

Not classified as a carcinogen under the EU Dangerous Substances Directive , 67/548/EEC and Directive 97/69/EC. No link between exposure to mineral wool fibres and lung disease in production or user industries. IARC Group 3 (not classifiable).
No adverse irritant reaction to skin in dermal patch tests. No chronic effects usually associated with skin or eye contact.

12. Ecological information

Stable product with no known adverse environmental effects.

13. Disposal considerations

Material that is not recycled can be deposited as non-hazardous waste..

14. Transport information

14.1	**Road and railroad transport**	
	-ARD	Not dangerous goods
	-RID	Not dangerous goods
14.2	**Domestic sea transport**	
	ADNR	Not dangerous goods
14.3	**Sea transport**	
	-IMDG/UN	Not dangerous goods
14.4	**Air transport**	
	-ICAO/IATA-DGR	Not dangerous goods
14.5	**Mail and courier**	Allowed
14.6	**Identification**	This product is not classified as dangerous goods for transportation

15. Regulatory information

In accordance with EC Directive 88/379/EEC and the Chemicals (Hazard Information and Packaging for Supply) Regulations SI /3247/1994 this product is labelled as follows:

Symbol	Xi, Irritating
R-phrase	R 38 Irritating to skin
S-phrases	S 36/37 Wear suitable protective clothing and gloves

16. Other information

This MSDS is according to 91/155/EEG.

All information and data in this MSDS is only applicable to the specifically identified material. We believe that this information is correct as described in this MSDS.

Due to the fact that the purpose and condition when using the product is beyond the control of our company the customer is responsible to decide upon safety measures upon using the product.

Our company cannot be held responsible for damage or obligations caused by wrongful use of this product.

This MSDS is not a sales specification or manual stating any specific use of the product.

Sprefix system The product SpreFix G glass wool fibers shall be used together with the binders SpreFix LPA and SpreFix LPB
The components shall be applied using a special spray-on machine operated by qualified personnel.

SpreFix LPA

1. Identification of Product and Company

1.1	**Product Name**	SpreFix LPA
1.2	**Product Type**	Binder for spray-on insulation
1.3	**Company Name**	OVACON AB PO Box 64 SE-619 22 TROSA, SWEDEN
	Telephone	+46 (0) 156 130 80
	Telefax	+46 (0) 156 678 309
	Internet	www.sprefix.com
	E-mail	info@sprefix.com

2. Hazards Identification

Based on the data available to us, the product is not a dangerous substance within the meaning of EC Directive 99/45 and amendments (CHIP Regulations in UK).
It can be considered as not being toxic, harmful, irritating, corrosive or oxidizing.
Ecological information: Cfr. Section 12.

3. Composition and Information on Ingredients

2.1	**Chemical composition**	PVA (Poly vinyl alcohol)
2.2	**Hazardous ingredients**	n.a.

4. First Aid Measures

4.1	**Inhalation**	n.a.
4.2	**Skin contact**	In extreme cases: Irritation. Wash with soap and water.
4.3	**Eye contact**	In extreme cases: Irritation. Irrigate eyes with plenty of water for at least 10 minutes. Obtain medical assistance if symptoms persist.
4.4	**Ingestion**	Nausea. Give plenty of water to drink. Clear mouth and throat. Seek medical assistance.

n.a. = not applicable

5. Fire-Fighting Measures

5.1	**Flammability**	The product is water based and has in wet condition very low flammability. The dried -out polymer is combustible.
5.2	**Suitable extinguishing media**	Water, alcohol-resistant foam, powder, CO^2, sand… all extinguishing media are suitable. Protective clothing and self-contained breathing equipment should be available for firemen.

6. Accidental Release Measures

6.1	**Personal protection**	When collecting spilled material, wear protective gloves and protective goggles. Avoid repeated skin contact.
6.2	**Environmental precautions**	Prevent the product from entering waterways or sewage Cfr. Section 12..
6.3	**Cleaning / recovery**	
	Large spillage	Contain and pump into container
	Small spillage	Absorb on sand, earth and such like. Collect into containers for disposal. Cfr. Section 13

Disposals should always comply with local, national or EC regulations..

7. Handling and Storage

7.1	**Handling**	Good industrial and personal hygiene practice should be followed. No eating and drinking in the workplace. Ensure adequate ventilation.
7.2	**Storage**	Store in a dry place min +10°C, max +40°C. Protect from frost and direct sunlight. Handle containers carefully to prevent spillage. Keep containers tightly closed. **Bottles and buckets:** Plastic or stainless steel **Bulk-containers**: Stainless steel, aluminum or plastic materials. Clean the containers regularly to prevent accumulation of bacteria. Do not store for more than 12 months without consulting the manufacturer.

n.a. = not applicable

8. Exposure Controls / Personal Protection

8.1	**Exposure**	Not harmful in normal ambient conditions. Users should determine the conditions for safe use of the product. Cfr. Section 7.1. Avoid repeated skin contact.	
8.2	**Personal Protection under normal conditions**	**Respiratory protection;**	n.a.
		Hand protection:	Wear waterproof gloves.
		Eye protection:	Wear protective glasses.
		Skin protection:	n.a.

9. Physical and Chemical Properties

9.1	**Physical State**	Liquid
9.2	**Colour**	Transparent
9.3	**Odour**	Weak specific
9.4	**Flash Point**	>100°C
9.5	**Boiling Point**	Approx. 100°C
9.6	**Solubility in Water**	Miscible
9.7	**Viscosity**	300-500 mPa.s (Brookfield RVF at +20°C)
9.8	**pH**	5.0-7.0
9.9	**Dry Substance**	≥ 8%
9.10	**Density**	Approx 1000kg/m^3

10. Stability and reactivity

Stable under the recommended storage conditions. Cfr. Section 7.2
Bacterial decomposition may occur if the product is stored for an abnormally long period or under unsuitable conditions.
Avoid strong acids or materials reacting with water.

11. Toxicological information

The product does not contain any formaldehyde, Phthalates or PCP's.

Low toxicity according to available data.

Under normal industrial conditions, there is no indication that the product can be considered as a health risk.
Cfr. Section 2

12. Ecological information

The product is miscible with water and as such could cover considerable distances if spilled Into waterways. Even a small spillage will whiten the appearance of water.

There is only a slow environmental breakdown of the product, but seemingly no tendency for bioaccumulation.

Water for sewage treatment that has been contaminated with small quantities of the product will not affect the biomass. Absorption of the polymer particles onto the sludge will occur with subsequent elimination from the waste stream.

13. Disposal considerations

Do not discharge untreated waste latex directly into sewers or waterways. The polymer content can be coagulated and disposed of in a landfill site or incineration. Effluent containing latex can be treated by various methods; filtration, coagulation and settling etc.

All latex disposals should comply with local, national or EC regulations.

Further information can be obtained from our Environmental Department.

14. Logistic Information

14.1	**Road and Rail Transport**	
	-ARD	Not hazardous goods
	-RID	Not hazardous goods
14.2	**Inland Waterways Transport**	
	ADNR	Not hazardous goods
14.3	**Marine Transport**	
	-IMDG/UN	Not hazardous goods
14.4	**Air Transport**	
	-ICAO/IATA-DGR	Not hazardous goods
14.5	**Mail / Courier Dispatch**	Permitted
14.6	**Identification**	This product is not classified as hazardous for transport.

15. Regulatory information

The product has no hazard classification within the meaning of EC Directive 99/45
There is no labeling required. Cfr. Section 2.
The product has no EC-number and it is not listed in EINECS.

16. Other information

This Material Safety Data Sheet complies with EC Directive 1907/2006
All information and data given herein relates only to the specific material identified. We believe that this information is accurate and reliable as of this Material Safety Data Sheet. However, it is the customer's obligation to determine the conditions of safe use of the product because the purposes and the conditions of use of the product are not within the control of our company.

Our company is not responsible for any injury or liability resulting from misuse of the product.

This Sheet is not a sales specification or an indication of suitability for a particular use.

Sprefix system The binder SpreFix LPA shall be used together with the binder SpreFix LPB and SpreFix S Stonewool Fibers or SpreFix G Glasswool Fibers
The components shall be applied with a special spray-on machine and by qualified personnel.

SpreFix LPB

1. Identification of the preparation and company

1.1	**Product Name**	SpreFix LPB
1.2	**Product Type**	Binder for spray-on insulation
1.3	**Company Name**	OVACON AB PO Box 64 SE-619 22 TROSA, SWEDEN
	Telephone	+46 (0) 156 130 80
	Telefax	+46 (0) 156 678 309
	Internet	www.sprefix.com
	E-mail	info@sprefix.com

2. Hazard identification of the product

Based on the data available to us, the product is not a dangerous substance within the meaning of EC Directive 99/45 and amendments (CHIP Regulations in UK).
It can be considered as not being toxic, harmful, irritating, corrosive or oxidizing.
Ecological information: Cfr. Section 12.

3. Composition/information on ingredients

2.1	**Chemical composition**	Boron salt
2.2	**Hazardous components**	n.a.

4. First aid measures

4.1	**Inhalation**	n.a.
4.2	**Skin contact**	In extreme cases: Irritation. Wash with soap and water.
4.3	**Eye contact**	In extreme cases: Irritation. Irrigate eyes with plenty of water for at least 10 min. Obtain medical attention if symptoms persist.
4.4	**Ingestion**	Nausea: Give plenty of water to drink. Clear mouth, nose and throat. Seek medical assistance.

n.a. = not applicable

5. Fire-fighting measures

5.1	**Fire Hazard**	The product is water based and has in wet condition very low flammability.
5.2	**Suitable extinguishing media**	Water, Alcohol-resistant foam, Powder, Carbon dioxide (CO_2), any kind of extinguishing media can be used. Protective clothing and self-contained breathing equipment should be available for firemen.

6. Accidental release measures

6.1	**Personal protection**	Wear protection-gloves and goggles to contain spills. Avoid repeated skin contact.Avoid repeated contact with skin.
6.2	**Environmental precautions**	Prevent the product entering sewers and waterways Cfr. Section 12.
6.3	**Cleaning / Recovery**	**Major spillage:** Contain & pump into containers **Minor spillage:** Absorb on sand, earth and such like.collect into containers for disposal (Cfr. Section 13)

Disposals should always comply with local, national or EC regulations.

7. Handling and storage

7.1	**Handling**	Good industrial and personal hygiene practice should be followed. No eating and drinking in the workplace. Ensure adequate ventilation.
7.2	**Storage**	Storage temperature: Recommended between +10 and +40 °C Protect from frost & direct sunlight. **Bottles and buckets:** Plastic or stainless steel **Bulk-containers**: Stainless steel, aluminum or plastic materials. Clean the containers regularly to avoid bacteria build –up. Do not store for more than 12 months without consulting the manufacturer.

n.a. = not applicable

8. Exposure controls and personal protection

8.1	**Exposure**	No danger in normal ambient conditions. Users should determine the conditions for safe use of the product. Cfr. Section 7.1. Avoid repeated skin contact.
8.2	**Personal Protection under normal ambient conditions**	**Respiratory ways:** n.a. **Hands:** Waterproof gloves **Eyes:** Goggles or safety glasses **Skin:** n.a.

9. Physical and chemical properties

9.1	**Physical State**	Liquid
9.2	**Appearance**	Clear
9.3	**Odour**	Weak specific
9.4	**Flash Point**	>100°C
9.5	**Boiling Point**	Approx as water
9.6	**Solubility in Water**	Miscible
9.7	**Viscosity**	<10 mPa.s (Brookfield RVF at +20°C)
9.8	**pH**	7,5 – 8.5
9.9	**Dry Substance**	11 – 13%
9.10	**Density**	Approx 1050kg/m^3

10. Stability and reactivity

Stable under the recommended storage conditions. Cfr. Section 7.2
Bacterial degradation can occur if the product is stored for unusually long period or is stored under unsuitable conditions.
Avoid strong acids and materials which react with water.

11. Toxicological information

The product does not contain formaldehyde, Phthalates or PCP`s.
Low toxicity is indicated by available data.
Under normal industrial conditions, there is no indication that the product can be considered as a health risk. Cfr. Section 2.

12. Ecological information

The product is miscible with water and as such could cover considerable distances if spilled Into waterways. Even a small spillage will whiten the appearance of water.
There is only a slow environmental breakdown of the product, but seemingly no tendency for bioaccumulation.
Water for sewage treatment that has been contaminated with small quantities of the product will not affect the biomass. Absorption of the polymer particles onto the sludge will occur with subsequent elimination from the waste stream.

13. Disposal considerations

Do not discharge untreated waste latex directly into sewers or waterways. The polymer content can be coagulated and disposed of in a landfill site or incineration. Effluent containing latex can be treated by various methods; filtration, coagulation and settling etc.
All latex disposals should comply with local, national or EC regulations.

Further information can be obtained from our Environmental Department.

14. Transport information

14.1	**Road and Rail Transport**	
	-ARD	Non hazardous goods
	-RID	Non hazardous goods
14.2	**Inland Waterways Transport**	
	ADNR	Non hazardous goods
14.3	**Marine Transport**	
	-IMDG/UN	Non hazardous goods
14.4	**Air Transport**	
	-ICAO/IATA-DGR	Non hazardous goods
14.5	**Mail / Courier Dispatch**	Permitted
14.6	**Identification**	This product is not classified as dangerous for transportation

15. Regulatory information

The product has no hazard classification within the meaning of EC Directive 99/45.
There is no labeling required. Cfr. Section 2.
The product has no EC-number and it is not listed in EINECS.

16. Other information

This Material Safety Data Sheet complies with EC Directive 1907/2006
All information and data given herein relates only to the specific material identified. We believe that this information is accurate and reliable as of this Material Safety Data Sheet. However, it is the customer's obligation to determine the conditions of safe use of the product because the purposes and the conditions of use of the product are not within the control of our company.

Our company is not responsible for any injury or liability resulting from misuse of the product.

This Sheet is not a sales specification or an indication of suitability for a particular use.

Sprefix system The binder SpreFix LPB shall be used together with the binder SpreFix LPA and SpreFix S Stonewool Fibers or SpreFix G Glasswool Fibers.
The components shall be applied with a special spray-on machine and by qualified personnel.

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
NORWAY						
Langstens shipyard	Fishing vessel	6 different ships	- / Norway	Wheel house deck	SpreFix G	1987-1988
Fosens Shipyard	Car Ferry		- / Greece	Car deck	SpreFix S	1994
Fosens Shipyard	Car Ferry	2 different ships	- / Norway	Car deck	SpreFix S	1994-1995
Sterkoder shipyard	Fishing vessel	8 different ships	- / Norway	Wheel house deck	SpreFix G	1994-1995
DENMARK						
Danyard	Car Ferry	Stena Germanica	Stena Line / Sweden	Bulkhead	SpreFix S	1995
Faeroe Islands	Fishing vessel	4 different ships	- / Denmark	Deck	SpreFix G	1996
SWEDEN						
City Shipyard	Car Ferry	Stena Danica	Stena Line / Sweden	Car deck	SpreFix S	1994
City Shipyard	Car Ferry	Stena Jutlandia	Stena Line / Sweden	Car deck	SpreFix S	1994
City Shipyard	PCTC	M/s Otello	Wallenius Line / Sweden	Deck below accommodation	SpreFix G	1995
City Shipyard	PCTC	M/s Aida	Wallenius Line / Sweden	Deck below accommodation	SpreFix G	1995
Karskrona shipyard	Costal corvette	M/s Gavle	Swden Navy / Sweden	Deck & Bulkhead	SpreFix G	1987-1989
Karlskrona shipyard	Costal corvette	M/s Stockholm	Swden Navy / Sweden	Deck & Bulkhead	SpreFix G	1987-1989
Karlskrona shipyard	Costal corvette	M/s Goteburg	Swden Navy / Sweden	Deck & Bulkhead	SpreFix G	1987-1989
Karlskrona shipyard	Costal corvette	M/s Malmoe	Swden Navy / Sweden	Deck & Bulkhead	SpreFix G	1987-1989
Karlskrona shipyard	Ice-breaker	M/s Oden	Swden State / Sweden	Bulkhead	SpreFix S	1986
Karlskrona shipyard	Transport ships	6 different ships	Swden Navy / Sweden	Bulkhead	SpreFix S	1986-1989
Karlskrona shipyard	Submarine		EU Navy	Bulkhead	SpreFix S	2002
Karlskrona shipyard	Submarine		EU Navy	Bulkhead	SpreFix S	2002
Others						
Kvaerner Werft (Germany)	Oil platform	Stena Don	Statoil / Norway	Accommodation areas	SpreFix G	2001
Offshore North Sea	Oil Platforms	3 different types	Statoil / Norway	Accommodation areas	SpreFix G	2000-2001
Asmar Shipyrad Chile (Chile)	Trawler		- / Iceland	Wheel hose deck	SpreFix G	2001
Aberdeen shipyard	Container	Seaway Falcon	Stolt Comek / -	Deck & Bulkhead	SpreFix G	1997
Abu Dhabi Shipyard	Supply vessel	Nico Internat	Atlas 200 / -	Deck & Bulkhead	SpreFix S & G	1997

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
KOREA						
Korea / Samsung shipyard	105K COT	HN 1471	MISC /Malaysia	Deck & Bulkhead In Accom	SpreFix G & S	2003
Korea / Samsung shipyard	105K COT	HN 1472	MISC /Malaysia	Deck & Bulkhead In Accom	SpreFix G & S	2003
Korea / Samsung shipyard	105K COT	HN 1517	MISC /Malaysia	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Samsung shipyard	105K COT	HN 1518	MISC /Malaysia	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Samsung shipyard	RoRo Car Ferry	HN 1523	Norfork /Denmark	Car deck	SpreFix S & G	2005
Korea / Samsung shipyard	RoRo Car Ferry	HN 1524	Norfork /Denmark	Car deck	SpreFix S & G	2005
Korea / Samsung shipyard	RoRo Car Ferry	HN 1574	Norfork /Denmark	Car deck	SpreFix S & G	2005
Korea / Samsung shipyard	216K LNG	HN 1605	OGII	Deck & Bulkhead In Accom	SpreFix S & G	2006
Korea / Samsung shipyard	216K LNG	HN 1606	OGII	Deck & Bulkhead In Accom	SpreFix S & G	2007
Korea / Hyundai shipyard	300K VLCC	HN 1540	PERTAMINA / Indonesia	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai shipyard	300K VLCC	HN 1541	PERTAMINA / Indonesia	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai shipyard	319K VLCC	HN1553	WAH KWONG / Hongkong	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai shipyard	319K VLCC	HN1610	WAH KWONG / Hongkong	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai shipyard	8200TEU Container	HN 1535	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai shipyard	7800TEU Container	HN 1532	NSB/ Germany	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai shipyard	7800TEU Container	HN 1533	NSB/ Germany	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai shipyard	7800TEU Container	HN 1534	NSB/ Germany	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai shipyard	7800TEU Container	HN 1536	NSB/ Germany	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai shipyard	8200TEU Container	HN 1646	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	8200TEU Container	HN 1647	CMA CGM / French	Deck & Bulkhead	SpreFix G & S	2005
Korea / Hyundai shipyard	8200TEU Container	HN 1648	CMA CGM / French	Deck & Bulkhead	SpreFix G & S	2005
Korea / Hyundai shipyard	8200TEU Container	HN 1649	CMA CGM / French	Deck & Bulkhead	SpreFix G & S	2005
Korea / Hyundai shipyard	35K LPG	HN 1739	ITOCHU	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	7500TEU Container	HN 1580	Cosmos/ Germany	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	7500TEU Container	HN 1581	Cosmos/ Germany	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	7500TEU Container	HN 1582	Cosmos/ Germany	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	7500TEU Container	HN 1583	Cosmos/ Germany	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	7500TEU Container	HN 1584	Cosmos/ Germany	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	Sakhalin 1 Orlan Plattform Project		Exxon Neftegas Limites	Deck & Bulkhead In Accom & Others	SpreFix G	2005
Korea / Hyundai shipyard	Sakhalin 1 OPF Project		Exxon Neftegas Limites	Bulkhead	SpreFix G	2005
Korea / Hyundai shipyard	164K COT	HN 1617	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	164K COT	HN 1618	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai shipyard	164K COT	HN 1619	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2006

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	164K COT	HN 1620	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	164K COT	HN 1708	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	35K LPG	HN 1757	FIONA	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	35K LPG	HN 1758	FIONA	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	8200 TEU Container	HN 1643	COSTMARE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	8200 TEU Container	HN 1644	COSTMARE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	8200 TEU Container	HN 1645	COSTMARE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	8200 TEU Container	HN 1653	COSTMARE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	8200 TEU Container	HN 1654	COSTMARE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800 TEU Container	HN 1661	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800 TEU Container	HN 1662	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800 TEU Container	HN 1663	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800 TEU Container	HN 1664	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800 TEU Container	HN 1665	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	82K LPG	HN 1677	UNIQUE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	82K LPG	HN 1720	UNIQUE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	4900 TEU Container	HN 1690	STEFAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	4900 TEU Container	HN 1691	STEFAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	4900 TEU Container	HN 1692	STEFAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	4900 TEU Container	HN 1693	STEFAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6500 TEU Container	HN 1696	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6500 TEU Container	HN 1697	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6500 TEU Container	HN 1698	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	1700 TEU Container	HN 1870	CMA/CGM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	105K COT	HN 1704	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	105K COT	HN 1705	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	105K COT	HN 1706	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	105K COT	HN 1707	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	82K LPG	HN 1718	DORIAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	6800TEU Container	HN 1751	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	317K VLCC	HN 1764	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai shipyard	35K LPG	HN 1762	ITOCHU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	164K COT	HN 1709	TASKOS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	35K LPG	HN 1759	FIONA	Deck & Bulkhead In Accom	SpreFix G & S	2007

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	6500 TEU Container	HN 1807	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	1700 TEU Container	HN 1871	CMA/CGM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	1700 TEU Container	HN 1872	CMA/CGM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	116K COT	HN 1702	GRETA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	116K COT	HN 1703	GRETA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1710	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1711	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1768	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1769	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1770	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	5100 TEU Container	HN 1771	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	82K LPG	HN 1830	DORIAN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	6800TEU Container	HN 1752	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	6800TEU Container	HN 1753	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	317K VLCC	HN 1765	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	82K LPG	HN 1766	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	82K LPG	HN 1767	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	216K LNG	HN 1791	OGII	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	216K LNG	HN 1792	OGII	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	166K COT	HN 1737	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	166K COT	HN 1738	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4800 CNTR	HN 1772	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4800 CNTR	HN 1773	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4800 CNTR	HN 1774	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4800 CNTR	HN 1775	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	35K LPG	HN 1776	DOUN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	163K COT	HN 1782	BOSTON	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4900 CNTR	HN 1783	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4900 CNTR	HN 1784	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4900 CNTR	HN 1785	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4900 CNTR	HN 1786	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	4900 CNTR	HN 1787	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	35K LPG	HN 1800	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	10000 TEU CNTR	HN 1801	COSCO	Deck & Bulkhead In Accom	SpreFix G & S	2007

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	82K LPG	HN 1805	PETREDEC	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	8600TEU CNTR	HN 1810	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	8600TEU CNTR	HN 1811	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	8600TEU CNTR	HN 1940	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	8600TEU CNTR	HN 1941	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4500TEU CNTR	HN 1815	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4500TEU CNTR	HN 1816	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4500TEU CNTR	HN 1817	HMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	155K LNG	HN 1876	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	216K LNG	HN 1862	RASGAS III	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	216K LNG	HN 1863	RASGAS III	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	216K LNG	HN 1875	RASGAS III	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1822	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1823	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	216K LNG	HN 1908	QGTC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	216K LNG	HN 1909	QGTC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	216K LNG	HN 1910	QGTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1832	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1833	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	317K VLCC	HN 1848	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	82K LPG	HN 1856	CMM	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	82K LPG	HN 1857	CMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1858	CMM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	159K COT	HN 1878	IRANO HIND	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai shipyard	6500 TEU Container	HN 1808	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500 TEU Container	HN 1809	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	5100 TEU Container	HN 1826	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	5100 TEU Container	HN 1827	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	5100 TEU Container	HN 1828	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	5100 TEU Container	HN 1829	CMA CGM / French	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1831	DORIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1843	DORIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900 CNTR	HN 1788	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900 CNTR	HN 1789	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	4900 CNTR	HN 1790	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	35K LPG	HN 1967	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	10000 TEU CNTR	HN 1802	COSCO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	10000 TEU CNTR	HN 1803	COSCO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	10000TEU CNTR	HN 1804	COSCO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1806	PETREDEC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900TEU CNTR	HN 1818	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900TEU CNTR	HN 1819	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900TEU CNTR	HN 1820	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	4900TEU CNTR	HN 1821	IRISL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	150K LNG	HN 1903	KOGAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1834	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1835	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1836	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1837	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1838	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6800TEU CNTR	HN 1839	UASC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	8600TEU CNTR	HN 1840	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	8600TEU CNTR	HN 1841	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	317K VLCC	HN 1849	KOTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1850	PINE SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1851	PINE SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1852	PINE SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6500TEU CNTR	HN 1853	PINE SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1854	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1855	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1873	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1874	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1866	QSC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1867	QSC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1868	QSC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	82K LPG	HN 1869	QSC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 1877	NTTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	317K VLCC	HN 1864	NTTC	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	317K VLCC	HN 1865	NTTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	9700TEU CNTR	HN 1890	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	9700TEU CNTR	HN 1891	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	9700TEU CNTR	HN 1892	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	9700TEU CNTR	HN 1893	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	35K LPG	HN 1897	ITOCHU	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	35K LPG	HN 1898	ITOCHU	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1899	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1900	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1904	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1905	IOM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1906	IOM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	60K LPG	HN 1907	IOM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	112K P/C	HN 1901	AMPTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	112K P/C	HN 1902	AMPTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	22.5K LPG	HN 1911	PETREDEC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	22.5K LPG	HN 1912	PETREDEC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	75K LPG	HN 1915	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	75K LPG	HN 1916	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	75K LPG	HN 1917	SOLVANG	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	75K LPG	HN 1918	PANGAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	80K LPG	HN 1919	TRANS PETROL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	80K LPG	HN 1920	TRANS PETROL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1921	DYNACOM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1922	DYNACOM	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1936	DYNACOM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	318K VLCC	HN 1937	DYNACOM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K P/C	HN 1923	INDIA STEAMSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K P/C	HN 1924	INDIA STEAMSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K P/C	HN 1947	INDIA STEAMSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1925	EURONAV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1926	EURONAV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1929	PHOENIX ENERGY	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K COT	HN 1930	PHOENIX ENERGY	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	318K VLCC	HN 1932	ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	318K VLCC	HN 1933	ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	1000TEU CNTR	HN 1942	BRAVO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	1000TEU CNTR	HN 1943	BRAVO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	6600TEU CNTR	HN 1944	HERMANN WULFF D.	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 1958	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 1978	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 1963	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 1964	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 2015	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 2016	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	317K VLCC	HN 2024	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN 1968	GOICL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN 1969	GOICL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	5100TEU CNTR	HN 1970	SEASPAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	22.5K LPG	HN 1980	GEOGAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	6600TEU CNTR	HN 1945	HERMANN WULFF D.	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	6600TEU CNTR	HN 1946	HERMANN WULFF D.	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 1959	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 1960	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 2006	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 1979	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	159K COT	HN 2021	KRISTEN ALPHA TANKERS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	5100TEU CNTR	HN 1971	SEASPAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	5100TEU CNTR	HN 1972	SEASPAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	5100TEU CNTR	HN 1973	SEASPAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 1974	K-LINE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 1975	K-LINE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 1976	K-LINE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 1977	K-LINE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	318K VLCC	HN 2000	METROSTAR	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	318K VLCC	HN 2001	METROSTAR	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	318K VLCC	HN 2002	ASC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	318K VLCC	HN 2003	ASC	Deck & Bulkhead In Accom	SpreFix G & S	2009

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	318K VLCC	HN 2017	ASC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN 2008	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN 2018	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN 2019	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	82K LPG	HN2020	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K P/C	HN 1988	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K P/C	HN 1989	SK SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K P/C	HN 1990	ETA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	105K P/C	HN 1991	ETA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	11400 CNTR	HN 1992	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	11400 CNTR	HN 1993	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	11400 CNTR	HN 1994	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	11400 CNTR	HN 1995	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	11400 CNTR	HN 1996	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	11400 CNTR	HN 1997	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	11400 CNTR	HN 1998	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	11400 CNTR	HN 1999	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	105K COT	HN 2004	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K COT	HN 2005	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K COT	HN 2007	CMA CGM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	22.5K LPG	HN 2009	MIYAMA	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	112K P/C	HN 2011	NOVOSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	112K P/C	HN 2012	NOVOSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	112K P/C	HN 2013	NOVOSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	112K P/C	HN 2014	NOVOSHIP	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K COT	HN 2022	KRISTEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K COT	HN 2023	KRISTEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	103K P/C	HN 2025	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	103K P/C	HN 2026	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K P/C	HN 2027	FLOPEC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	105K P/C	HN 2028	FLOPEC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	158K COT	HN 2035	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	158K COT	HN 2036	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	97K COT	HN 2041	FAL	Deck & Bulkhead In Accom	SpreFix G & S	2009

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai shipyard	97K COT	HN 2042	FAL	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2045	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	319K VLOO	HN 2046	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	319K VLOO	HN 2065	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2066	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2067	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2068	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2174	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	319K VLOO	HN 2175	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	319K VLOO	HN 2176	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	319K VLOO	HN 2213	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	319K VLOO	HN 2214	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	319K VLOO	HN 2215	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	319K VLOO	HN 2216	ELEPHANT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai shipyard	2500TEU CNTR	HN 2048	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai shipyard	2500TEU CNTR	HN 2049	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	2500TEU CNTR	HN 2050	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	2500TEU CNTR	HN 2051	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	2500TEU CNTR	HN 2052	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	2500TEU CNTR	HN 2080	DELPHIS	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	4300TEU CNTR	HN 2057	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2058	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2059	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2060	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2061	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2062	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai shipyard	4300TEU CNTR	HN 2063	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	4300TEU CNTR	HN 2064	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	4300TEU CNTR	HN 2070	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai shipyard	4300TEU CNTR	HN 2071	OFFEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K C/T	HN 0367	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	37K C/T	HN 0368	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	37K C/T	HN 0392	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 0430	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2005

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	47K C/T	HN 0234	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai Mipo shipyard	47K C/T	HN 0235	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai Mipo shipyard	47K C/T	HN 0236	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai Mipo shipyard	47K C/T	HN 0237	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2004
Korea / Hyundai Mipo shipyard	47K C/T	HN 0238	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 0239	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 0240	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 0241	OMI	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	2600 TEU Container	HN 0342	SUISSE-ATLA/LIBERIA	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	2600 TEU Container	HN 0344	SUISSE-ATLA/LIBERIA	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	2600 TEU Container	HN 0390	SUISSE-ATLA/LIBERIA	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	2600 TEU Container	HN 0391	SUISSE-ATLA/LIBERIA	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	37K C/T	HN 0318	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	37K C/T	HN 0319	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Mipo shipyard	37K C/T	HN 0364	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0365	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0437	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0366	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0438	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0439	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0440	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0441	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0349	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0350	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0358	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	37K C/T	HN 0359	INTERORIENT/ Marshall	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 1005	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 1006	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Mipo shipyard	47K C/T	HN 1007	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K C/T	HN 1008	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K C/T	HN 1009	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K C/T	HN 1010	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K C/T	HN 1011	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K C/T	HN 1012	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	47K C/T	HN 1013	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K C/T	HN 1016	ATHENIAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	13K C/T	HN 2003	ESHIPS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	13K C/T	HN 2004	ESHIPS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	13K C/T	HN 2005	ESHIPS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	13K C/T	HN 2006	ESHIPS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	13K C/T	HN 2007	ESHIPS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	37K C/T	HN 2001	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	37K C/T	HN 2002	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	3500 TEU Container	HN 4021	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	3500 TEU Container	HN 4022	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	3500 TEU Container	HN 4023	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 0481	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 0482	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	4300 TEU Container	HN 4024	NV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	4300 TEU Container	HN 4025	NV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	4300 TEU Container	HN 4026	NV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	4300 TEU Container	HN 4027	NV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	4300 TEU Container	HN 4028	NV	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 483	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 4029	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 4030	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	2820 TEU Container	HN 4035	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2022	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	37K P/C	HN 2023	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	37K P/C	HN 2024	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	37K P/C	HN 2029	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2030	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2031	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2032	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 451	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K P/C	HN 452	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K P/C	HN 453	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K P/C	HN 454	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	47K P/C	HN 455	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 456	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 478	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 479	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2008	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2009	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2010	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2011	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2012	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2013	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2018	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K P/C	HN 2019	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Mipo shipyard	47K P/C	HN 2020	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2021	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2022	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2025	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2026	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2027	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2028	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2045	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2046	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2047	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2048	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2067	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2068	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2069	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2034	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2035	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2036	GEDEN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2055	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2056	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2057	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2058	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2059	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	37K P/C	HN 2060	PONL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2014	GULF NAVI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2015	GULF NAVI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2016	GULF NAVI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	47K P/C	HN 2017	GULF NAVI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8005	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8007	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8009	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8006	A.P.MOLLER	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8008	A.P.MOLLER	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	20.6K LPG	HN 8010	A.P.MOLLER	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2061	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2062	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2063	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2064	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2065	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2066	WESTFAL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2049	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2050	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2051	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2052	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2053	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2054	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2082	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2083	ORIX	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	49K G/C	HN 8001	BILLARBONG	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	49K G/C	HN 8002	BILLARBONG	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	49K G/C	HN 8003	BILLARBONG	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2088	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2089	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2090	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2091	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2092	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2093	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	52K P/C	HN 2080	POLYAR	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	52K P/C	HN 2081	POLYAR	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2094	RIGEL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2095	RIGEL	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2096	REGEL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2097	REGEL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2111	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2112	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	37K P/C	HN 2121	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2122	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2133	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2134	OMI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	35K P/C	HN 8011	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	35K P/C	HN 8012	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	35K P/C	HN 8013	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	35K P/C	HN 8014	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	35K P/C	HN 8015	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	35K P/C	HN 8016	ELETSON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	36.4K P/C	HN 2098	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Mipo shipyard	36.4K P/C	HN 2099	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	36.4K P/C	HN 2113	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	36.4K P/C	HN 2114	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	36.4K P/C	HN 2138	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	46K P/C	HN 2173	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	46K P/C	HN 2174	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	46K P/C	HN 2175	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	46K P/C	HN 2176	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	46K P/C	HN 2177	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2159	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2160	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2161	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2162	INTERORIENT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8032	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8033	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2009

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8034	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8035	VROON	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2102	SEAARLAND	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	37K P/C	HN 2103	SEAARLAND	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8021	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8022	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8023	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8024	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8025	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	3500UNIT PCTC	HN 8026	NEPTUNE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	52K P/C	HN 2107	OSG	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	52K P/C	HN 2108	OSG	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2189	OMEGA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2190	OMEGA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2191	OMEGA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2192	OMEGA	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	37K P/C	HN 2193	OMEGA	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Mipo shipyard	47K P/C	HN 2100	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Mipo shipyard	47K P/C	HN 2101	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	47K P/C	HN 2104	MITSUI	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	47K P/C	HN 2105	MITSUI	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Mipo shipyard	52K P/C	HN 2182	TMT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Mipo shipyard	52K P/C	HN 2183	TMT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Mipo shipyard	52K P/C	HN 2184	TMT	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	8200TEU Container	S 253	CMA CGM / French	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2005
Korea / Hyundai Samho shipyard	8200TEU Container	S 254	CMA CGM / French	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2005
Korea / Hyundai Samho shipyard	8200TEU Container	S 255	CMA CGM / French	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2005
Korea / Hyundai Samho shipyard	8200TEU Container	S 256	CMA CGM / French	Deck & Bulkhead In Accom and ECR	SpreFix G & S	2005
Korea / Hyundai Samho shipyard	159K COT	S236	Great Eastern India	Deck & Bulkhead In Accom	SpreFix G & S	2004
Korea / Hyundai Samho shipyard	159K COT	S237	Great Eastern India	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / Hyundai Samho shipyard	6500 TEU Container	S269	HANJIN SHIPPING/KORE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Samho shipyard	6500 TEU Container	S270	HANJIN SHIPPING/KORE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Samho shipyard	5100 TEU Container	S279	CMA CGM/FRANCE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Samho shipyard	5100 TEU Container	S280	CMA CGM/FRANCE	Deck & Bulkhead In Accom	SpreFix G & S	2007

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Samho shipyard	168K COT	S282	LIQUIMAR /GREECE	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / Hyundai Samho shipyard	168K COT	S283	LIQUIMAR /GREECE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	168K COT	S360	LIQUIMAR /GREECE	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	168K COT	S423	LIQUIMAR /GREECE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4700TEU CNTR	S294	HMM/KOREA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	4700TEU CNTR	S295	HMM/KOREA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	4700TEU CNTR	S296	HMM/KOREA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	4700TEU CNTR	S310	HMM/KOREA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	4700TEU CNTR	S311	HMM/KOREA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	318K VLCC	S300	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	318K VLCC	S301	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	318K VLCC	S335	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	318K VLCC	S336	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	318K VLCC	S337	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	318K VLCC	S338	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	318K VLCC	S339	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	318K VLCC	S340	NACSA/SAUDI	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	1700TEU CNTR	S320	CMA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	1700TEU CNTR	S321	CMA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	155K LNG	S297	BP(ENGLAND) TEEKAY(CANAD	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	155K LNG	S298	BP(ENGLAND) TEEKAY(CANAD	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	8600TEU CNTR	S306	HMM(현대상선)	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	8600TEU CNTR	S307	HMM(현대상선)	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / Hyundai Samho shipyard	317K VLCC	S314	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	317K VLCC	S326	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	317K VLCC	S315	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	317K VLCC	S327	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	164K COT	S316	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	164K COT	S317	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	164K COT	S318	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	164K COT	S319	NITC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	82K LPG	S333	AMPTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	82K LPG	S334	AMPTC	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	8600TEU CNTR	S312	P & O	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Samho shipyard	8600TEU CNTR	S313	P & O	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	11300 TEU CNTR	S343	BRAVO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / Hyundai Samho shipyard	11300 TEU CNTR	S344	BRAVO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	177K LNG	S324	MOL	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8600TEU CNTR	S341	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8600TEU CNTR	S342	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	158K COT	S353	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	158K COT	S354	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	158K COT	S358	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	158K COT	S359	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	158K COT	S370	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	158K COT	S388	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	158K COT	S389	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	158K COT	S440	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	158K COT	S441	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	158K COT	S442	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	158K COT	S455	MARMARAS	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	10000TEU CNTR	S345	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	10000TEU CNTR	S346	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	10000TEU CNTR	S347	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	10000TEU CNTR	S348	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	10000TEU CNTR	S349	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8200TEU Container	S349	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8200TEU Container	S350	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8200TEU Container	S351	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	8200TEU Container	S352	ZIM	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S363	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S364	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S365	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S401	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S366	TEEKAY	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S379	IRANO HIND	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	159K COT	S432	IRANO HIND	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4300TEU CNTR	S415	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2009

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / Hyundai Samho shipyard	4300TEU CNTR	S416	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	4300TEU CNTR	S417	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4300TEU CNTR	S418	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4300TEU CNTR	S419	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4300TEU CNTR	S420	MPC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S380	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / Hyundai Samho shipyard	120K P/C	S381	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S382	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S383	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S426	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S427	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	120K P/C	S428	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	120K P/C	S429	JEBSEN	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	8600TEU CNTR	S402	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	8600TEU CNTR	S403	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	8600TEU CNTR	S404	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	8600TEU CNTR	S407	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	8600TEU CNTR	S408	HANJIN SHIPPING	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4400TEU CNTR	S405	DIORYX	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4401TEU CNTR	S406	DIORYX	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4402TEU CNTR	S436	DIORYX	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	4403TEU CNTR	S439	DIORYX	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	317K VLCC	S377	SK SHIPPING(KORE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	317K VLCC	S378	SK SHIPPING(KORE	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	180K BC	S421	거양해운(KOREA)	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	180K BC	S422	거양해운(KOREA)	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	317K VLCC	S364	TMT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	317K VLCC	S365	TMT	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	10100TEU CNTR	S433	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	10100TEU CNTR	S434	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2010
Korea / Hyundai Samho shipyard	10100TEU CNTR	S435	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	10100TEU CNTR	S436	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / Hyundai Samho shipyard	10100TEU CNTR	S437	ZODIAC	Deck & Bulkhead In Accom	SpreFix G & S	2011
Korea / STX shipyard	51K P.C	S1170	d'AMICO	Steering gear room & Paint store	SpreFix G	2005

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / STX shipyard	51K P.C	S1171	d'AMICO	Steering gear room & Paint store	SpreFix G	2005
Korea / STX shipyard	51K P.C	S1182	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	51K P.C	S1183	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	51K P.C	S1203	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S1204	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S2022	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S2023	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S1219	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S1220	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S1223	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S1224	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S2024	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S2034	PARAKOU	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S1186	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	51K P.C	S1187	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	51K P.C	S2005	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S2006	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S2018	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S2019	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	45.8K C.T	S1194	D'AMICO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	2600 TEU Contaioner	S1167	B.SCHULTE/NORD	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	2600 TEU Container	S1180	B.SCHULTE/NORD	Deck & Bulkhead In Accom	SpreFixG & S	2006
Korea / STX shipyard	2600 TEU Container	S1181	B.SCHULTE/NORD	Deck & Bulkhead In Accom	SpreFixG & S	2006
Korea / STX shipyard	2600 TEU Container	S1192	B.SCHULTE/NORD	Deck & Bulkhead In Accom	SpreFixG & S	2006
Korea / STX shipyard	2600 TEU Container	S1193	B.SCHULTE/NORD	Deck & Bulkhead In Accom	SpreFixG & S	2006
Korea / STX shipyard	45.8K P.C	S1221	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	45.8K P.C	S1222	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2005
Korea / STX shipyard	45.8K P.C	S1225	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	45.8K P.C	S1227	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	45.8K P.C	S1229	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	45.8K P.C	S3007	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	45.8K P.C	S1249	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	45.8K P.C	S1268	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	45.8K P.C	S1269	PANOCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / STX shipyard	51K P.C	S1190	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	51K P.C	S1191	BARBARO	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	74.2K P.C	S1205	TARGET MARINE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	74.2K P.C	S1206	TARGET MARINE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	74.2K P.C	S1207	TARGET MARINE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	74.2K P.C	S1208	TARGET MARINE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	47.4K P.C	S1188	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	47.4K P.C	S1189	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	47.4K P.C	S1215	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	47.4K P.C	S1216	DUNYA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	47K P.C	S2014	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2006
Korea / STX shipyard	47K P.C	S2015	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	47K P.C	S2016	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	47K P.C	S2017	SOVCOMFLOT	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S2025	FIDIAS	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S1237	FIDIAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S1248	FIDIAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S1299	FIDIAS	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	75K B.C	S1211	ATLANTSKA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	75K B.C	S1212	ATLANTSKA	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S2035	CAPATAL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S1243	CAPATAL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	51K P.C	S1250	CAPATAL	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	115K P.C	S3001	AKTIF	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	115K P.C	S3002	AKTIF	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	115K P.C	S3003	AKTIF	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1233	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1234	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1252	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1253	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1263	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2700TEU CNTR	S1265	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S2026	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S2027	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / STX shipyard	51K P.C	S2028	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S2029	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2030	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2032	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	2900TEU CNTR	S1235	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2900TEU CNTR	S1240	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	2900TEU CNTR	S1241	NYK	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	50.4K P.C	S1247	ETA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	50.4K P.C	S1251	ETA	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	51K P.C	S2036	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2038	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2040	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2041	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2042	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2043	CIDO	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2037	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S2039	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S1254	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	51K P.C	S1255	PRIMORSK	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	38K P.C	S2044	MISC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	38K P.C	S2045	MISC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	38K P.C	S2046	MISC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	38K P.C	S2047	MISC	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	9K ETHYLENE	B5017	B.SCHULTE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	9K ETHYLENE	B5019	B.SCHULTE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	9K ETHYLENE	B5020	B.SCHULTE	Deck & Bulkhead In Accom	SpreFix G & S	2007
Korea / STX shipyard	9K ETHYLENE	B5021	BENELUX OVERSEA	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	9K ETHYLENE	B5022	BENELUX OVERSEA	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	9K ETHYLENE	B5026	BENELUX OVERSEA	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	9K ETHYLENE	B5023	VENUS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	9K ETHYLENE	B5025	VENUS	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	13K P/C	B5024	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	13K P/C	B5027	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	13K P/C	B5028	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008

Our Successful Records for shipbuilding

National / yard	Type of vessel	Ship's Name	Ship's owner / Land	Insulated area	Type of Insulation	Delivery Year
Korea / STX shipyard	13K P/C	B5029	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	13K P/C	B5032	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	13K P/C	B5034	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	12.8K P/C	B5030	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	12.8K P/C	B5031	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2008
Korea / STX shipyard	12.8K P/C	B5033	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / STX shipyard	12.8K P/C	B5035	STX PAN OCEAN	Deck & Bulkhead In Accom	SpreFix G & S	2009
Korea / DSME	PCTC	4442	Wallenius Marine/ Sweden	Car deck	SpreFix S & G	2006
Korea / DSME	PCTC	4443	Wallenius Marine/ Sweden	Car deck	SpreFix S & G	2006
Korea / DSME	PCTC	4444	Wallenius Marine/ Sweden	Car deck	SpreFix S & G	2007
Korea / DSME	PCTC	4445	Wallenius Marine/ Sweden	Car deck	SpreFix S & G	2007
Korea / DSME	PCTC	4446	Wallenius Marine/ Sweden	Car deck	SpreFix S & G	2007
Korea / DSME	145.7K LNG	2241	SOVCOMFLOT RD	Deck & Bulkhead In Accom	SpreFix S & G	2008
Korea / DSME	145.7K LNG	2242	SOVCOMFLOT RD	Deck & Bulkhead In Accom	SpreFix S & G	2008

SpreFix™ in Construction

SpreFix™ can be used in many areas in the construction market. One of the key benefits is the fact that it is applied seamlessly and without any mechanical fasteners to almost any surface.

This enables you to for example deliver gapless, smooth acoustic insulation with a very attractive look to an infinite area.

You can apply insulation for any purpose to any shape of surface, flat or curved, no limitations!

Add thermal insulation to the inside of a roof by applying SpreFix directly onto the ceiling.

Easily add insulation for thermal, sound or condensation control to steel hangars and metal roofs.

SpreFix™ can actually be used almost everywhere and the more complicated the job is the better it is to use SpreFix™.

References

Barnängen Building in Stockholm, renovated in 2001, originally an old industrial building that was now reconstructed as an office building with approximately 10 000 m^2 of office space. In the ceiling of all office areas SpreFix™ G was applied for acoustic comfort.
All pictures were taken in the summer of 2008.

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

Old boiler building , at Barnängen in Stockholm. Renovated and converted into 450 m^2 of offices, finished in 2008. SpreFix™ G used for both thermal and acoustic insulation. Note the vaulted ceilings , a curved surface difficult to insulate with traditional materials but ideal for SpreFix™.

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

Studentskrapan in Stockholm.

In 2005 this office building was renovated and converted into apartments for students with a mall on the ground floor and a restaurant / night club on the top floor.

The building consists of four parts put together forming the shape of an X. On the outside of the gable wall of each of these four parts there is a vertical ventilation shaft with a section of 60 x 200 cm. The ventilation shafts were originally constructed for ventilating dry office air but with the building now being used for apartments and restaurant the ventilation shafts needed to have a better insulation and a washable surface inside. Due to a number of reasons the insulation could not be applied on the outside of the shafts, it had to be done from the inside.
An almost impossible task you may think

The task was solved by Ovacon with SpreFix™ G being applied on the inside of the shafts. The ventilation shaft was accessed through holes taken from inside the building on every fourth floor. Then an elevator vas mounted at the top of the shaft with a specially designed platform for the applicator to stand on that fitted inside the shaft. The inside was then insulated with SpreFixTM G and thesurface was covered with aluminium foil, glued directly onto the insulation.
The total of the insulated area was around 3 800 m^2.

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

Kungstensgatan 45 in Stockholm, office building that was renovated around 1998. SpreFixTM G for thermal and acoustic insulation. All pictures taken in the summer of 2008, 10 years after installation..

OVACON AB Box 64, SE-619 22 TROSA, SWEDEN, Telephone: +46 (0)156 130 80, Fax: +46 (0)156 164 20, info@sprefix.com, www.sprefix.com

January 2009

Reference Train

Euromaint in Malmö, previously named TGOJ, has renovated aproximately 1200 carriages from 1985 and onwards for SJ, the Swedish state railway company, using SpreFix G insulation.

Carriage AB3 4884 – later renamed SJOT 4884, that was renovated in 1987 using SpreFix G for insulation. This carriage was in 1996 again reconstructed. Prior to this a thorough examination of the SpreFix insulation done in 1987 was executed with the result that the insulation from 1987 was 100% intact. Se attached letter from TGOJ for further details.

Jan Lundberg, who wrote the letter, has retired but there are still persons working at Euromaint in Malmö who can share their experiences of working with SpreFix.

Gert Larsson	Construction	+46 40 20 26 39
Göran Dahl	Production	+46 40 20 26 28

Ovacon AB

Per Thörnblad
Product Manager

TGOJ

Vår handläggare/Our referens
Jan Lundberg 040-202607

Datum/Date
1998-03-31
Er datum/Your date

Beteckning/Code
1 (1)
Er beteckning/Your code

Translation of letter dated 1997-03-24

REGARDING SPREFIX INSULATION OF RAIL-WAY CARRIAGES

Carriage AB3 4884- later renamed to S10T 4884 - was insulated according to the heading in connection with a reconstruction in the end of 1987.

Prior to a later reconstruction into culture carriage S10T 4884 a thorough examination of the Sprefix insulation performed in 1987 was executed.

The examination executed in the middle of 1996 concluded that the insulation was intact and showed no signs of either the material coming loose, fungus or corrosion.

TGOJ AM

Jan Lundberg

Box 3503
S-200 22 Malmö
Sweden

Phone. +46 40 202607
Fax: +46 40 202850