



BILCO

The experts in fire protection





Headquarter

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Manufacturing

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Bilco in Italy

Manufacturing plant

While administrative and sales offices remain in their historical location in the hearth of Milan, all the processes of engineering and manufacturing of our products are carried out in our brand new plant located in south of Milan (20 km from the center), in Cusago. The manufacturing process, from procurement of raw materials up to the packing and shipment, is conducted under control conditions to be in conformance with the quality management system ISO 9001-2015 certified by Bureau Veritas.

Asia-Pacific

Constantly growing demand of Bilco fire proofing solution driven Bilco to set-up a manufacturing facility in Wenzhou for an excellent supply and assistance on BilcoFlex® Type Approval products for customers of P.R.C.

Africa & Middle East

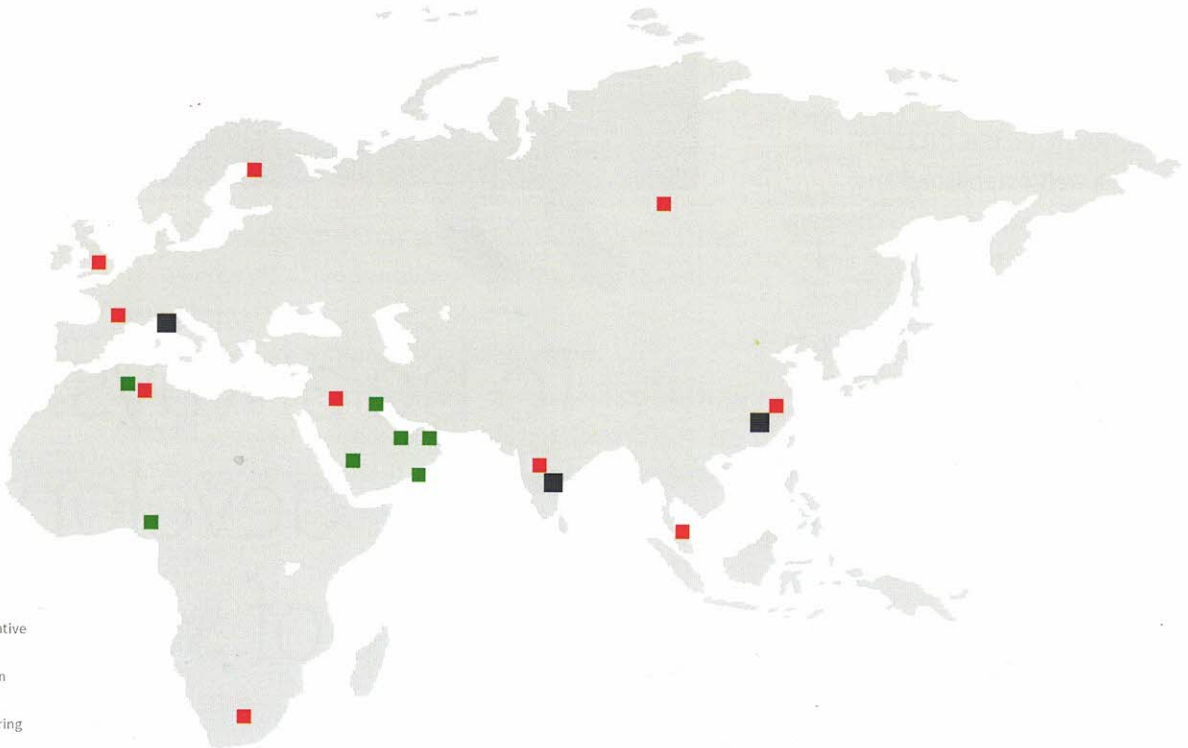
Bilco India ensures the fastest lead time and site service to local customers in the Middle East area, saving time and costs of overseas shipment and import.

Bilco Worldwide

- 01 Europe
 - Italy
 - France
 - Finland
 - Uk
 - Russia

- 02 Africa & Middle East
 - Qatar
 - Kuwait
 - Oman
 - U.A.E.
 - Saudi Arabia
 - Algeria
 - India
 - Nigeria
 - South Africa

- 03 Asia-Pacific
 - P.R. China
 - Malaysia



- Representative
- Distribution
- Manufacturing



Why Bilco

BILCO ANTIFIRE ENGINEERING s.r.l. is a well-established and constantly growing Italian company that focuses on the research and development of certified products that are increasingly performing, to offer the most complete package of fireproofing solutions to its clients. To be always at the forefront in the development of fireproofing solutions, guiding the market towards a continuous improvement of fire safety standards

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To be always at the forefront in the development of fireproof solutions.



Safety is our mission

We work every day with the satisfaction of offering the best products for the safety of our customers and their business

Why fireproof protection

The effectiveness of fire protection systems in a petrochemical plant, in a refinery or on a platform is based on a delicate balance between different elements. The integration of active and passive fire protection systems, the prevention and the continuous maintenance is the only way to minimize and prevent uncontrolled spreading of fires. Since it is impossible to completely remove the risk of a fire in this kind of plants, it is crucial to rely on fire proofing systems that guarantee effective containment of the fire within the established time frame.

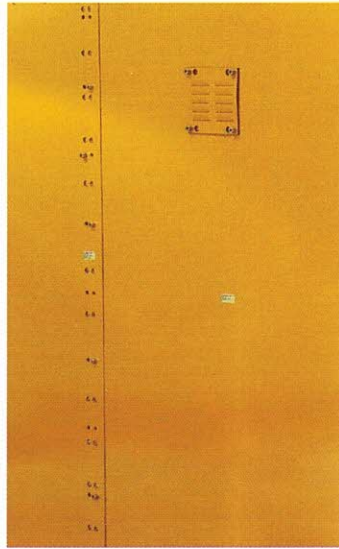
Passive fire protections are used to ensure, in the event of a fire, that critical control equipments (such as valves, actuators and tanks) would continue to operate for as long as necessary to allow operations to make the system remain free and minimizing damage to the system.

What we protect

- Electric, pneumatic and hydraulic actuators
- All kind of valves
- Flange couplings
- Cable trays and ducts
- Command and control panels
- Tanks
- Automotive
- Military
- Nuclear plant
- Vessel supports
- Risers
- Umbilicals
- Junction boxes
- Any equipment in critical areas of the plant

forefront
of

Products comparison



BilcoFlex

Fire Proofing Jacket
Flexible, Certified, Heavy Duty

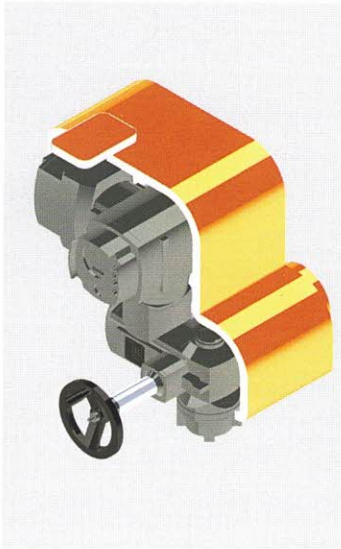
BilcoShield

SS. Enclosure
Reliability, Endurance, Customization

BilcoTherm

Insulating Blankets
Ecological, Efficient, Safe

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|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Pool Fire UL 1709 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Jet Fire ISO 22899-1 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Easy Fit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Self Supported | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Ventilation for heat release | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customizable performance | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Installation in confined space | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



BilcoArmor

Epoxy intumescent paint enclosure
Customizable, heavy duty, easy fit

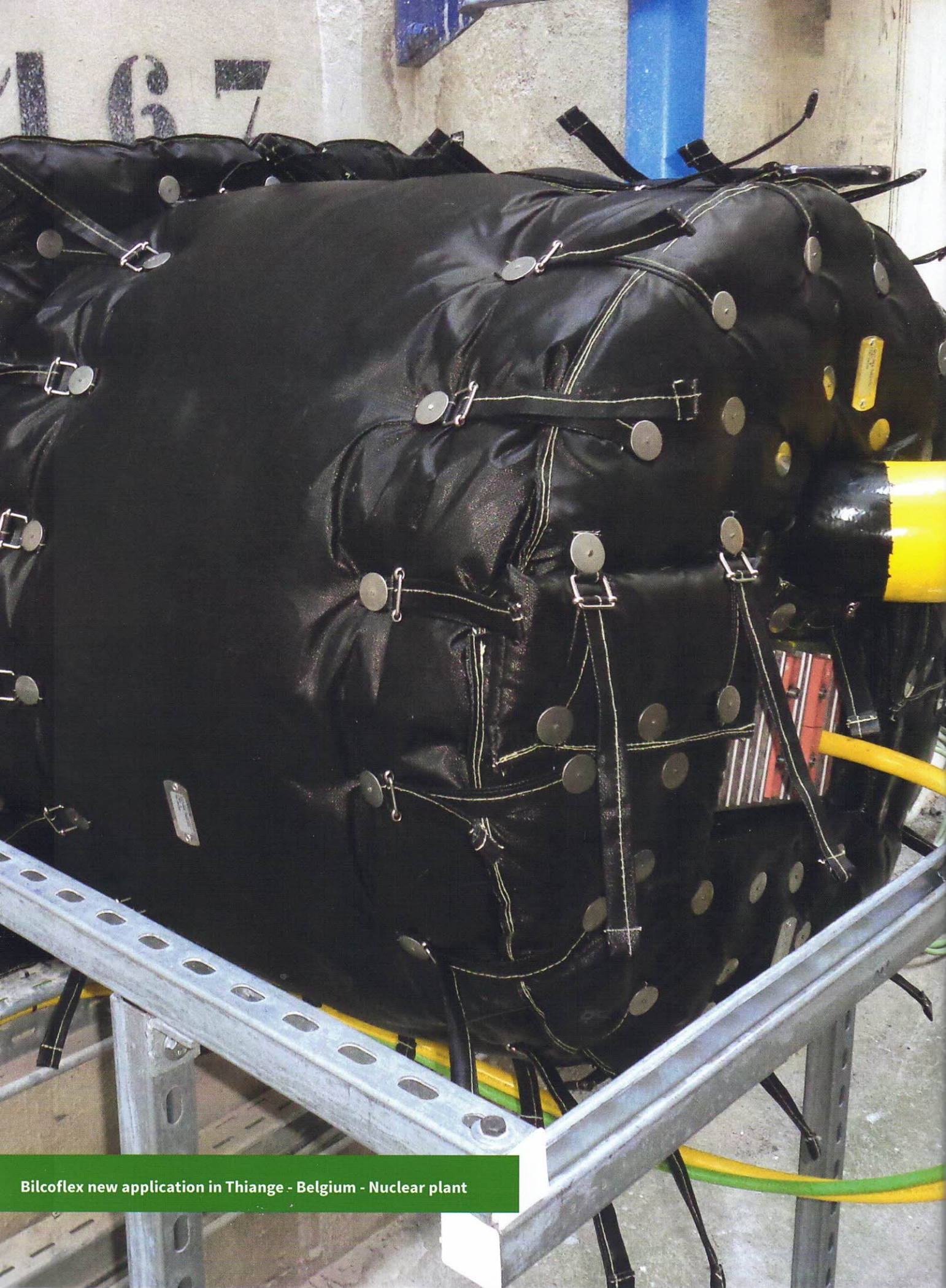
BilcoArmor S

Epoxy Precast Coating
Compact, Reusable, Available on stock

BilConduit

Flexible Jacket for cable trays & piping
Modular, Ventilated, adaptable

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|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Pool Fire UL 1709 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Jet Fire ISO 22899-1 |
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| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Customizable performance |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Installation in confined space |



Bilcoflex new application in Thiange - Belgium - Nuclear plant

BILCO Flex®

BilcoFlex® is an effective method of protection devices controlling a plant, which allows minimizing the danger and damage caused by fire in a refinery, oil platforms, petrochemical, nuclear plant, thermal power, electrical, shipbuilding and military sites.

01 Flexible.

Bilcoflex® easily protects any type of equipment thanks to its customizable design, tailored to fit any shape. All panels are made with highly performing materials and can be equipped with different accessories, including ventilation grilles, frames and power cable passing, manufactured to ensure an adequate life cycle in extremely aggressive environments.

02 Certified.

Bilcoflex® has successfully passed the strictest tests in accredited institutions and laboratories obtaining the Type Approval certifications issued by Bureau Veritas Marine & Offshore and Lloyd's Register U.K., in accordance with the technical specifications required by the world leaders in the Oil & Gas industry.

03 Easy Installation.

The Bilcoflex® registered trademark system is based on a quick installation procedure: belts and buckles in stainless steel ensure the easiest and reliable way to assembly and disassembly following the instructions provided in the installation manual or with the assistance of Bilco qualified staff all over the world. No special tools or lifting equipment are required.

Certifications

Lloyd's Register U.K., Bureau Veritas Marine, Type Approval, Pool Fire, Jet Fire



Specifications

Calculation & Performance

The systems optimum thickness is calculated utilizing "BilcoSoft" a proprietary software approved by Lloyd's Register for the prediction of the temperature rise on the PFP cold face during Pool Fire & Jet Fire scenario in accordance with Bilco Type Approval Certificates for UL 1709 & ISO 22899-1. Since each project has different conditions, the simulations consider several parameters for a dedicated engineering of the PFP system for each specific customer and application.

Installation

- » Easy to handle, can be installed quickly and without special tools
- » Installation may be carried out without stopping the system
- » Custom designed products
- » Weatherproof, resistant to UV rays, cold, sea environment, chemicals and acids
- » All materials are cancer and asbestos free

Technical Solutions

Bilco Ventilation Grill tested up to 120 minutes

Bilco enclosures can be equipped with optional intumescent grills when normal operating temperature requires a ventilation of the equipment.

In case of fire, BilcoGrill will expand its volume sealing the holes to avoid passage of fire and hot air passage.

Confined space

When interferences between fire protection enclosure and surroundings cannot be avoided, the jacket thickness can be reduced thanks to ultra high performing insulating materials to avoid clashes while ensuring the maximum safety of equipment and personnel.

Ultralight frame structures 3D printed

As low weight matters for FPSO & Offshore platforms, traditional stainless steel frames can be replaced by ultralight frame structures printed directly in our head-quarter thanks to BilcoTech 3D high definition printing technology.

Before & After

Flexibility in terms of design, performance, configurations & optional.

01 Actuator Body

Protected in a box shaped jacket accessible through inspection hatches, allows the operator a user-friendly access for frequent use and maintenance.

02 Positioner & Accessories

Actuators accessories and their position determine the design shape of the jacket, a wide range of customization possibilities are available for a customized interface inside & outside part of the protection.

03 Cylinder

Wrapped in a fit designed cylinder shaped jacket for space saving, can be equipped with grills for high pressure release valves, covers for lifting eyes, passages for tubes and manual hand wheel.



BILCO Therm®

High performance system for cold application, thermal and acoustic insulation for industrial, energy, naval and automotive fields.

This protection system can offer customized and economical solution offering high quality requiring minimum maintenance.

01 Safe.

Prevents injuries against accidental contacts while reducing heat loss, improving plant efficiency.

02 Efficient.

Made with low environmental impact materials, highly recommended for energy saving due to heat spread limit for optimizing performances and consumptions.

03 Quick assembly.

Highly preferable to traditional insulating systems due to its easy and fast assembly procedure for rapid intervention during plant inspection & maintenance.

References

DKTC, TECHNIP, TOTAL, POLIMERI EUROPA, MOTORSPORT RACING TEAMS



BILCO Shield®

Threaded pass through pipes for the connections to the actuator, inspection doors with high strength hinges, certified BilcoGrill® for the internal ventilation; perfect weldings and a new patented system for the connections of the different parts make BilcoShield® the most advanced rigid passive fire enclosure with full certifications issued by Lloyd's Register UK.

01 Reliability.

Rigid Enclosure made in Stainless Steel for long term and heavy duty protection.

02 Endurance.

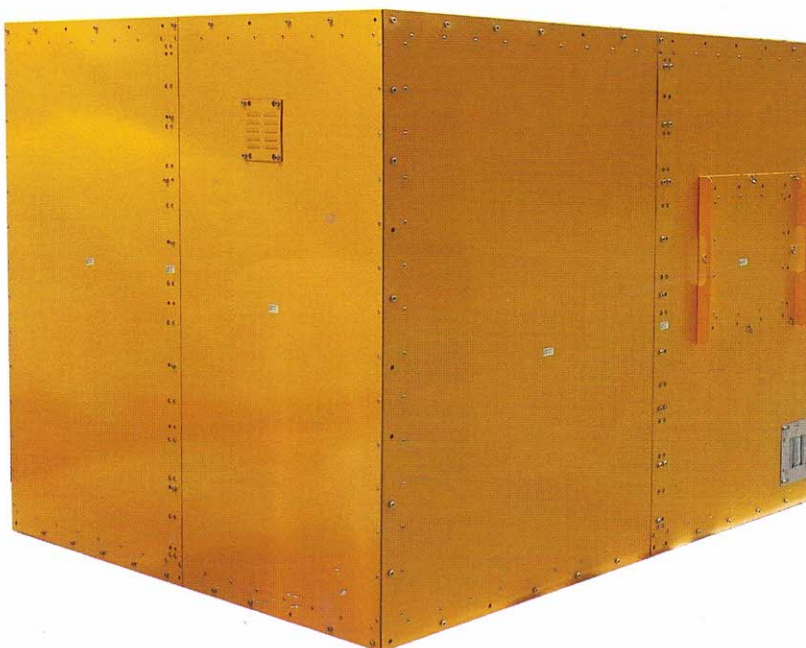
Designed and tested to withstand Hydrocarbon Pool Fire UL 1709 & Jet Fire ISO 22899-1 conditions.

03 Customization.

Customizable with several configurations and optional, can be installed also in combination with other passive fire protection systems.

References

TOTAL, NPCC, DVG AUTOMATION, EMERSON, BIFFI, ROTORK, SAIPEM



- » Pool fire and Jet Fire tested
- » Totally removable
- » No deterioration
- » No vibration
- » Strong resistance to corrosion
- » No damages, even if exposed to acid or oil products
- » No maintenance
- » Easy disassembling and assembling, thanks to our handbook assembly procedure
- » Waterproof and sandproof
- » Customizable colour in accordance with project painting procedures.

New Bilco's family product

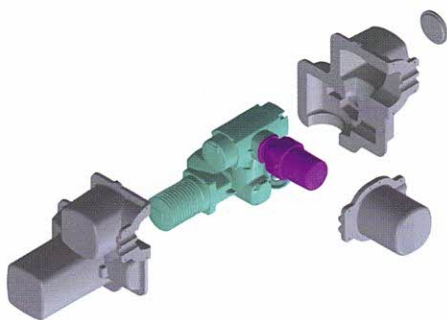
To always be at the forefront in the development of fire protection solutions, guiding the market towards a continuous improvement of fire safety standards, Bilco's R&D has developed new passive fire protection based on high performances intumescent paint. Created to meet the needs of the chemical and pharmaceutical market, the BilcoArmor & BilcoArmor S intumescent protections find application in the Oil and Gas sector when resistant and long-lasting solutions are needed.

New generation of Intumescent coating

The removable shell system is very effective for any kind of valve actuator and equipment. Thanks to the collaboration with one of the leading companies in the field of intumescent paints, Bilco has created two different types of epoxy-based fire protection:

- » BilcoArmor
- » BilcoArmor S

Both products have been successfully tested to UL 1709 standards in an accredited laboratory and subsequently certified by Lloyd's Register UK.



Bilco Antifire Engineering

Tested on operating actuators

During the tests, the actuators were wired and connected to a control panel external to the furnace, in order to ensure that the „open“ and „close“ commands were carried out during the fire exposure and after the completion of the test.

Very easy installation at site

These protections don't require any special tools to be installed. They are designed in pre-engineered panels which are then assembled onto the actuators in the field. From the 3d drawing of the actuator to be protected, there is no need for transporting the valve actuator to our factory, saving on logistics costs and shorten the delivery times.

Intumescent properties

Two-component, solvent-free intumescent epoxy coating with 100% solids content. The intumescent epoxy used is mesh-free.

COLOR _ any RAL color available

VOLUME SOLIDS _ 100%

CURED DENSITY _ 1Kg covers 1 m² for 1 mm applied

TYPICAL THICKNESS _ 14mm +/- 3mm

FLASH POINT _ 100°C



Choose to protect,
choose Bilco

BILCO Armor®

This new protection is made of high performance intumescent paint applied directly on a steel sheet/mesh. It has a prefabricated design and consists of different modules joined together by stainless steel hose clamps or eccentric locks; perfect to protect any type of instrumentation even with many accessories or complex geometries.

01

Easy installation.

The easy assembly system allows the panels to be disassembled and reassembled, during maintenance operations, without effort.

This system is designed to be installed without any special tools and without disconnecting any cables.

02

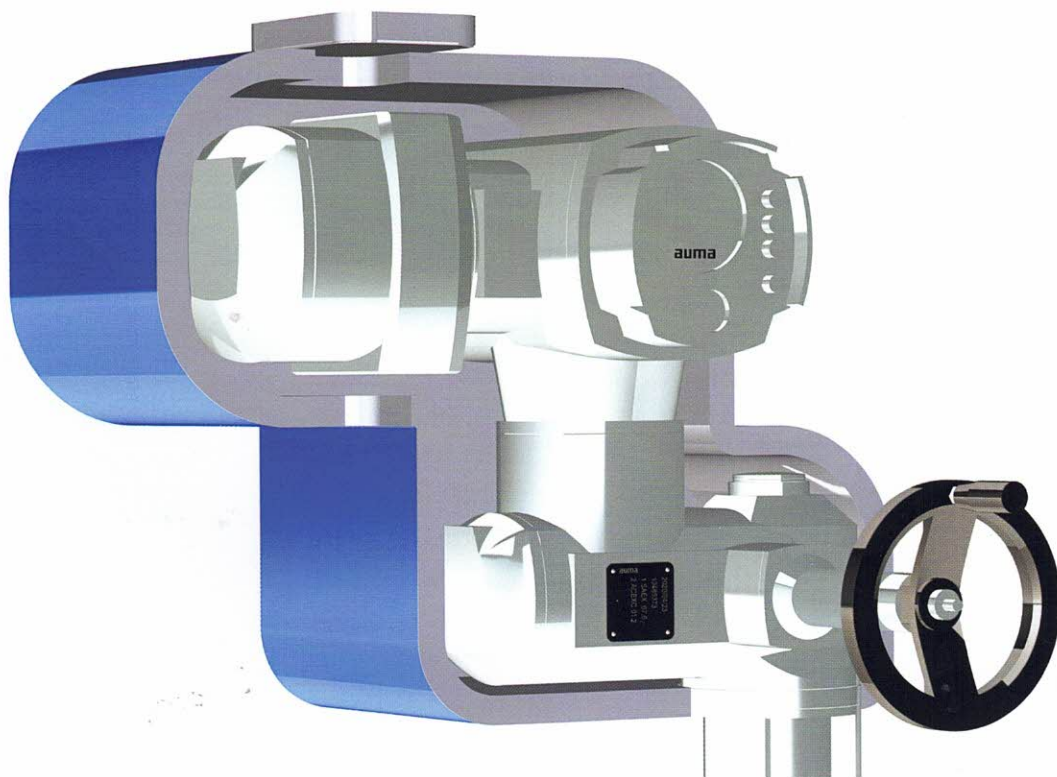
High performance.

Exposed at 1100°C during whole duration of the test, the protection ensured that the maximum temperature rise after 20 minutes was <70°C

03

Main advantages.

- Reduced Thickness
- Light weight design
- Quick delivery
- High impact resistance and very long-life service
- It can be painted in any color
- Customizable



BILCO Armor S®

Generally used for electric actuators, the BilcoArmor S® is a passive fire protection made of epoxy-based shells moulded on the skin of the actuator or the protected critical equipment.

01

Fast delivery advantage.

Thanks to partnerships with major electric actuators manufacturers, the protections for many models are ready on-stock. Anyhow, since it is not necessary to receive the actuator in our factory to make the protections, delivery times are considerably shorter than other solutions on the market. The coating can be installed at site without disconnecting the actuator.

02

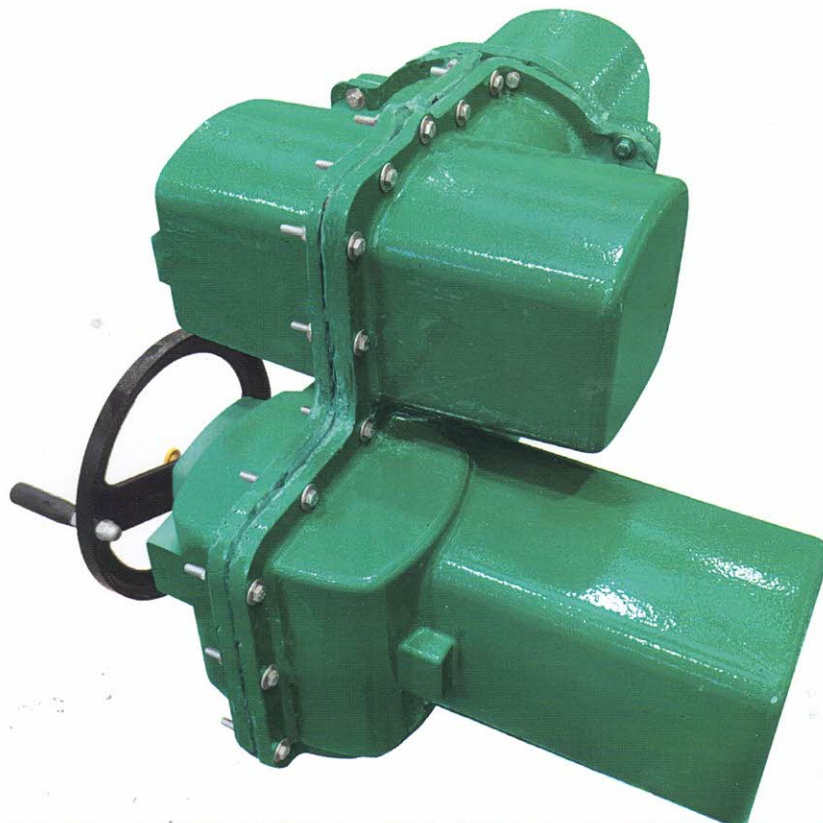
Smart Design.

BilcoArmor S® follows your actuators design shape perfectly with a very low thickness. The engineering optimizes the number of panels in order to simplify installation operations as much as possible.

03

Long lasting.

The high quality materials ensure a long life service as standard. An additional finish varnish can be applied to provide UV resistance and extend service life. In the event that the equipment protected must be replaced, the protection can be re-used.



Assistance at site

BILCO has a dedicated team of qualified technicians who can intervene anywhere in the world, providing assistance at site.

- **Surveys and measurement of the equipment to be protected**
- **Installation and assistance to the plant start -up**
- **Training to the customer staff**
- **After sales intervention with PFP check for renewal of the contractual warranty**



Certifications

BILCOFLEX®

Certificates N° LR22137400SF, LR22137451SF, GLS 0863127/

Certificate Of Fire Approval

JET FIRE PROTECTION SYSTEM

Issue Date: 19/01/2022

Fire Resisting Flexible Enclosure Systems – Type: “BILCOFLEX®” for Jet Fire Exposures: for up to 120 minutes for flat panels (fire barriers) and tubular steel sections, pipes or cylindrical vessel..



BILCOSHIELD®

Certificate N°PRJ11100283573-2

Certificate Of Fire Approval

JET FIRE PROTECTION SYSTEM

Issue Date: 25/09/2020

Fire Resisting Rigid Enclosure Systems - Type „BilcoShield“ for Jet Fire Exposure for up to 120 minutes.



Certificates N° SAS F180242, SAS F180243, SAS F180244, SAS F180245

Certificate Of Fire Approval

VALVE/ACTUATOR FIRE PROTECTION ENCLOSURE SYSTEM

Issue Date: 08/07/2018

Fire Resisting Flexible Enclosure Systems – Type: “BILCOFLEX®” for Hydrocarbon Fire Exposures: for up to 120 minutes



Certificate N° 44976_A1

Certificate Of Type Approval

FIRE STRUCTURAL SECTION

Issue Date: 17/01/2018

Flexible Jet Fire Protection Enclosure System - Type: “BILCOFLEX®”



Certificate Of Blast Test

Certificate N° GLS 0863127/3

Issue Date: 26/06/2008

Certificate of Blast Explosion Test generating an average peak over pressure of 1.85bar, the jacket remained in position and was generally unaffected.



BILCO ANTIFIRE ENGINEERING SRL

Certificate N° 44976_A1

ISO 9001 : 2015

Issue Date: 01/03/2021

Engineering and manufacturing of fire proofing certified protections for valves, actuators and other equipments. IAF: 15



References



Our Customers

Thanks to continuous commitment to product quality research, reliability of certifications and costs restraint, BILCO Antifire Engineering s.r.l, in few years, has managed to compete with the few world producers of the same product range, and to be classified in the vendor list of world wide major end users and engineering companies of the oil and gas sectors, becoming a regular supplier of leading valves and actuators manufacturers.

Some vendor lists in which Bilco is enlisted:

SAUDI ARAMCO, SAIPEM, PETROFAC, TECNIMONT, KNPC, PETRONAS, NPCC, REPSOL SINOPEC, INEOS, WORLEY PARSONS, MC DERMOTT, GASCO, ADNOC, ZADCO, SAMSUNG, TECNICAS, BAPCO.



References

We hereby confirm your company's registration with Aramco Overseas Company B.V. your Vendor ID is 10060158. Linked to your VID are the in the attachment listed non-inspectable materials.

This registration letter should not be regarded as a commitment by AOC to purchase from you. However, your company will give the opportunity along with other suppliers to respond to requests for submitting proposals in accordance with AOC's established policies and procedures.



It is our pleasure to confirm your satisfaction for what supplied for our project above indicated. We have had the possibility to appreciate, finally, a new system for the assembly. This is to certify that manufacturer company, BILCO ANTIFIRE ENGINEERING Srl, has successfully completed site modifications and installation of BilcoFlex® fire proofing jackets, in accordance with the specifications, provisions as per scope of supply.



We would like to express our sincere thanks and appreciation for the excellent efforts on the quality assurance/quality control activities for the Duqm Refinery EPC Package 2 – Utilities & Offsites project.

The quality of work was extremely good, and the way Bilco overcame difficulties created by the pandemic situation of COVID-19 and solved problems are evidence of a very strong leadership which is very knowledgeable about manufacturing, quality assurance and document control activities. For over past 2 years, starting from March 2020, We truly enjoyed working with your team. We strongly recommend this vendor in all concerning fireproofing protections as jackets for actuators & cable trays.



Chers Messieurs, Je tiens à vous remercier pour la qualité de la prestation réalisée chez notre client Centrale nucléaire de Tihange, avant tout pour le respect des délais imposés et des délais de livraison.



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