



ANTIFIRE ENGINEERING



production
sales
installation
support
consulting

CERTIFIED FIREPROOF PROTECTIONS AND THERMAL INSULATIONS



ENGLISH



COMPANY PRESENTATION

BILCO ANTIFIRE ENGINEERING s.r.l. is the first Italian company specialized in flexible fireproof protections.

Through an innovative product, in recent years it has been able to pass the strictest laboratory tests and to obtain all certifications from accredited institutions as Lloyd's Register U.K. and Bureau Veritas.

The tests which were carried out on **Bilco** products meet the main regulations concerning fire protection worldwide, namely: UL 1709 and ISO 22899-10TI 95 634.



Furthermore, tests concerning resistance "Jet Fire" and explosion due to gas "Blast tests" were carried out at Advantica laboratories credited directly to Lloyd's Register U.K., while the test "UL 1709" was carried out at "Underwriters Laboratories Inc." in U.S.A.

The continuous search for new solutions and the choice of innovative and high-quality materials make **Bilco's** protections an advanced product that ensure the most varied demands of fire resistance in critical environments.



WHEN **PROTECTING THE STAFF AND CRITICAL COMPONENTS FROM FIRE IS A MUST**

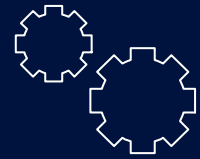
BilcoFlex® is an effective method of protection of devices that control a plant which can minimize the danger and damages caused by fire in refineries, oil platforms, petrochemical plants, thermal power, electrical stations, and ship and defense fields.

BilcoFlex® is based on the assembly of several multi-layered "jackets" fastened together.

The major advantage of a soft and flexible protection is given by the easy transport, handling, assembly and disassembly.

This allows a quick access to the functionality of devices protected by the special inspection bays and also the chance to perform both ordinary and extraordinary maintenance, disassembling quickly and without specialized personnel.

All covers are made by **certified** high performance materials designed to work in extreme temperature conditions: the external outer covers from -50 °C up to approx 275 °C for what concerns, while the full protection guarantees its function up to 1200 °C for a period of time, depending on specific requests.



CUSTOMIZED SOLUTIONS

We offer engineering solutions and technical support on the more suitable protections for our customers, with a complete service of design, manufacturing, installation or supervision during assembly.



KEY FEATURES

Access and inspection bays may be provided for push-buttons, display and indicators of equipment without compromising fire protection resistance. All by easy opening and closing.



BilcoFlex® protections guarantee full operation of critical systems, which are protected for the time required, preventing a long delay of damage and, at the same time, further damages to equipment, products, people and things.

Main advantages of our patented products:

- **Easy to carry. They can be installed quickly without special tools, even by unqualified personnel;**
- **Installation may be carried out without stopping the system;**
- **Custom-made products for easy assembly and disassembly for maintenance of internal components;**
- **Weather, UV ray, chill, marine environment, chemical and acid resistant;**
- **Fire resistant up to 2hours with temperature of 1200°C**



BilCoFlex®

FIREPROOF PRODUCT RANGE

BilcoFlex® product range is designed for effective fire protection of:

- Electric and pneumatic actuators
- Check and regulation valves
- Flanged couplings
- Cable trays
- Control and command panels
- Pipe penetration passage
- Complementary materials
- Rigid barriers



ELECTRIC ACTUATORS



CUSTOMIZED PRODUCTS

Our clients can choose among different types of materials, fabrics, colors and fastening methods, thus customizing their product. Every component of our protections is identified through special plates in AISI 316 L with the incision of: customer name, reference design and device tag number.



MAIN CUSTOMERS

ELECTRIC ACTUATORS :

- SAIPEM
- ROTORK CONTROLS
- POLIMERI EUROPA
- ERG
- PETROLVALVES
- TECNIMONT

BilcoFlex® systems are designed and tailored to fit the shape of the component to be protected. As seen from the photo above it's possible to create bays and holes to facilitate the exit of clutches, shafts, push-buttons and electric panels. In order to ensure easy identification of the intervention place by the operator during emergencies, we may also manufacture some component parts in different colours.

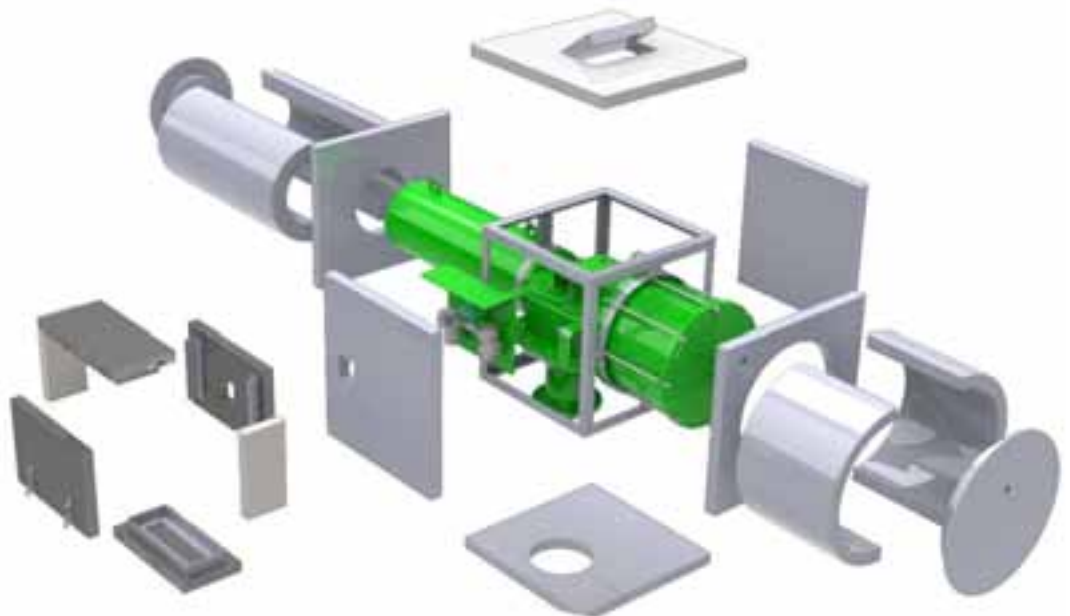
FIREPROOF PRODUCT RANGE

PNEUMATIC ACTUATORS

BilcoFlex® systems are able to ensure maximum internal temperature of 65 °C whenever requested.

Thanks to software developed specifically for **Bilco s.r.l.** by "**Fire Safety Engineering Centre**" of **Edinburgh University** certified by Lloyd's register-UK, we may simulate virtually an endurance test of our products.

Therefore, any **BilcoFlex®** protection can be adapted to specific requests of our customers even if they differ from laboratory test parameters.





VALVES

Bilcoflex® for valve

BilcoFlex® is a product tested and purchased by the largest global oil companies such as Eni, Total, Shell, Neste Oil, Chevron and by leaders valve and actuator manufacturer companies such as Petrolvalves, Metso, Biffi, Rotork, etc.



Bilcoflex® for valve



ADVANCED PRODUCTION

Our production department is able to cut fabrics and fills for finished products directly from the layout of the technical office, thanks to machines equipped with CAD/CAM technology.



MAIN CUSTOMERS

VALVES & PNEUMATIC ACTUATORS:

- AGIP KCO
- FLOWSERVE
- SAIPEM
- ATC
- ROTORK FLUIDSYSTEM
- EUROVALVE
- PRO CONTROL

FIREPROOF PRODUCT RANGE

FLANGED COUPLINGS



Every component of our Fire protection is identified by special stainless steel plates with customer name, project reference, device tag code and other information requested by the buyer.



CONTROL PANELS AND CABLE TRAYS



OUR CERTIFICATIONS



JET FIRE TEST J120



BLAST TEST 1,85 BAR



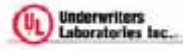
MAIN CUSTOMERS

FLANGED COUPLINGS

CONTROL PANELS, CABLE TRAYS:

- AGIP KCO
- PETROLVALVES
- ERG
- ROTORK

OUR CERTIFICATIONS



UL 1709

BilCoFlex® products are designed using a calculation method, production process and materials suitable to ensure a negligible temperature increase during the first 60/90 minutes exposure to fire.



ISO 9001 Certification



Bilco Antifire Engineering s.r.l. has been certified for quality control management according to ISO 9001:2008 for: design, manufacturing and assistance and after sale service in fire protection fields.

Customized software



THE UNIVERSITY OF EDINBURGH

The "fire safety engineering center" of Edinburgh University has developed for **Bilco s.r.l.** a customized software for fire protection design.

The program is able to emulate all the boundary conditions of the laboratories tests and to calculate the perfect thickness and resistance for every kind of request. Lloyd's Register U.K. has recognized its efficiency and accuracy through an international certification.



We are participating in the fulfillment of the **largest offshore installation** in the world

Bilco Antifire Engineering s.r.l. has been involved in the Eni oil extraction project from Caspian sea, which is considered at present the biggest one in this field.

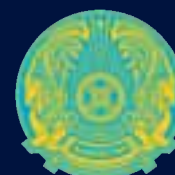
The private Company Navalmare of Muggiano (SP) Italy, specialized in the realization of offshore platforms for the oil research, it is completing the order received by Agip Kco consortium for two floating platforms provided with a complicate system for separation and re-injection of bad gases which come out from sea subsoil during oil extraction.

Units - without propeller apparatus - are for the new oil field under processing in Kashagan, in Kazakhstan.

A super-giant deposit, the last one discovered in the world, with foreseen production of 1.5 billion of oil barrels for 40 years, with site development works up to 2025. With an investment of 15 billion dollars, it is the biggest existing installation for off-shore extraction and the higher investment made in this field by a consortium which lines up the major companies Agip-Eni, Exxonmobil, TotalFina, Shell, KazMuniGaz.



Antifire acceptance certificate issued to **BILCO S.R.L.** by Fire Fighting Service Committee of Kazakhstan.





BilCoTherm®

BilcoTherm® product range is dedicated to flexible and removable thermal insulation for industrial uses.

The requirement for the success of **BilcoTherm®** products is ability, through knowledge, experience and motivation to find solutions even to complex issues.



Bilco s.r.l. has a long experience in flexible insulation, and therefore it can offer its customers individual and economical solutions, offering high quality and requiring minimum maintenance.

Short delivery times, highly qualified staff and insulating components packaged in endless variations are valid reasons to contact **Bilco s.r.l.**



THERMAL INSULATION

Application fields:

- Thermal power stations
- Gas turbines
- Exhaust gas ducts
- Cogeneration plants
- Diesel exhaust manifolds
- Steam turbines
- Centrifugal compressors
- Petrochemical plants
- Extruders



Benefits:

- Reduced energy costs due to heat loss;
- Easy disassembly and assembly during maintenance;
- Competitive price;
- Limited dimensions;
- High performance with controlled thickness.



MAIN CUSTOMERS THERMAL INSULATIONS

- NUOVO PIGNONE
- ANSALDO
- ENEL
- C.G.T.
- POLIMERI EUROPA
- TOTAL
- TAMOIL



BilCo Shield®

BilcoShield® is the rigid fireproof protection for valves, actuators and control panels.



Box manufactured in:

- **AISI 304**
- **AISI 316—AISI 316 L**
- **AISI 321**

hermetically sealed and filled with insulating materials having high hydrocarbon fire resistance till **1350° C**.

The materials that cover the boxes are made of high density ceramic fibres absolutely asbestos-free;

It 's possible to provide NPT/MA hollow passages supplied with nipples, for power cable input; cables are, in turn, protected by fireproof insulating material;

Easy-to-open inspection doors and openings can be made to reach command instruments and control display.

Pre-test



RIGID FIRE PROTECTIONS



- **Flame temperature:** **1100°C**
- **Time resistance:** **30'**
- **Max. internal temperature:** **135°C**
- **Regulation:** **UL1709**
- **Certified by:** **Lloyd's Register**

Post-test



BILCo Shield® 30' pool fire test certification issued by Lloyd's Register.



Semi-rigid fire protection



MAIN CUSTOMERS
RIGID/SEMI-RIGID FIRE PROTECTIONS

- ATC
- PETROL VALVES



**Production
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BilCo Shield

BilCoTherm®

BilCoFlex