

We Build Quality, Safety and Happiness



WE BUILD QUALITY, SAFETY AND HAPPINESS









BLACK CAT INSULATION TECHNICAL® JSC

• Road No. 6 - Dong Xuyen Industrial Zone, Rach Dua ward, Vung Tau city, Ba Ria - Vung Tau province, Vietnam

COMPANY BROCHURE

BLACK CAT INSULATION TECHNICAL® JSC



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Black Cat is a Vietnamese UPCoM listed company, a leading provider of industrial services including scaffold, insulation, painting, blasting, refractory, passive fire protection and industrial training.

Our workforce has extensive experience with large and small-scale industrial projects throughout Southeast Asia, South America, Africa.

Our services span the life cycle of various industrial assets; from the construction of new facilities to the maintenance, inspection, turnaround and expansion of existing ones.

Our Engineering can design and pre-fabricate the metal jacketing and cryogenic insulation materials for LNGs, Refinery, Petrochemical, Oil Flatform, Nitrogen & Oxygen Plant, Food & Beverage, and especially the coming Hydrogen plants... in Vietnam with competitive prices then export to Asia, South America, Africa and over the world.



Our vision is to be the leading company in providing scaffolding, insulation, anticorrosion, Passive Fire protection and Refractory services in Vietnam and Southeast Asia and to be a global leader in innovative and sustainable materials for cold/cryogenic insulation materials over the world.



Our mission is to develop and deliver full and high quality services that satisfy client. We aim to make our customers safe and happy when their project is completed.



Sustainability: We are commit to promote sustainability in everything we do, from our products and services to our operations and business practices. We strive to create solutions that have a positive impact on the environment, society, and economy.

Property: We own more than 3,000 tons scaffolding materials and are the unique company in Vietnam who owns the CNC machines for insulation fabrication which will help us confidently play an important role in big projects.

Export: We do pre-fabrication cryogenic insulation materials in Vietnam with competitive price then export to over the world.

WE GROW WITH YOUR REQUIREMENTS



INSULATION



SCAFFOLDING



BLASTING & PAINTING



REFRACTORY



PASSIVE FIRE PROTECTION





Black Cat has 12 years of experience providing insulation services to the highest standards across both local and global markets. We have made a name for ourselves as a service supplier with careful attention, safety, reliability and durability.

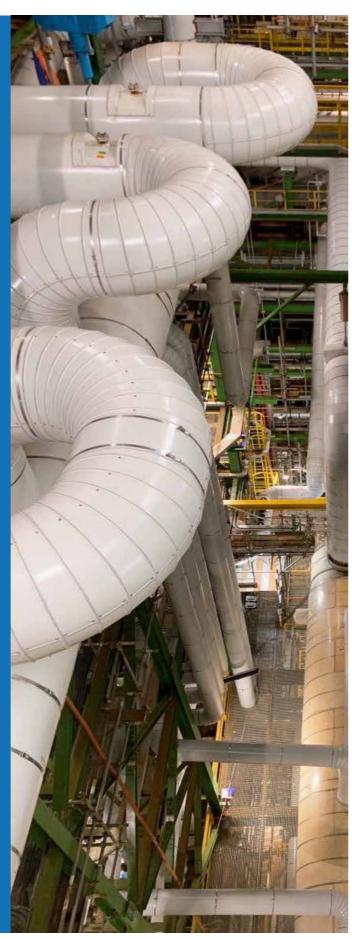
We provide the professional installation or application of insulation materials in buildings, industrial facilities, or other structures to improve energy efficiency, thermal comfort, acoustic performance, and electrical safety.

Black Cat has the knowledge and expertise to select, handle, and install insulation materials according to industry standards to help improve the energy efficiency and comfort of a building, reduce energy costs, and contribute to environmental sustainability by reducing greenhouse gas emissions. It's important to work with qualified and experienced insulation contractors to ensure a proper and effective insulation installation.

Black Cat offers a complete range of thermal insulation installation and protection for pipework and fittings, ductwork, boilers, vessels and tanks in a variety of high or low temperature applications.

We also specialize in cryogenic, acoustic and fire protection insulation, using all available materials. By evaluating and developing the use of new materials and application techniques, we can offer effective solutions that can reduce whole life costs.

With total independence of operation, we can advise impartially on the specification of materials and finishes available from a range of approved manufacturers, enabling the most efficient and cost-effective solutions to be proposed.



1. INSULATION MATERIALS

We are authorized distributors of famous insulation manufacturers in Vietnam market.

1.1. Hot Insulation materials

Equipment or pipe work with an operating temperature greater than 55°C in case of metallic surfaces and 65°C in the case of non-metallic surfaces should be insulated so that the surface temperature after insulation (cold surface temperature) does not exceed 55°C. Our hot insulation solutions will help you conserve energy, regulate temperature and ensure safety for your personnel.

The typical products we are authorized distributed in Vietnam market as below:



The Thermal Ceramics business of MORGAN ADVANCED MATERIALS makes advanced ceramic products and systems for thermal insulation in high temperature environments.

Thermal Ceramics with 8.500 employees operates in 40 countries and has 27 manufacturing facilities in the following countries: China (4), Japan, Korea, Australia, India (2), UAE, Italy, France (2), Germany, UK (R&D), America (4), Mexico, Canada, Argentina, Chile and Venezuela.



THE ROCKWOOL GROUP was founded in 1909 and has become world leaders in stone wool production, creating sustainable solutions to protect life. assets and the environment today and tomorrow.



Founded in 1914, **JAPAN INSULATION** is based in Japan, and currently manufactures and sells heat insulating materials made of Xonotlite-type calcium silicate.

1.2. Pillow Insulation

Black Cat removable insulation pillows are designed to fit the most difficult to insulate areas that require thermal temperature control. It is simple and quick to install and remove for equipment maintenance.

☑ Customized size offerings

☑ High temperature strap & buckle fastening system

☑ Heat-resistant silicone coated fiberglass fabric







PROFESSIONAL INSULATION (IIG - PI) delivers solutions tailored specifically to all areas within your company that reduce administrative processes and provide financial benefits to your company.

Insulation with flexible textile mattresses has prevailed in modern gas and steam turbine technology over the past years. This insulation method combines the benefits of ease of adaptation, reduced dust development and long textile mattress durability.



1.3. Cold /Cryogenic Insulation materials

Cold insulation should be considered, where operating temperatures are below ambient and where protection is required against heat gain, condensation or freezing. Cold insulation must be composed of a material that allows a water vapor barrier to form around the piping, underneath the insulation. Typical products to be used for applications are as below:



KINGSPAN is the global leader in advanced insulation and building envelope solutions. Their mission is to accelerate a net zero emissions future with the wellbeing of people and planet at its heart.







H.B. FULLER COMPANY, together with its subsidiaries, formulates, manufactures, and markets adhesives, sealants, coatings, polymers, tapes, encapsulants, additives, and other specialty chemical products worldwide. The company sells its products directly through distributors and retailers. H.B. Fuller Company was founded in 1887 and is headquartered in Saint Paul, Minnesota: Employees: 7000, Market cap: \$3.80 Billion USD.

1.4 Dual Temperature insulation



OWENS CORNING offers an extreme portfolio of high-performing, long lasting industrial insulation materials and solutions. A portfolio of many insulation types to choose from; from impermeable cellular glass insulation to fire-resistant mineral wool. Insulation for almost every industrial application. The service temperature ranges from -450°F to 900°F (-268°C to +482°C).

2. INSULATION EQUIPMENT

2.1. CNC foam cutting machine

CNC foam cutting machine for Cold/Cryogenic Insulation. Our CNCs are applied to cut foam for pre-fabrication at workshop:

- ☑ High quality materials
- ☑ Productivity Improvement
- ☑ Fast delivery
- ☑ Waste and dust Reduction



2.2. CNC metal cutting machine

CNC metal cutting machine for SS/Alu cutting to pre-fabrication jacket at workshop

- ☑ Productivity Increase
- ☑ Products Improve quality



2.3. Thermal Imaging Cameras

- Black Cat provides and be responsible for quality of insulation by using thermal image camera. We are the first insulation company in Vietnam using this method to control the heat loss and maximize energy saving.
- Temperature can be a sign of trouble ahead.
 With the thermal cameras you can detect issues before they become problems.
 Designed for everyday use, in the toughest industrial environments, thermal camera offers infrared cameras for a wide range of applications.





3. MANPOWER

Black Cat provides hundreds of highly trained and competent insulators and we possess the expertise and experience necessary to excel in the field of insulation. With a strong foundation in insulation techniques, materials, and safety protocols, we are capable of providing top-quality insulation solutions for a wide range of projects. Our manpower has also been trained by insulation material manufacturers.

Hundreds of people can be mobilized SHORTLY.







4. INSULATION REFERENCE PROJECTS

✓ Industry: Petrochemicals

☑ Client: TPSK/PTSC

☑ Location: Long Son Petrochemical Complex

⊻ Year: 2019 - 2023

▼ Type: Hot/ Cold Dual Insulation

(-200°C - 1,250°C)

☑ Material: PIR, Foamglas, Rockwool,

Aerogel, Superwool



☑ Industry: Petrochemicals

☑ Client: Hyundai Engineering Co., Ltd

☑ Location: Long Son Petrochemical Complex

☑ **Year:** 2020 - 2022 **☑ Type:** Hot insulation

☑ Material: Rockwool, Superwool, Alu,

Stainless steel cladding



✓ Industry: Oil and Gas

☑ Client: Samsung C&T/PTSC

☑ Location: LNG Thi Vai Terminal

☑ Year: 2021 - 2022

☑ Type: Cryogenic insulation (-200°C)

☑ Material: PIR, Foamglas, SS316



✓ Industry: Oil and Gas Upstream

☑ Client: PPS

☑ Location: Ruby II FPSO **☑ Year:** 2018 - 2019

☑ Type: Hot insulation (650°C)

☑ Material: Calcium Silicate, Rockwool





4. INSULATION REFERENCE PROJECTS (Next)

✓ Industry: Power Generation

☑ Client: Jurong Engineering Limited

✓ Location: Duyen Hai 3 Ext Power Plant

☑ Year: 2018

☑ Type: Hot insulation (566°C)

☑ Material: Ceramic Fiber & Calcium Silicate



✓ Industry: Power Generation

☑ Client: PVP Ca Mau

✓ Location: Ca Mau 1 Power Plant

☑ Year: 2017

☑ **Type:** Hot insulation (700°C)

☑ Material: Insulation mattress



✓ Industry: Breweries

☑ Client: Heineken Vietnam

✓ Location: My Xuan IZ, BRVT province

☑ Year: 2018 - 2019

☑ Type: Hot (200°C) & cold insulation (-40°C)

☑ Material: Rockwool & PIR Foam



✓ Industry: Breweries

☑ Client: Krones AG

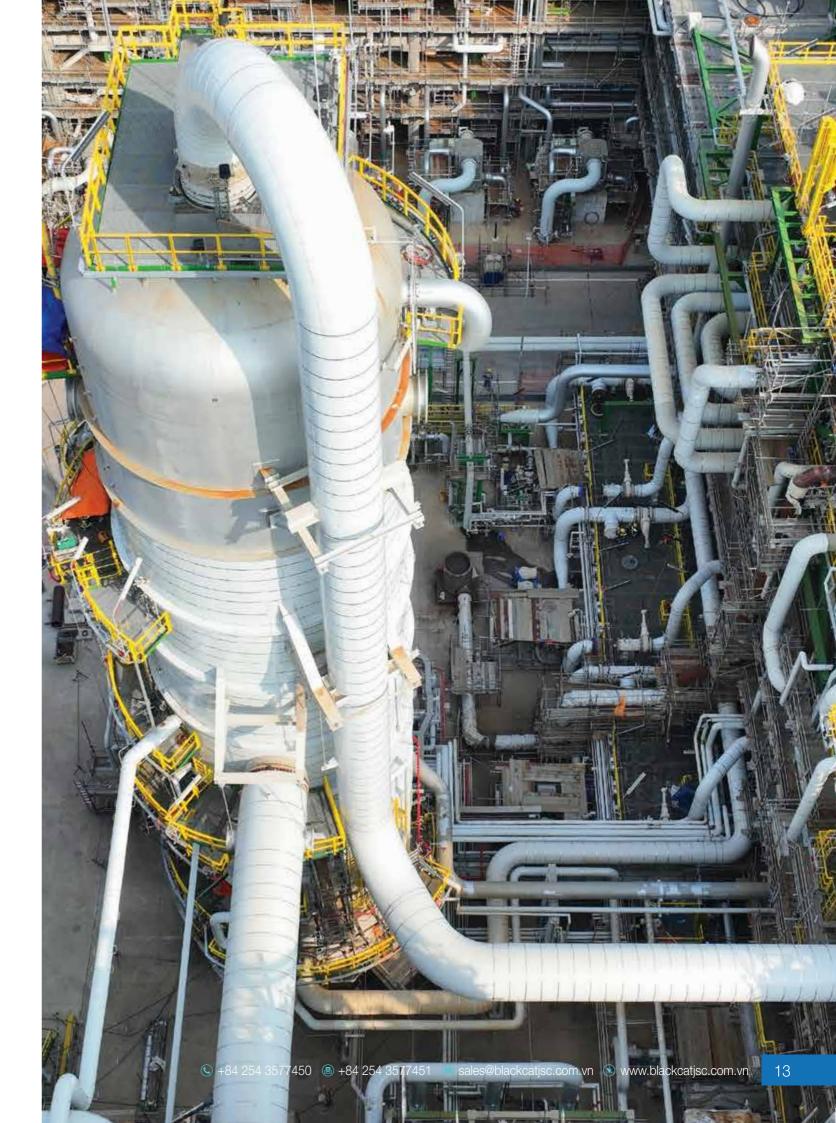
✓ Location: Khmer Brewery

☑ Year: 2016 - 2017

☑ Type: Hot (200°C) & cold insulation (-40°C)

☑ Material: Rockwool & PU Foam

















Our property is more than 3,000 tons scaffolding materials and hundreds of trained scaffolders. We are one of the leading scaffolding companies in Vietnam by covering a wide range of industrial sectors from local to overseas projects.

We provide an all-round service that delivers planning, design, erection, inspection and dismantling. We have qualified structural engineers to produce design drawings, risk assessments and method statements prior to execution, ensuring a cost effective, efficient and safe project.

Our aim is not only to be the best scaffolding services provider in Vietnam, but also to set the benchmark of quality and safety for all specialist contractors in the industry.

We only use fully trained direct employees, so we have a loyal, highly skilled motivated and non-transient workforce.

Our philosophy is to create long term partnership with our customers and we are proud to work with the best construction and engineering contractors (EPC contractors) which include PTSC, Hyundai Engineering Company, Lotte E&C, Jurong Engineering Limited, TTCL, Doosan Heavy Industries & many more.





MANPOWER: SKILLED & CERTIFIED SCAFFOLDERS

We have a big workforce of skilled scaffolders, safety team, engineers and a talented team of staff helping to keep us striving forward.

Our scaffolders are qualified CISRS OSTS card holders, following performance standards BS EN 12811 & TG20 (NASC).





SCAFFOLDING SERVICES



SCAFFOLDING REFERENCE PROJECTS

✓ Industry: Petrochemicals

☑ Client: TPSK/PTSC

✓ Location: Long Son Petrochemical Complex

☑ Year: 2019 - 2023

▼ Type: Tower, handing, cantilever scaffolding

✓ Material: BS1139/EN74



✓ Industry: Petrochemicals

☑ Client: Hyundai Engineering Co., Ltd

✓ Location: Long Son Petrochemical Complex

☑ Year: 2020 - 2022

☑ Type: Tower, handing, cantilever scaffolding

✓ Material: BS1139/EN74



✓ Industry: Power Generation

☑ Client: PVP Nhon Trach

☑ Location: Nhon Trach 2 Power Plant

Year: 2017/ 2020/ 2022/ 2023

☑ Type: Internal furnace, external shelter...

✓ Material: BS1139/EN74



✓ Industry: Power Generation

☑ Client: PVP Ca Mau

☑ Location: Ca Mau 1 Power Plant

☑ **Year:** 2017/ 2020/ 2022/ 2023

☑ Type: Internal furnace, around rotor...

✓ Material: BS1139/EN74



✓ Industry: Chemicals

☑ Client: AGC Chemicals

✓ Location: Phu My Plastics & Chemicals Plant

☑ Year: 2014 ☑ Type: Sphere

✓ Material: BS1139/EN74



☑ Industry: Manufacturing

☑ Client: NSG Vietnam Glass Industries

✓ Location: NSG Factory

☑ Year: 2015 - 2017

☑ Type: Tower, handing

☑ Material: BS1139/EN74



✓ Industry: Cement

☑ Client: Holcim (INSEE) Vietnam

✓ Location: Holcim - Kien Giang plant

☑ Year: 2014

☑ Type: Handing, furnace

✓ Material: BS1139/EN74



✓ Industry: Beverage

☑ Client: Krones AG

✓ Location: Khmer Brewery

☑ Year: 2015-2017

☑ Type: Tower, handing

✓ Material: BS1139/EN74





ANTI-COROSION SERVICES

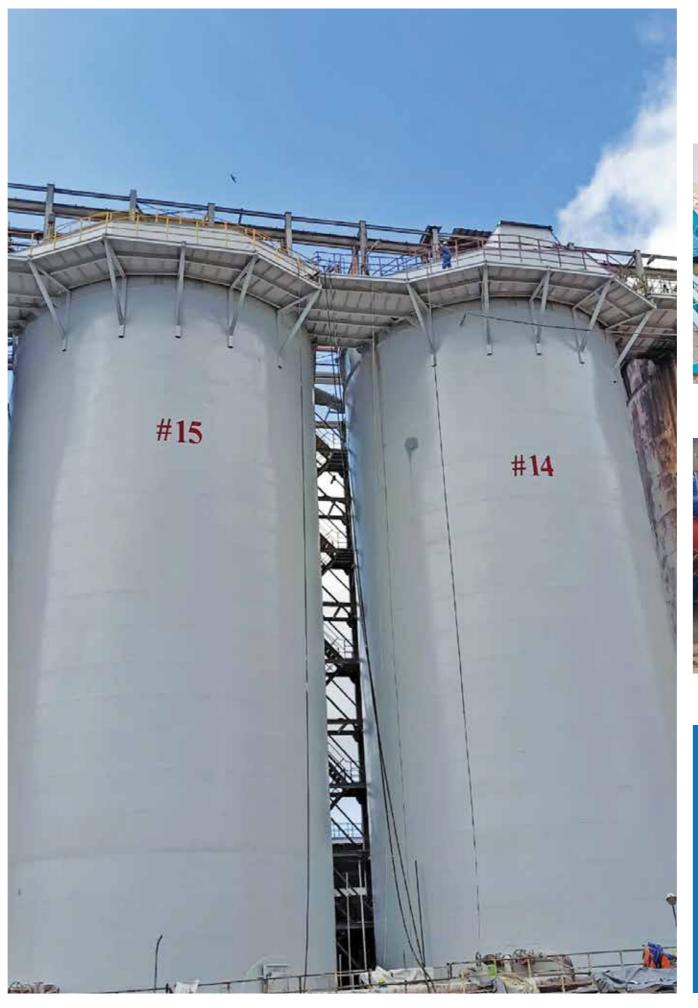
Black Cat's experienced staff will help you determine the appropriate surface preparation or blast cleaning system to match your requirements. Proper surface preparation is critical for the success of every cleaning, coating or lining project.

We undertake both the everyday as well as the uncommon and unusual challenges. Whether it is structural steel, tank lining, heavy industry equipment concrete-stone walls and structures or special abatements such as lead coatings, we supply safe and effective on-site services.

Our fully trained abrasive blasters and painters are equipped to get the job done quickly, effectively and at a minimum downtime for our customers.







BLASTING AND PAINTING SERVICES

Surface preparation and blasting – full range of abrasive and water jetting



DRY BLASTING



VAPOR ABRASIVE BLASTING

☑ PROTECTIVE COATINGS

☑ PAINT SYSTEMS AND COATINGS

- MULTI-COAT SYSTEMS
- MAJOR PAINT PROGRAMS
- TANK LININGS
- SEAMLESS FLOORING

ANTI-COROSION SERVICES (BLASTING AND PAINTING)



BLASTING AND PAINTING REFERENCE PROJECTS

✓ Industry: Oil and Gas

✓ Client: Total Energies

✓ Location: Go Dau IZ

☑ Year: 2022

☑ Type: Tower scaffolding, Wet blasting and IP painting

✓ Material: BS1139/EN74, IP Protective coating



☑ Industry: Lam Dong Aluminum

☑ Client: Công ty TNHH MTV Nhôm Lâm Đồng

✓ Location: Lam Dong province

☑ Year: 2020 - 2022

☑ **Type:** Tower scaffolding, dry blasting and painting

☑ Material: BS1139/EN74, Jotun paint system



✓ Industry: Foods and Beverages

✓ Client: Bunge Vietnam

✓ Location: Bunge factory

☑ Year: 2016 - 2017

▼ Type: Blasting + Anti-corrosion Painting

☑ Material: BS1130/EN74, IP paints



✓ Industry: Power Generation

☑ Client: Jurong Engineering Limited

✓ Location: Duyen Hai 3 Extension

☑ Year: 2018 - 2019

☑ Type: Lining

☑ Material: Glass flake coating





✓ Industry: Power Generation

☑ Client: Alstom GE

☑ Location: Vinh Tan 2 Power Plant

☑ Year: 2013 ☑ Type: Lining

☑ Material: Glass flake coating



✓ Industry: Power Generation

☑ Client: Doosan Heavy Industries

☑ Location: Vinh Tan 4 Power Plant

☑ Year: 2017

▼ Type: Painting and lettering for tanks

✓ Material: BS1130/EN74, Jotun paints





REFRACTORY **SERVICE**









REFRACTORY DESIGN AND SPECIFICATION



SUPPLY OF ALL FORMS OF REFRACTORY MATERIALS



DEMOLITION AND REMOVAL OF OLD REFRACTORY



MECHANICAL SERVICES FOR REPAIR AND MAINTENANCE



INSTALLATION INCLUDING BRICKLAYING, GUNNING, CASTING, RAMMING, HAND PACKING, PUMPING AND APPLYING FIBROUS PRODUCTS IN SLAB, BLANKET AND MODULAR FORMS



DRY OUT AND COMMISSIONING



LINING DEVELOPMENT AND SUPPORT

In every casting or gunning refractory project we have to carry out APQ test, and the manpower must be certified, following manufacturer's 's standard and API 936 application.



REFRACTORY SERVICE



REFRACTORY REFERENCE PROJECTS

☑ Industry: Petrochemicals

☑ Client: Linde/John Zink
Hamworthy/Morgan

✓ Location: Vinaoffshore, Vung tau

☑ **Year:** March 2023

✓ **Type:** Thermal Oxidation – Quench Mixer, Ducting.

Casting – Gunning and brick

✓ **Material:** Morgan Ceramics products: Guncrete 160, Kaolite 2300-LI, Kaolite 2500HS, light brick and mortar



☑ Industry: Industrial Furnace

☑ Client: Soltec

☑ Location: Nhon Trach, Dong Nai province

☑ **Year:** 2018 - 2019 - 2020 - 2021 - 2022

☑ **Type:** Installation bricks, IFBs

☑ Material: Honeycomb brick/ Ceramic brick, such as Isolite B5, 1260 UNIBLOCK-160



✓ Industry: Bio Mass

☑ Client: TTCL

✓ Location: Binh Dinh

☑ Year: 2019

☑ **Type:** Casting, gunning and install module block

☑ **Material:** Kaolite 2500HS, Ceramic blanket

and Pyro-Bloc



✓ Industry: Oil and Gas

☑ Client: John Zink/Morgan

✓ Location: Vinaoffshore, Vung tau

☑ **Year:** 2019 - 2020 - 2021

☑ Type: Module by-bloc installation

☑ Material: Byro-Bloc ceramic fiber







With our combined knowledge and experience of working with fire-proofing systems, we can offer some of the best technical and design advice available - from early project planning stages to construction, including:

- ☑ Technical advice
- ✓ Supply of data sheets and certification
- ☑ Product selection and application consultation
- ✓ Site-visits
- ✓ Installation advice
- ☑ Maintenance

There are many fireproofing techniques including fireproofing sheet, cementitious and fibrous spraying, intumescent coatings, PFP jacket system.



FIREPROOFING

Nowadays, materials have been improved to be thinner and more workable without compromising on fire safety and acoustic comfort.



CEMENTITIOUS AND FIBROUS SPRAY OR TROWELLED

Designed for the direct protection of structural steelwork. We are an expert in consulting, supplying, and installing products such as Pyrocrete, Fendolite M II... to meet your needs from low and medium density through to high performance fireproofing for critical areas.



INTUMESCENT COATINGS

We master all types of both water-borne or/and solvent-based intumescent coatings application to protect commercial and public buildings, oil and gas infrastructures, and plants, onshore and offshore. We are specialist applicators of intumescent coatings such as Chartek, Jotachak.



PFP FLEXIBLE JACKET SYSTEM

Many applications in the oil, gas and petrochemical industries require flexible, Fire protection systems that can be easily fitted without specialist tools. For ease of maintenance such systems should be simple to remove and refit, yet be of durable construction and able to withstand the rigours of service duty.

Applications include protection of steel structures, riser protection, valves, actuators, and associated instrumentation located within designated fire zones; as well as large process vessels, pipe lines and cable trays.

Our personnel are trained and certified by vendor-approved training schemes and we are licensed to work with all major passive fire protection materials.







PASSIVE FIRE PROTECTION



PASSIVE FIRE PROTECTION REFERENCE PROJECTS

✓ Industry: Oil and Gas

☑ Client: Samsung C&T/PTSC

✓ Location: LNG Thi Vai Terminal

☑ Year: 2021 - 2022

☑ Type: Cementitious fire proofing

☑ Material: Pyrocrete Carboline



✓ Industry: Petrochemicals

☑ Client: Hyundai Engineering Co., Ltd

☑ Location: Long Son Petrochemical Complex

☑ **Year:** 2020 - 2022

☑ Type: Cementitious fire proofing

✓ Material: Fendolite MII



☑ Industry: Duyen Hai 3 Extension Coal Fired TPP

☑ Client: Jurong Engineering

☑ Location: Tra Vinh province

☑ Year: 2018 - 2019

☑ Type: Intumescent

✓ Material: Jotachar JF750



✓ Industry: Oil and Gas

☑ Client: POVO

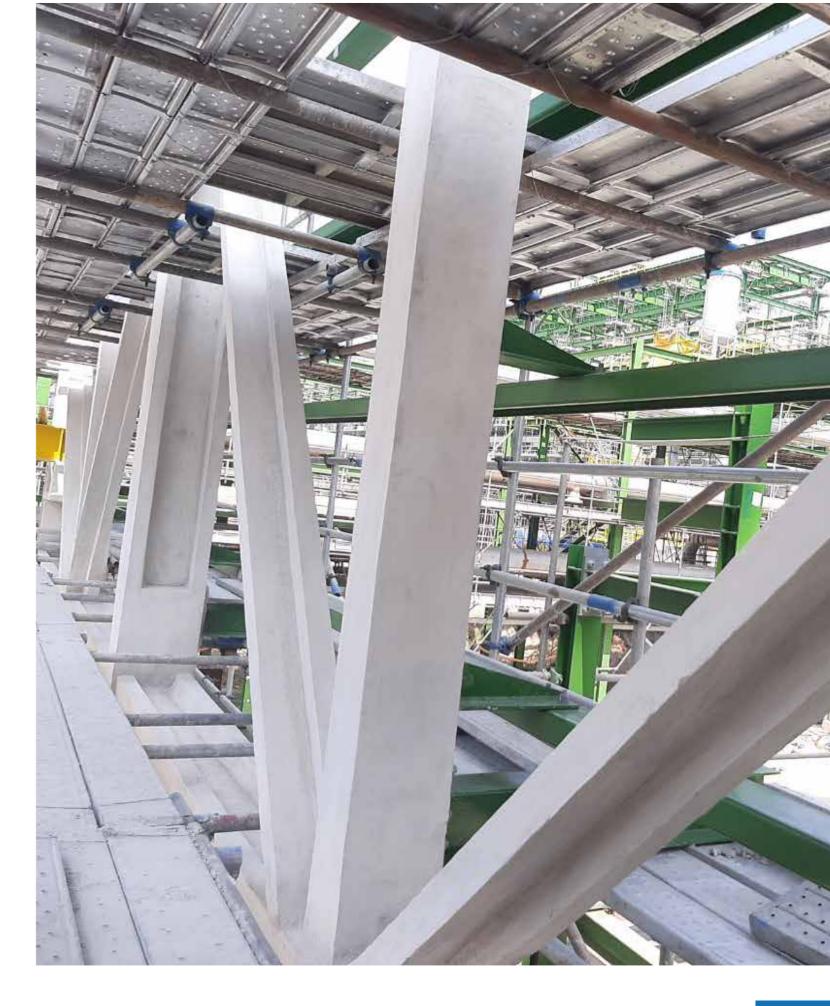
☑ Location: Lewek Emas, FPSO, Offshore VN

☑ Year: 2016 - 2022

☑ Type: J10/ J45/ J60/ J120 for PFP jacket

☑ Material: Stenca products





QHSE MANAGEMENT SYSTEM





Quality, Health, Safety and Environment are core values for Black Cat. Our objective is to meet or exceed the expectations of regulators, customers, and our own internal standards. Beyond compliance, we are committed to continuous improvement across all of these business critical areas.

Our leadership commitment, robust management system and the competencies and commitment of our people are core elements of our success and provide the foundation of our strong future growth.

TO ACHIEVE THAT, BLACK CAT WILL ALWAYS

- ☑ Be committed to preventing occupational accidents and occupational diseases and environmental pollution
- ☑ Comply with applicable rules, laws, codes and regulations
- ☑ Comply with approved procedures and instructions
- ☑ Ensure customer expectations are met
- ☑ Provide innovative solutions
- ☑ Monitor and improve management systems continuously
- ☑ Build a safety culture of the company and increase the initiative in the work for employee

SCOPE OF MANAGEMENT SYSTEM

Black Cat defines the scope of the management system for Quality, Safety - Occupational Health and Environment as follows:

- Applicable places: Company headquarters, Warehouse, Processing workshop (Address: Road No.6, Dong Xuyen Industrial Zone, Rach Dua Ward, Vung Tau City, Ba ria Vung tau Province, Vietnam) and construction sites.
- Business Services: Insulation, Scaffolding, Painting, Passive Fire Retardancy and Refractory Materials (exclusion 8.3. Design and development of products and services to ISO 9001:2015)
- Subjects of application: Employees of the whole Company.
- Subjects are assessed and supervised annually by the certification organization to issue the Certificate: Company headquarters, Warehouse, Processing workshop and construction sites.

Black Cat's domestic and international business activities are conducted in accordance with all local laws in the geographic regions in which we operate.



MANAGEMENT SYSTEM CERTIFICATE











HOW DO WE MAKE PEOPLE HAPPY WITH SAFETY?

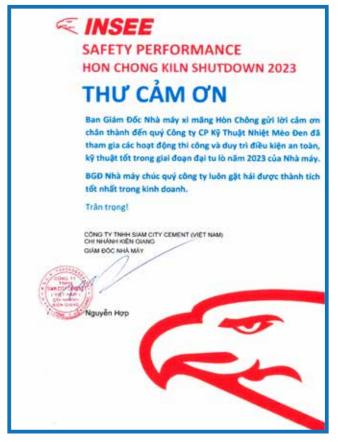
"We always guarantee high quality services which meet your specifications and safety guidelines in our workshop and your construction site."



5.000.000 safe manhours - 2021 Client: Petro Vietnam Technical Services Corporation (PTSC)



Good performance – 2022 Client: Nam Con Son Pipelines



Good safety performance – 2023 Client: Siam City Cement



Safe and Successful major Overhaul in 2022 Cient: PM3 BOT Power Co., LTD

WHERE ARE WE TODAY

