

# FIRE SAFETY EXPERTS



- Fire Testing ■ Fire Safety Engineering ■ Training ■ Modeling
- Products & Services Certification ■ Expertise ■ Inspection
- Fire & Explosion Investigations ■ Fire and Rescue





## OUR STRENGTHS

Our fire resistance and reaction to fire tests are performed according to national, european and worldwide standards: ISO, EN, IMO, HC, HCM, RWS, UL, FM, BS, ASTM, GOST, GNB and NBR.

Efectis has a large experience in testing products according to the EXAP (Extending Application) standards allowing us to minimize the number of tests.

In addition to standardized tests, Efectis can perform any specific tailor-made test such as oversized specimen tests, extended testing time, higher exposure.





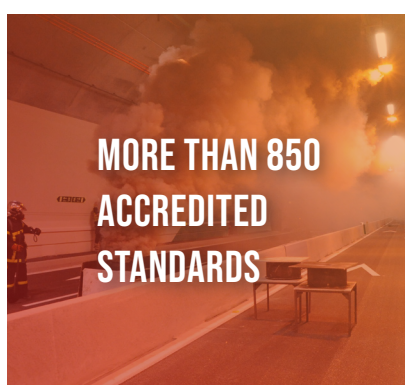
**EFFECTIS**

**With offices located in France, the Netherlands, UK, Türkiye, Spain and Italy. Efectis is a global player in the fire science and specialises in fire safety including testing, modeling, certification, education and inspection.**

Based on over 70 years of experience, from small to large scale, from materials to construction, Efectis is assessing the fire performance (fire resistance, reaction to fire, extinguishing systems...) of your products, systems and entire projects in many areas including nuclear, transportation, dwellings, infrastructure, tunnels, high rise buildings, industrial process and storage.

*Figures*

## **EFFECTIS IN SOME FIGURES**







## OUR ACCREDITATIONS, CERTIFICATIONS, RECOGNITIONS

### OUR ACCREDITATIONS, CERTIFICATIONS

- ISO/IEC 17025 Accreditation (TESTING)
- ISO/IEC 17020 Accreditation (INSPECTION)
- ISO/IEC 17065 Accreditation (CERTIFICATION of Products & Services)
- ISO 29990 Certification (TRAINING)
- ISO 9001 Certification
- CEFRI-E Certification for radiation protection
- EDF-UTO Qualification
- Notified Body for CE-MARKING
- I.M.O. Qualification
- Approved Body for UKCA (UK Conformity Assessed)

### OUR MAIN RECOGNITIONS, COLLABORATIONS

- FM approval
- INTERTEK for American market
- LLOYD'S approval for jet fire testing
- DIBT for specific German application
- VKF for Swiss market
- BHRC (Building & Housing Research Centers) in Iran
- KFSD (Kuwait Fire Service Directorate)
- Civil Defence of United Arab Emirates
- Civil Defence of Qatar
- SASO (Saudi Standards, Metrology and Quality Organization) in Saudi Arabia
- SES Ukraine



## FIRE TESTING IN LABORATORIES

Effectis' extensive testing facilities allow us to carry out almost any type of fire test. These vary from standardized tests up to tailor made tests. Effectis does invest each year in new testing devices for enlarging its assessment services of all your products and systems.

FIRE RESISTANCE TESTING



REACTION TO FIRE TESTING



CLADDING & FACADE TESTING



MOBILE FURNACE



FIREFIGHTING SYSTEMS' TESTING



IN SITU TESTS



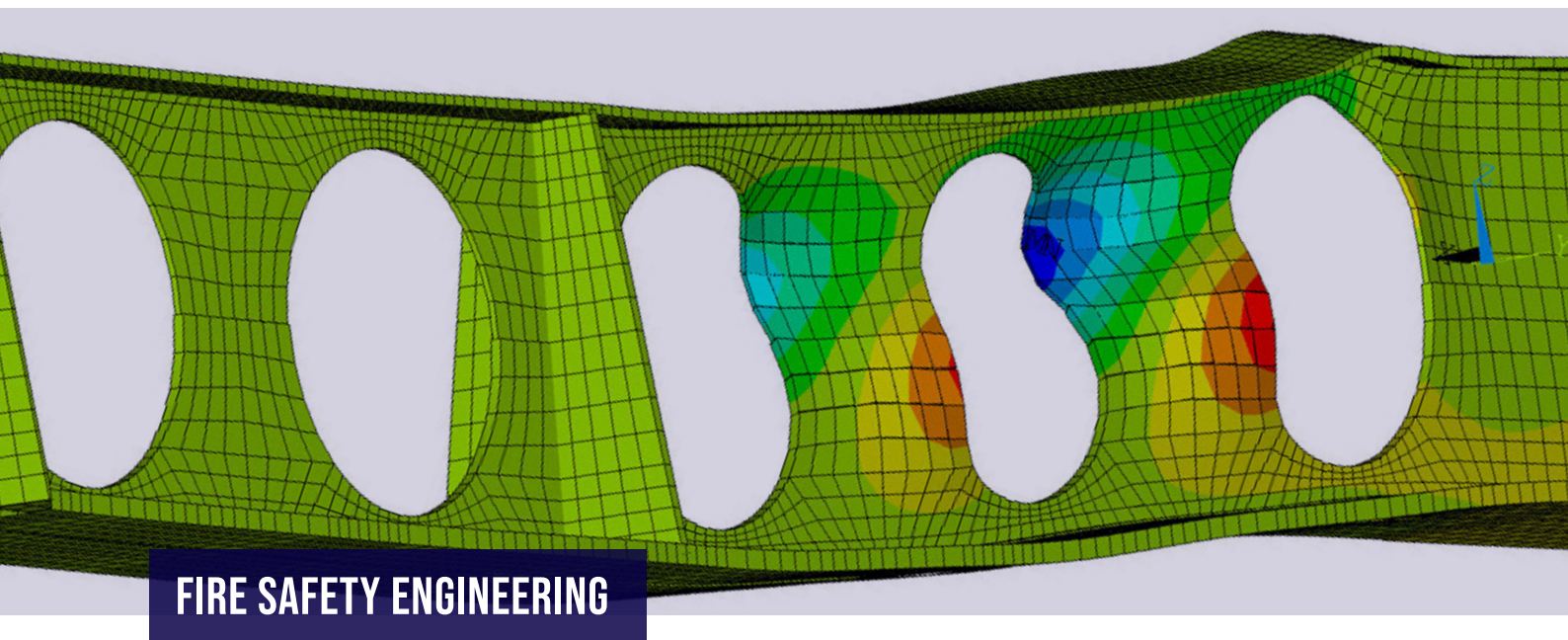
TESTS COMBINATIONS



LARGE SCALE TESTS







# FIRE SAFETY ENGINEERING

## Engineering

### FIRE RISK ASSESSMENT AND RISK ANALYSIS

- Nuclear power plants and power stations
- Industrial sites and offshore installations

### REAL FIRE SCENARIO MODELING

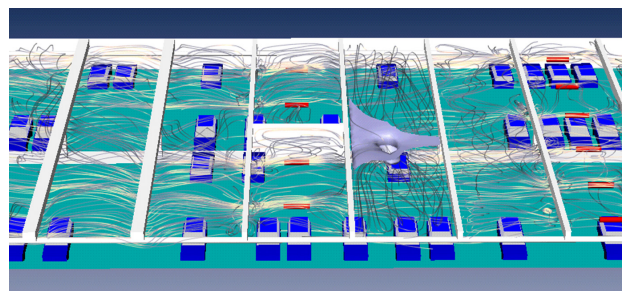
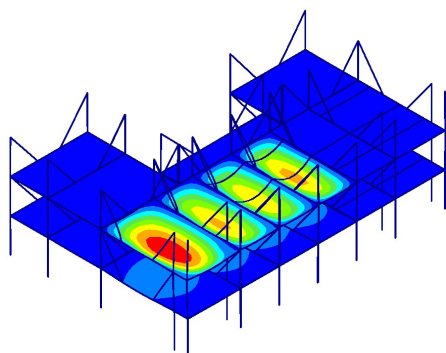
- Numerical simulation of fire development in open and confined environment
- Parametrical study of fire development
- Thermal impact modeling (safety distance of thermal effects)

### CODE CONSULTING

- Fire and life safety code analysis
- Code compliance review
- Code evaluation and conflict resolution

### ASSESSMENT OF ENVIRONMENTAL ISSUES

- Atmospheric scattering simulation of pollutants and combustion products
- Evaluation of safety distance from toxic effects



### SMOKE SPREAD STUDIES

- Simulation of fire effluent spread
- Design and validation of mechanical smoke exhaust systems
- Toxicity and smoke opacity

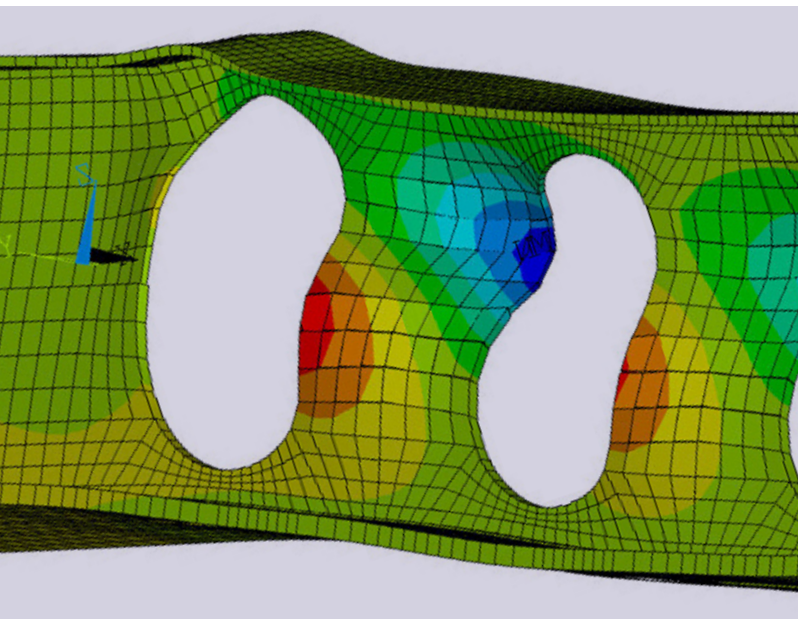
### FIRE BEHAVIOR OF PRODUCTS AND SYSTEMS BY MODELING APPROACH

- Construction products: doors, partitions...
- Safety equipment: dampers, fans...
- Protection products: intumescent coatings, sprayed products, board...

### STRUCTURAL FIRE BEHAVIOR ENGINEERING

- Modeling of structural fire behavior (timber, steel, concrete, composite...) exposed to real or standard fire
- Failure mode of structure (collapse)
- Integrity of firewalls
- Design and validation of structural design



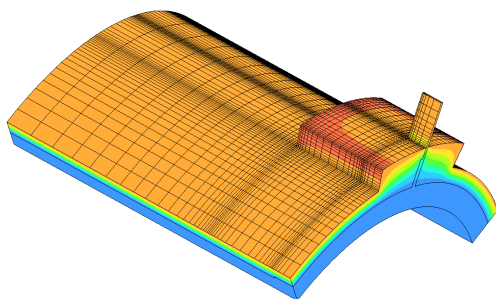


### FIRE SPREAD AND PROTECTION OF BUILDINGS

- Assessment of building performance from external effects: explosion, jet fires, pool fire, BLEVE, boil-over...
- Vulnerability of environment from fire and explosion impact
- Forest fires vulnerability at wildland-urban interface

### EGRESS CONDITION MODELING

- Modeling evacuation conditions of public buildings, storage and industrial sites
- Fire detection, alarm and mass notification systems
- Assessment of egress management
- Egress conditions for disable people
- Conditions of fire safety of operators remaining on site (control room, safe room...)



### FIRE EXTINGUISHING MODELING (CFD)

- Fire extinguishing systems interaction
- Fire scenarios design including active systems
- Impact on structural assessment

## Operations

### FIRE AND RESCUE

Efectis operational approach for ensuring the infrastructures security and safety, the protection of civilian populations, interveners and goods.

- Risks analysis and operational responses
- Technical and technological supports
- Crisis management
- Qualification tests for fire fighting
- Fire fighters instructors training



## Investigations

### INTERNATIONAL FIRE INVESTIGATIONS

- Quicker recover of exploitation after fire
- Determination of the fire source and the fire scenario
- Analysis of the products/systems performance after fire
- Testing and numerical assistance to legal experts on fire behavior and fire dynamics





## ON SITE EXPERTISE, APPROVALS AND CERTIFICATION

**Efectis offers solutions during construction and operation of buildings and installations either with official certification and approvals, or with in site assessment. After a fire, Efectis is helping you to recover the exploitation as soon as possible and to reduce financial losses.**

### CE AND UKCA MARKING OF CONSTRUCTION PRODUCTS

Efectis is a Notified Body instead of CE marking (see Nando website Notified Bodies N° 1812, 1234, 2184) of construction products with fire characteristics.

Efectis is an Approved Body (N° 2822) for UKCA and UK(NI) Marking - see database from BEIS Department (Business Energy & Industrial Strategy).



Our notification covers principally the construction products with fire performance (reaction to fire and fire resistance): smoke and heat exhaust systems, fire protective products, glass in building, thermal insulation, floorings, doors, cables, etc.

### OTHER CERTIFICATION

Efectis is recognized by many countries or private organization for certifying the fire performance of products and systems, either based on EN standards or other international/national standards. In other countries, case by case recognition is adopted.

### EXPERTISE

The Expertise teams work in any construction project by assessing the conformity of construction products and their application as regards the requirements of the different fire safety regulations.

**These studies justify fire resistance performances based on existing fire tests.**

**They can be linked to:**

- The degree of fire stability of the structures and their protection
- Fire resistance performance of doors, partitions, glazing, etc.
- Resistance to external fire of facades (facade assessment)
- Performances of smoke extraction systems
- Compliance with the requirements of the mechanism and automatism
- Verification of mounting conditions and performance of sandwich panels

### VOLUNTARY MARKS

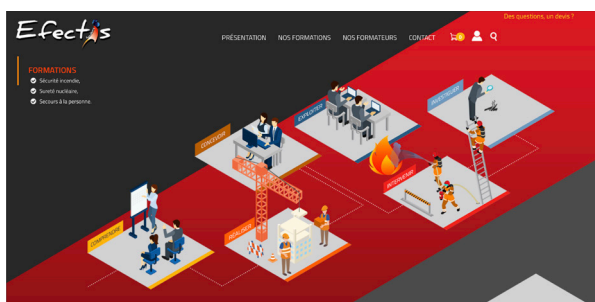
Efectis is developing voluntary fire-safety marks to maintain a high fire safety level in buildings or infrastructures. As the application of regulations and the fire resistance of construction elements are not always controlled, Efectis is able to check if the required fire safety level is reached.

Furthermore, based on voluntary marks, Efectis may assess the knowledge and the skills of the companies in charge of the installation of the fire products. The fire safety level of building is strongly dependent on the quality of installation, Efectis is now qualifying the products in laboratories and certifying the companies that will install them.





## EFFECTIS ACADEMY



**If you work in the building, nuclear or rescue field, we can help you to further develop your skills in fire safety.**

Effectis is delighted to share our knowledge and experience through a series of training sessions for those involved in construction, rescue and nuclear safety (project owners, prime contractors, subcontractors, fire trainers, technical officers.)

The sessions will cover all construction and building materials that have an obligation to ensure fire performance (fire resistance & reaction to fire) and buildings required by regulation to include fire safety requirements.

These courses also touch on the firefighter education and training (theory and practice).

**VIEW ALL OUR COURSES HERE:** [www.effectis-academy.com](http://www.effectis-academy.com)

*"Effectis is delighted to share our knowledge and experience through a series of training sessions for those involved in construction, rescue and nuclear safety."*





## MARKETS

Effectis is an independent third party assessing the fire performance of products, systems or constructions on every market.



Your project

## OUR MARKETS

**BUILDING MATERIALS**



**PUBLIC BUILDINGS**



**COMMERCIAL AND HIGH-RISE BUILDINGS**



**OIL AND GAS INDUSTRY**



**STORAGE AND WAREHOUSE**



**NUCLEAR AND POWER PLANTS**



**INFRASTRUCTURE**



**TRANSPORT, RAIL AND MARINE SAFETY**







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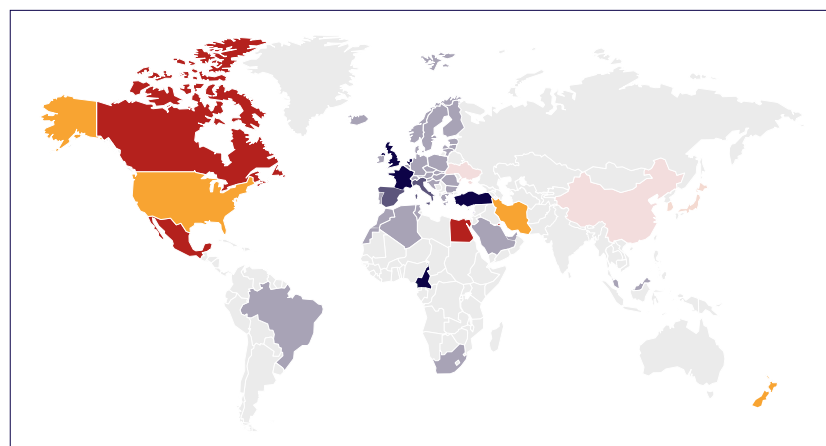
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#### Certification

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## EFFECTIS ALL OVER THE WORLD

Efectis has 21 offices and laboratories around the world recognized in 35 countries. The staff is highly qualified speaking various languages (English, French, Dutch, Turkish, Spanish, German, Italian, Arabic, Chinese, Farsi...)



- Efectis Laboratories and offices
- Efectis Offices
- Efectis recognitions
- Efectis recognitions in progress
- Efectis cooperation agreements
- Cooperation agreements in progress and/or access to a professional network