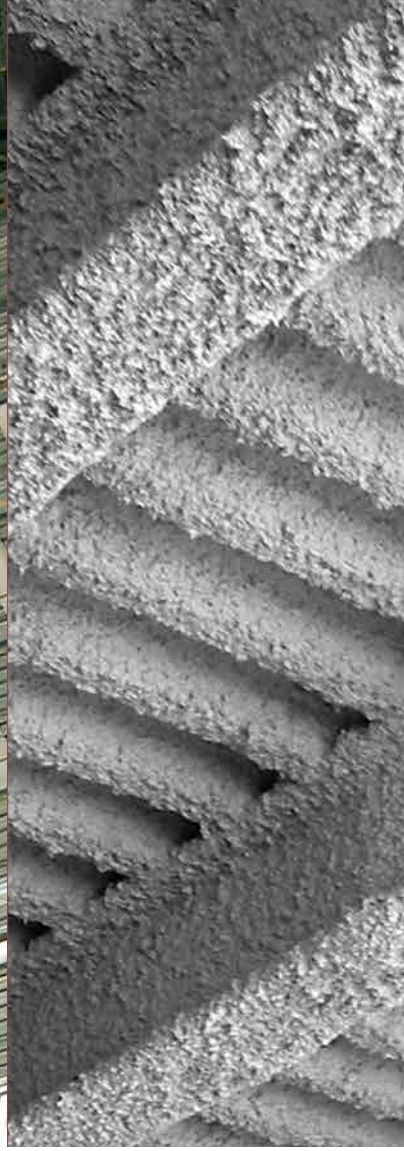
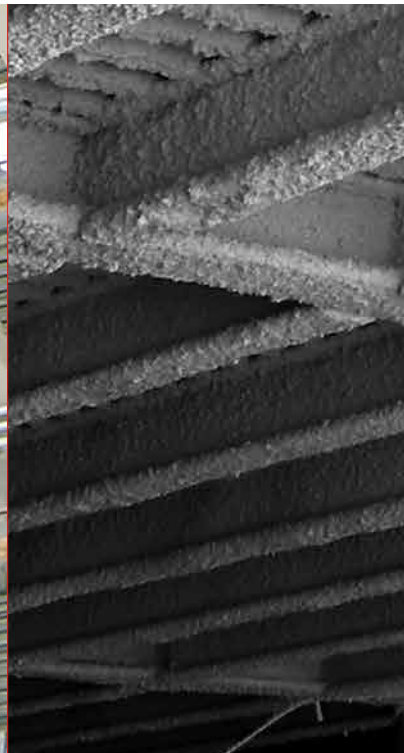


mercor® tecresa

IBERIA · LATAM · MIDDLE EAST · NORTH AFRICA · TURKEY

LEADER

in **PASSIVE FIRE PROTECTION** smoke **EVACUATION** and **COMPARTMENT**



v01/0418

SAUDI ARABIA

- Great Mosque of Mecca, Saudi Arabia
- University Al Iman Muhammad Ibn Saud Islamic in Ryadh, Saudi Arabia

ALGERIA

- International Conference Center, Algiers
- Great Mosque, Algiers
- Oncology hospital, Sidi Bel Abbes
- Line 2 of Algiers underground, Algiers

UNITED ARAB EMIRATES

- Al Salam Street Tunnel, Abu Dhabi
- Al Ras Al Akhdar Tunnel, Abu Dhabi
- Baynoonah Street Tunnel, Abu Dhabi
- Midfield Terminal Tunnel - International Airport, Abu Dhabi

QATAR

- Al Rayyan Road Tunnel, Doha

TURKEY

- Refinery Tupras, Izmir
- Mersin Hospital, Mersin
- “Emmar Square” Shopping Center, Istanbul

SINGAPORE

- Marina Coastal Expressway 482 Tunnel, Singapore

FRANCE

- OSILUB Used Oil Regeneration Unit, Gonfeville L`Ocher

POLAND

- Tunnel Polish Railway, Krakow
- “Petrobaltic” Offshore Platform, the Baltic sea
- “Double Tree” Hotel by Hilton, Warsaw

UNITED KINGDOM

- London Olympic Village 2012

AUSTRALIA

- “Rialto” Shopping Center, Melbourne

PERU

- Vias Nuevas de Lima Tunnel, Lima
- “Cayetano Heredia” University, Lima
- International Clinic, Lima

ECUADOR

- Norte Hospital, Guayaquil

CHILE

- “Los Dominicos” Shopping center, Santiago de Chile

COLOMBIA

- G. Suramericana Insurance Building, Bogotá
- Element Building, Bogotá

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Coca-Cola · AL SAADEH TRADING ESTABLISHMENT · IKEA · SSANGYO

ISOLUX CORSAN · KAYI · AL SAADEH TRADING ESTABLISHM

OHL · DRAGADOS · ABENGOA · Grupo Graña y Monte

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ANIA · **RUSSIA** · SWEDEN · **SWITZERLAND** · TURKEY · **UKRAINE**
MOROCCO · MOZAMBIQUE · **TUNISIA** · AZERBAIJAN · **UNITED ARAB**
KUWAIT · KINGDOM OF SAUDI ARABIA · **SINGAPORE** · AUSTRALIA

NG · INTHERPRO LLC International Thermal Insulation & Fire Protection Co. · SAMSUNG ENGINEERING · Sacyr · SAIF BIN DARWISH

ENT · ferrovial · MIMKO Mimko İnşaat ve Sanayi A.Ş. · TYPSA · REPSOL · ODEBRECHT

GRUPO SANJOSE · TECNICAS REUNIDAS · DOĞUŞ · FCC · CEPSA

- LEADER IN PASSIVE FIRE PROTECTION
- WITH 30 YEARS OF EXPERIENCE WITHIN THE SECTOR
- COMPANY LISTED ON THE WARSAW STOCK EXCHANGE SINCE 2007
- MORE THAN 700 EMPLOYEES IN 8 EUROPEAN COUNTRIES
- WITH 8 FACTORIES IN 5 COUNTRIES
- WORKS EXECUTED IN MORE THAN 40 COUNTRIES
- LARGE PROJECTS DEVELOPED IN EUROPE, ASIA, AMERICA, AFRICA Y OCEANIA
- MORE THAN 75 CERTIFIED FIRE SOLUTIONS
- PROTECTION SOLUTIONS TESTED UNDER DIVERSE INTERNATIONAL REGULATIONS
- COMPREHENSIVE RANGE OF FIRE PROTECTION SOLUTIONS

Tecwool® Mortar

TECWOOL® F

Tecwool® F is specifically designed to protect against fire all kinds of structures and faces made in construction.
It adapts to a wide variety of supports, even when they are exposed to vibrations or movements of settlement. It doesn't crack due to its high-adhesion and flexibility.

1. Protection of steel elements.
Pillars and beams
Tecwool® F is able to guarantee the bearing capacity of the metal structures from R-30 to R-240. It is tested under UNE EN 13381-4 standard for different design temperatures.

2. Fire resistance of concrete structural elements.
The equivalent thickness of **Tecwool® F**, determined by laboratory tests to protect the concretes, makes it the most suitable solution to achieve R-30 and R-240 protections and from REI 30 to REI 240 tested under UNE EN 13381-3 standard.

3. Carbon fiber protection in structures
Carbon fiber is extremely sensitive to temperature increase during its application, it loses its original function. **Tecwool® F** allows the carbon fiber to be under 81,4ºC during two hours.

4. Protection of mixed concrete elements/ profiled steel sheet
Quick and economic solution for the protection of this type of slabs up to REI 120, achieving as well a C class acoustic absorption. Tests carried out under UNE EN 13381-5.

TECWOOL® T

Tecwool® T is the perfect constructive solution to provide optimal thermal insulation and acoustic absorption.

1. Ventilated façade

2. Slabs of garages and stores

COMPOSITION: The **Tecwool® mortars,** manufactured by **MercorTecresa®**, are a combination of rock wool with cement as only hydraulic binder and other additives in small percentages incorporated during the manufacturing process.

REACTION TO FIRE: Incombustible according to European Standard UNE-EN 13501-1. Euroclass A1.

QUALITY: **Tecwool® F,** is the first rock wool mortar to obtain the CE marking with DITE number 11/0185.

FINISHES: Because of the versatility of the product, smooth and rugged finishes can be obteined. It is possible to apply an acrylic covering over the mortar in order to get a decorative finish.

APPLICATION: Application by spray through pneumatic machine without pre-mixing. Simple, quick and inexpensive.

5. Slab of ceramic block and de wooden beams

The test was carried out according to UNE EN 1365-2 standard, resulting that with a 23mm thickness of **Tecwool® F,** REI 180 is achieved. The thermocouples were placed over the compression layer and the wooden beams, in order to extrapolate to more favorable configurations.

6. Protection of steel ducts

Tested according to UNE EN 1366-1 Standard, an horizontal duct and other vertical one with 0,6 mm of steel subjected to external fire obtaining a classification of EI-60 and EI-120, respectively.

7. Dividing wall/roof firebreak

When a dividing wall touches roof firebreak, the fire resistance of this last one will be, at least, equal to half requested for this dividing wall when equal to a meter. Solutions EI-60 and EI-120.

8. Large format partition wall

Non-bearing walls performing as separation between fire compartments, must have a fire resistance as indicated in the UNE EN 1364-1 standard. With **Tecwool® F mortar** we reach EI-180

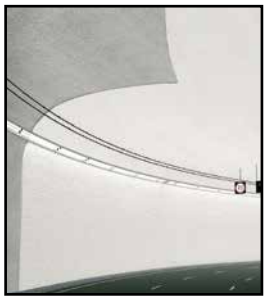
9. Protection of tunnels

Tecwool® F mortar is tested in a real scale tunnel and subjected to a diesel fire. The application of 40 mm of mortar was enough to pass the test.

TECWOOL® 825

Tecwool® 825 is specifically designed for fire protection in industries and tunnels.
Its high cement content confers it great strength, so once applied by spray its final look is a monolithic block with high resistance to erosion and semi-exposed environments or partially covered.

1. Protection of steel elements



2. Protection of tunnels

COMPOSITION

Tecbor® Boards are rigid boards for fire protection made up of magnesium oxide, silicates and other additives and finished on both sides with a fiberglass mail.

REACTION TO FIRE

Tecbor® is classified A1 (incombustible) according to European Standard EN 13501-1.

QUALITY

Tecbor® have the CE marking certificate (DITE 09/0057) according to specifications of the guide DITE 018-4 approved by the EOTA.

Tecbor® Boards do not contain dangerous substances according to the Commission's database DS041/051.

CONSTRUCTIVE SOLUTIONS

1. Metallic structure. Columns and beams

Assurance of the bearing capacity in a steel structure, either on beams, pillars or elements with tension, achieving up R-240 according to the test carried out UNE EN 13381-4 standard.

Suitable applications for stylish finishes.

2. Cable tray

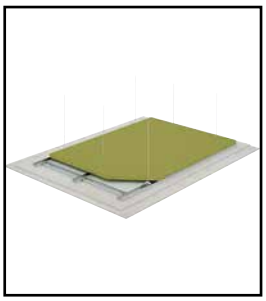
Tecbor® B 40 mm has been tested under UNE EN 1363-1 standard covering a cable tray, adding the electrical conductivity criteria, the short circuit between cables and the earth fault, obtaining an EI-120 classification.

3. Ventilation ducts

Our wide range of ventilation ducts has been tested under UNE EN 1366-1 standard and the exhaust ducts under UNE EN 1366-8 standard achieving a classification up to EI-180.

4. Non-bearing elements. Walls

Solutions such as partition walls are necessary to maintain the fire compartment reaching up to EI-180.

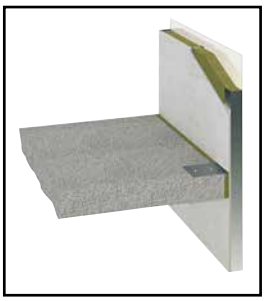


5. Suspended ceilings and slab protection

Fire barrier suspended ceiling allow us to set a effective barrier between the fire and the elements to be protected.

Two specific situations: either to vertically separate different fire compartments

Either to protect different elements that we can find above the ceiling.



6. Curtain walls

In order to prevent the spread of fire through the façades, the **Tecbor® boards** secure the encounter slab-façade preventing the fire from entering between floors with classifications up to EI-120.

7. Tunnels

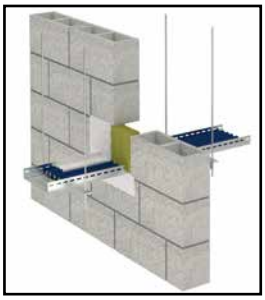
Passive fire protection has become a major part when designing and executing this type of projects.

The objective of **MercorTecresa®** is to ensure the safety of the people by providing stability and integrity to the tunnel

Fire Barrier Sealings

The services crossings are very delicated points since they facilitate the transmission of smoke and hot gas, and pose a major risk of spreading the fire. In the most modern buildings, the complexity of the installations increases significantly. For this reason, its influence must be taken into account in case of a fire.
The risk of spreading of a fire must be reduced through the use of **Sealing Systems**, at the points where the services pass through the fire compartments.

PRODUCTS



1. Tecbor® Joint paste ready to use.
1.1. Sealings of cables and infiltrations
It is a combination of inorganic substances which react endothermically in case of a fire, preventing this way the spread of the flames, as well as the spread of fire and smoke.
Specifically developed for the crossing of cables tray and other services. Hasta EI-180.

6. Tecsel® Lighting and socket cover
Both solutions are a combination of graphite and mineral wool which in the presence of flames produces intumescence, blocking the spaces exisiting in the installation and preventing this way the fire and flames from entering into the adjoining fire compartments. Up to EI-60.

1.Tecbor® Joint paste ready to use.

1.2. Protection of cable trays

It provides the instalation with proper operation, continuing the electricity supply and preventing short circuits and derivations. Up to EI-120.

2. Tecsel® Intumescent Mastic

It is an intumescent sealing specially designed for joints in buildings, door frames and in general, for spaces small in the compartments and fire barrier elements. Up to EI-240.

3. Tecsel® Self-leveliing silicone

It is a fire resistant sealing designed to be applied on horizontal expansion joints and faces intended to suffer from large movements. Up to EI-240.

4. Tecsel® Foam

It is a mono-component self-expanding polyurethane which in the presence of fire expands itself and prevents the spread of gas, as well as restrints the increase of temperature through the different compartments in buildings. Up to EI-180.

5. Tecsel® Flexible sealant

It is a combination of mineral fibers with intumescent graphite and covered with a protective plastic. This product is specially designed for expansion joints. In the presence of fire it expands itself preventing the increase of temperature and restrinting the spread of gas between the different fire compartments. Up to EI-180.

7. Tecsel® Grilles

When 100ºC are surpassed, the **Tecsel® grilles** expands itself forming a non-combustible barrier, preventing the pass of heat, flames and smoke. Up to EI-180.

8. Tecsel® Pillows

It is the most versatile solution for sealing the irregular spaces in cable trays or closing openings. It allows maintenance afterwards. Up to EI-240.

9. Tecsel® Collar

It is made up of a metallic casing of 0,7 mm thick of galvanised steel or 0,5 mm of stainless steel with attached intumescent graphite sheets of 2,5 mm thick and 30 or 60 mm wide, depending on the collar diameter.

Under the influence of fire, the expandable graphite strip swells and blocks the opening in the plastic pipe, which prevents fire or smoke spreading across various fire sectors.

10. Tecsel® Multiband

It is a very intumescent plastic-base band.

It is the most effective solution to aislate the fire in fireproof doors, windows, small holes and concrete board joints due to different sizes in width and thickness.

It is used as retardant sealant material in the joints of boards type sandwich

11. Tecsel® Bands

They are flexible sheets made of intumescent graphite wrapped in a polyethylene cover. They are the most efficient solution when the pipes go through uneven supports or when the attachment is complicated. Up to EI-120.

Smoke Evacuation in case of a fire

Ventilators and Skylights are the systems thanks to which it's created a smoke-free layer above the floor. It removes the smoke the smoke and heat, improving the evacuation of people, protecting the property and allowing to fight fire in its initial state.

Smoke Evacuation Systems:

- Perform functions of natural ventilation and also improve the efficiency of the heating/cooling systems.
- Keep the access and evacuation corridors smoke-free.
- Facilitate the extinguishing tasks by creating a free-smoke layer.
- Delay and/or prevent a generalized sudden combustion and the consequent fire full spread.
- Protect the equipments, furniture and its content.
- Reduce the thermal effects on the structural components during a fire.
- Reduce the damage caused by the hot gases and thermal decomposition of products.

Ventilators

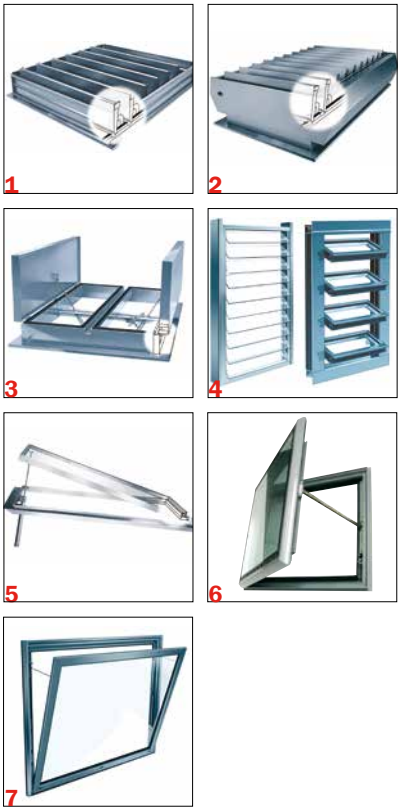
1. Eura: Multifunctional louvered ventilator.
2. Eura-R: Louvered ventilator with rain-proof side blades.
3. Duo Therma: Twin flap ventilator with thermal and acoustic insulation.
4. Estra: Stylish louvered ventilator.
5. Ventria: Stylish ventlight.
6. Lumera: Ventilation window.
7. Inova: Stylish ventlight for façade application.

Fixed and Motorised Skylights

1. Fixed skylight for light input.
2. Single flap skylight for smoke evacuation and light input.
3. DVP twin flap skylight for smoke evacuation and light input.

Skylights

Ventilators



Smoke Compartment

Smoke compartment is conducted through **fixed, automatic and fire curtains.**
The function of the curtains is to control the movement of smoke and toxic gases in case of a fire. In order to achieve this, they compartmentalise and channel the smoke towards its evacuation system.
Smoke curtains:
- Create a smoke reservoir to contain and limit the smoke movement.
- Channel the smoke towards a predetermined direction.
- Prevent or delay the smoke entering into another area or space.

Type of curtains:
1. Fixed smoke curtains: 600ºC for 120 minutos. Classification D 120.
2. Automatic smoke curtains: 600ºC for 120 minutes. Classification D 120.
3. Automatic fire curtains. Classification E 240.

Pressurization

A differential pressure system allows to maintain bearable conditions in protected areas, limiting the smoke propagation from one place to another, inside a building, through cracks between the physical barriers, like for example, cracks in opened or closed doors.
Differential pressure systems allow to improve the level of security against fire in the evacuation corridors of a building.

Control and Management Systems

The **Control System** is the heart of any installation. In **mercorTecresa®** we provide applicable solutions to any project, from the basic ones to the most sophisticated.
MercorTecresa® offers a design, manufacturing and installation full service. They can be used in any type of smoke extraction installation, mechanical extraction, or smoke compartment and pressurization, with a wide range of available options depending on the requested features.

www.mercortecresa.com

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