PROTHERM LIGHT®
Fireproofing Division

A COMPLETE RANGE OF PLASTERS FOR **THE PASSIVE FIRE PROTECTION**

EDILTECO® group

SINCE 1981

A FAMILY BUSINESS
THE HISTORY

EDILTECO GROUP WAS BORN IN 1981 AS A RESEARCH COMPANY DEVELOPPING PRODUCTS AND TECHNOLOGIES DESIGNED FOR THE SECTOR OF THE LIGHTWEIGHT THERMAL INSULATING MORTARS. EDILTECO SUCCEDED TO JOIN LIGHT AGGREGATES WITH CEMENT, WITH A PARTICULAR FOCUS ON THE VIRGIN EXPANDED POLYSTYRENE BEADS, REACHING A TECHNOLOGICAL, PRODUCTIVE AND MARKET LEADERSHIP ROLE OVER THE YEARS.

IT'S BEEN ALMOST FOURTY YEARS SINCE 1981 BUT THE WILL TO DEVELOP, MANUFACTURE AND BRING ON THE MARKET INNOVATIVE PRODUCTS FOR THE BUILDING INDUSTRY CONTINUES TO BE UNCHANGED

EDILTECO® group

EDILTECO, AN INTERNATIONAL SUCCESS

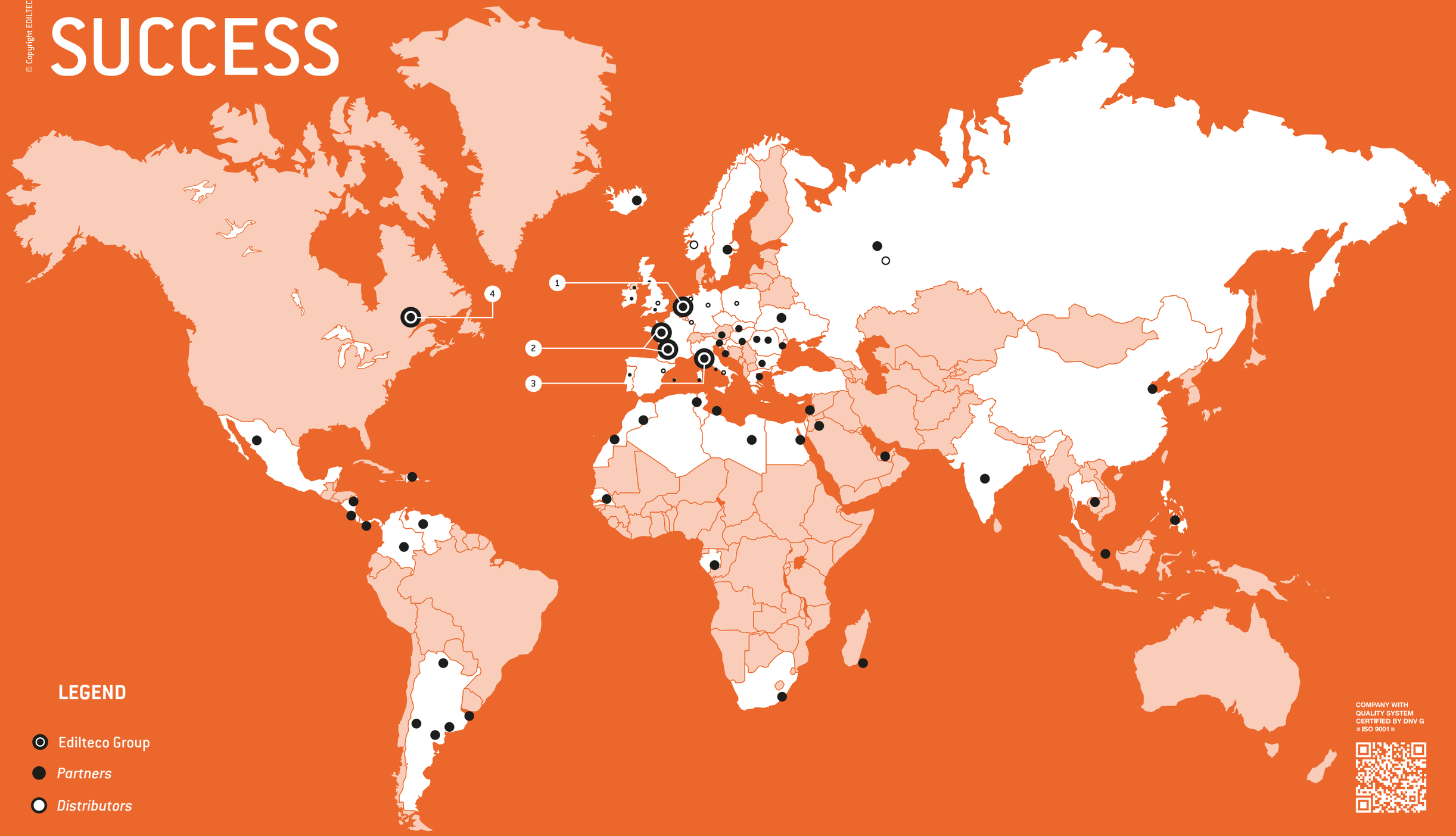
1 EDILTECO Benelux — AVENUE DE FONTENELLE, 5, 6220 FLEURUS (BE)

2 EDILTECO France — 9 AVENUE DE L'EUROPE SAINT GERMAIN SUR MOINE, 49230 SÈVREMOINE (FR)

2 EDILTECO France — 840 RUE DE LA VERDETTE, CS 50015, LE PONTET 84275 VÈDENE CEDEX (FR)

3 EDILTECO group — VIA DELL'INDUSTRIA 710, 41038 SAN FELICE SUL PANARO (MO) ITALY

4 EDILTECO Canada — 606 CATHCART ST, SUITE 200, MONTRÉAL QC, CANADA H3B 1K9



LEGEND

- Edilteco Group
- *Partners*
- *Distributors*

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV G = ISO 9001 =

PROTHERM LIGHT®
A complete range of plasters for fire protection

WHAT IS PROTHERM LIGHT®?

The long lasting experience of edilteco as world manufacturer of lightweight and thermo-insulating mortars has led to the development of the new PROTHERM LIGHT® products range to be used for the passive fire protection of the buildings. Our purpose is always the same: to develop products and building equipment for the wellness and safety of the people. The PROTHERM LIGHT® range provides to professionals all the fireproofing equipment for the fire protection of the buildings such as airports, petrochemical industries, hospitals, schools, tunnels, skyscrapers and residential complexes.

THIS RANGE IS THE RESULT OF THE CONSTANT TECHNOLOGICAL DEVELOPMENT, AIMED AT SAVING HUMAN LIVES AND PROTECTING THE INFRASTRUCTURAL ASSETS

THE MOST VERSATILE AND CERTIFIED PLASTER FOR FIRE PROTECTION ON THE MARKET **PROTHERM** LIGHT®

WORKING LIFE 25 YEARS

LIGHTWEIGHT PREMIXED THERMAL INSULATING PLASTER BASED ON VIRGIN EPS BEADS, WATER BINDERS AND SPECIAL ADDITIVES FOR MECHANICAL APPLICATION

- Available colours: white and grey.
- Fireproofing protective system, specifically designed to improve the passive fire resistance of structural elements made of steel, normal and pre-stressed reinforced concrete, corrugated sheet, brick and on buildings for civil and industrial use.
- For internal and external use.

PROTHERM LIGHT®

PLASTER FOR THE PASSIVE FIRE PROTECTION OF STRUCTURES

TECHNICAL CHARACTERISTICS	VALUE	M.U.	REGULATION
Available colour	white - grey	-	-
Density	approx. 300	kg/m^3	-
Compressive strength	0,97	N/mm^2	UNI EN ISO 12390-3
Flexural strength	0,35	N/mm^2	UNI EN ISO 12390-5
Thermal conductivity λ_D	0,079	W/mK	UNI EN 12667
Fire reactivity	A1	-	UNI EN 13501-1
Packaging	18	kg/bag	-

APPLICATION	
Laying surface	According to the classification report
Minimum and maximum thickness	According to the classification report
Weight and yield	~ 3,0 kg/m^2 for 1 cm of thickness / each bag ~ 6 m^2 for 1 cm of thickness
Drying time	On the surface: 24 hours at 20 °C with normal ventilation

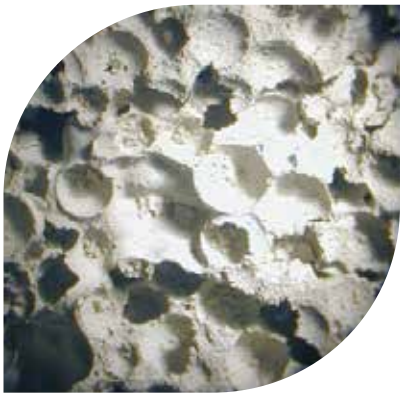
PLASTER IS SAFE TO APPLY WITHOUT THE NEED OF SPECIAL EQUIPMENT.
IT IS RECOMMENDED TO READ THE APPLICATION MANUAL BEFORE USE

When PROTHERM LIGHT® plaster is exposed to fire, the heat is absorbed by the product and the polystyrene beads sublimate without flame and smoke emission. This creates a structure composed of cement binder and the empty cells left by the sublimated polystyrene beads. Therefore the plaster changes its physical characteristics and becomes a layer of material with high temperature resistance. This advantage can be added to that resulting from the crystallized water loss and to the thickness of the material. The pictures below show the plaster before and after the exposure to flame and heat: the beads are replaced by void cells.

See the technical data sheets and application manuals

BEFORE

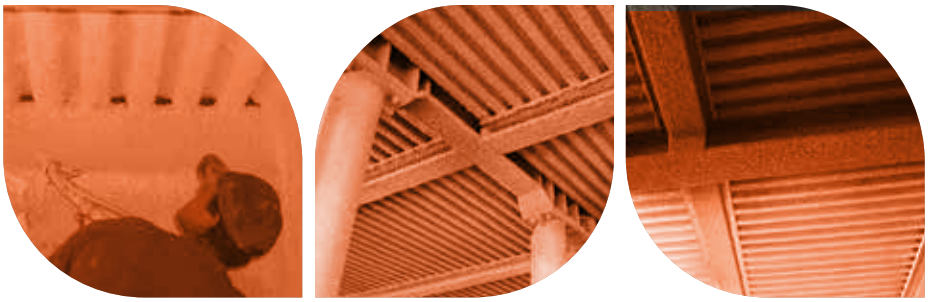
AFTER



Updated
ETA 18/1111
according to
European Regulation
ENV 13381

CE

PROTHERM LIGHT®



ONCE APPLIED IT LOOKS LIKE A NORMAL FIRE PROTECTION PLASTER BUT IT HAS THE FOLLOWING SIGNIFICANT DIFFERENCES:

- It has a low density of 300 kg/m³ (dry).
- It can be rendered, smoothed and painted; any top finishing is possible.
- It has good impact and mechanical resistance characteristics (compressive strength of 0,97 N/mm²).
- It is resistant to the atmospheric agents. It can be applied also outdoor on wet supports.
- It is stable over time.
- It has high thermal insulating properties (ID = 0,079 W/mK).
- It has quick drying times.

AVAILABLE ASSESSMENT

APPLICATION	REGULATION
Concrete	UNI ENV 13381-3
Steel	UNI ENV 13381-4
Corrugated Sheet + Concrete	UNI ENV 13381-5
Horizontal protective membranes	EN 13381-1:2014

THE ASSESSMENT FOR THE CORRECT DIMENSIONING OF THE THICKNESS OF PROTHERM LIGHT® PLASTER ON STRUCTURAL ELEMENTS OF STEEL, REINFORCED CONCRETE, MIXED STEEL/CONCRETE AND CONCRETE ARE AVAILABLE.

FIRE RESISTANCE

EUROPEAN REGULATION FOR PROTECTIVE COATING

The publication of the European standards has introduced precise instructions regarding the way to verify and determine the fire resistance performances of the structural elements of all the building subject to the control of the Fire Department. With reference to the insulating plasters used to increase the fire resistance performances of the structural elements, the compliance to the experimental European regulations EN 13381 listed in the A.3.2 table of the A attachment is strictly required.

These standards consist in the experimental development with standardized procedure on defined types of structures at different thickness of insulating plaster. The numerical analysis of the temperature data, according to the time of fire exposure, allows to translate the data in a classification report (Assessment). This document available to designers, contains a performance chart, indicating the required thickness according to the type of structure and execution of the analytical assessment, replacing the tabulated values of the repealed technical standards. The performance chart, calculated according to EN 13381, is the only one approved by the Legislative Decree to determine the thermo-physical parameters of the protective systems.

PROTHERM LIGHT®
HAS BEEN CHOSEN FOR:

THE FIRE PROTECTION OF INDUSTRIAL BUILDINGS, AIRPORTS, HOSPITALS, SCHOOLS, MALLS, UNDERGROUND PARKINGS, TUNNELS ETC

The use of fireproof plaster PROTHERM LIGHT® will help protect the walls of the building from a sudden fire, and prevent the spread of fire to other surfaces.

PROTHERM LIGHT® is used to protect the industrial buildings, airports, hospitals, schools, malls, underground parkings, tunnels etc.

MULTIPLEX CINEMA
TORINO
ITALY

ST. THERESA VILLA
BAGHERIA (PA)
ITALY

CIRCONVALLAZIONE NORD TUNNEL LINING
ROME
ITALY

AIRPORT
BARI
ITALY

JUVENTUS STADIUM
TORINO
ITALY

POST OFFICE
CATANIA
ITALY

MASERATI FACTORY
MODENA
ITALY

NATIONAL CAR RENTAL
TOCUMEN
PANAMA

MIOVENI HOSPITAL
ROMANIA

THE USE OF PROTHERM LIGHT® IS CONFIRMED BY THE EOTA CERTIFICATE

ADVANTAGES OF USING PROTHERM LIGHT®

We are convinced that PROTHERM LIGHT® is the best solution for use with materials such as concrete, brick, metal and others. The special type of chemical composition and the patented production technology of this material make this product completely new and indispensable in use.

- Available colour: grey and white.
- Fireproofing protective system, specifically designed to improve the passive fire resistance of structural elements made of steel, brick, normal and pre-stressed reinforced concrete and on buildings for civil and industrial uses both internally or externally.
- For indoor and outdoor use.

STEEL EXAMPLE

	PROTHERM **LIGHT®** **(300 KG/M^3)**	GENERAL CONCURRENT (DENSITY 500 KG/M^3)
STEEL DECK 7000 M^2		
	STEEL DECK 7000 M^2	**STEEL DECK 7000 M^2**
Thickness required	☺ 22 mm	☹ 34 mm
Total amount	☺ **46.200 kg**	☹ **119.000 kg**
Coating passage	☺ 1	☹ 3
Cost to delivery on site	☺ Little	☹ Big

STEEL BEAMS 18000 M^2		
	STEEL BEAMS 7000 M^2	**STEEL BEAMS 7000 M^2**
Thickness required	☺ 30 mm	☹ 36 mm
Total amount	☺ **162.000 kg**	☹ **324.000 kg**
Coating passage	☺ 2	☹ 3
Cost to delivery on site	☺ Little	☹ Big

CONCRETE EXAMPLE

SURFACE 45000 M^2		
	CONCRETE DECK 7000 M^2	**CONCRETE DECK 7000 M^2**
Thickness required	☺ 10 mm	☹ 20 mm
Total amount	☺ **135.000 kg**	☹ **450.000 kg**
Coating passage	☺ 1	☹ 2
Cost to delivery on site	☺ Little	☹ Big

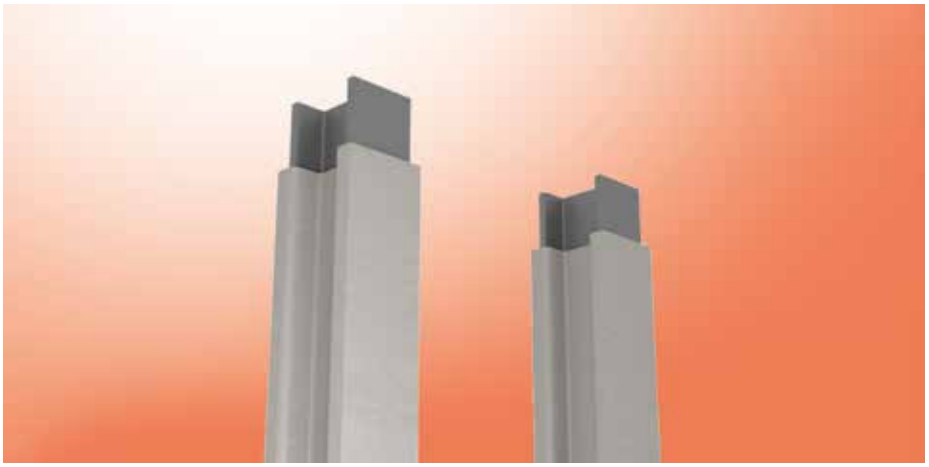
TABLES FOR 4-SIDED COLUMNS AND BEAMS

PROTHERM LIGHT® guarantees the required level of fire resistance when used on almost any type of material, which is confirmed by many years of experience, lots of examples and EOTA certification.

The level of fire resistance can also vary depending on the use with different materials.

R 30 TO 240

STEEL BEAMS AND STEEL COLUMNS (4 SIDES FIRE EXPOSURE)



FIRE RESISTANCE 30 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	10	10	10	10
140	10	10	10	10
200	10	10	10	10
220	10	10	10	10
240	10	10	10	10
280	10	10	10	10
300	10	10	10	10
320	10	10	10	10
400	10	10		

FIRE RESISTANCE 60 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	19	16	20	20
140	19	15	19	19
200	18	10	19	18
220	16	10	18	16
240	14	10	18	14
280	12	10	18	11
300	10	10	16	10
320	10	10	13	10
400	10	10		

FIRE RESISTANCE 90 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	30	25	31	31
140	26	24	30	30
200	26	19	29	26
220	24	18	28	24
240	22	17	27	23
280	20	17	27	20
300	19	16	25	19
320	18	15	22	18
400	16	15		

FIRE RESISTANCE 120 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	39	34	41	41
140	38	32	39	40
200	35	27	38	35
220	33	26	37	33
240	31	25	37	31
280	29	25	35	29
300	28	24	34	27
320	26	23	31	26
400	24	22		

PROTHERM LIGHT®

R 30 TO 240

STEEL BEAMS AND STEEL COLUMNS (3 SIDES FIRE EXPOSURE)

FIRE RESITANCE 30 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	10	10	10	10
140	10	10	10	10
200	10	10	10	10
220	10	10	10	10
240	10	10	10	10
280	10	10	10	10
300	10	10	10	10
320	10	10	10	10
400	10	10		

FIRE RESITANCE 60 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	16	10	17	17
140	16	10	17	17
200	10	10	16	12
220	10	10	15	10
240	10	10	14	10
280	10	10	12	10
300	10	10	10	10
320	10	10	10	10
400	10	10		

FIRE RESITANCE 90 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	25	17	27	27
140	24	15	25	26
200	18	13	25	20
220	16	12	23	17
240	14	12	23	16
280	13	12	21	14
300	13	12	18	13
320	12	12	14	13
400	12	11		

FIRE RESITANCE 120 MIN (Design Temperature 500 °C)

	HEA	HEB	IPE	IPN
120	33	26	37	37
140	32	24	35	35
200	27	20	33	29
220	25	20	32	26
240	23	20	31	25
280	22	19	29	22
300	21	19	27	21
320	20	18	23	20
400	19	18		

CORRUGATED SHEET EXAMPLE

	R30	R60	R90	R120
Thickness (mm)	10	10	16	22

PROTHERM LIGHT®

- Application on solid reinforced concrete elements
- Protective thickness of flat slabs or load-bearing walls between 10 and 50 mm
- Protection thickness of rectangular beams between 9 and 49 mm
- Application on unformed concrete structures poured with mineral oil or emulsion type form release agents without primer
- Application on flat slabs, rectangular beams, walls exposed on one side only
- Width of rectangular beams greater than or equal to 150 mm and minimum section of 675 cm^2.

SLAB

CONCRETE SLAB FIRE RESITANCE				
SLAB THICKNESS 12 CM – ANY CONCRETE COVER – DESIGN TEMPERATURE 500°C				
R60	**R90**	**R120**	**R180**	**R240**
10	10	10	10	18

CONCRETE BEAMS AND CONCRETE COLUMNS

CONCRETE COLUMNS AND BEAMS – DESIGN TEMPERATURE 500°C			
Concrete cover (mm)	**R60**	**R90**	**R120**
10	9	9	19
20	9	9	16
30	9	9	14

REI 30 TO 120

WOOD SOLUTION

FIRE RESISTANCE UNTIL 180	
GALVANIZED STEEL MESH	
Thickness (mm)	35

SLAB

	R30	**R60**	**R90**	**R120**
Prothem Light Thickness (mm)	10	10	16	22

PROTHERM LIGHT®
HAD BEEN USING AT:

PHILIPS TOWER
CENTER OF BRUSSELS

SURFACE:
45.000 m²
Renovation of
concrete structure

THE LOUISE TOWER IN BRUSSELS
PROJECT NAME "THE LOUISE"

SURFACE:
16.000 m²
Renovation of concrete
(concrete renovation)

TOUR VICTORIA
BRUXELLES

SURFACE:
25.000 m²
Renovation of steel
(Steel renovation)

EDILTECO GROUP IS ALSO THE BRAND DEALING WITH THE PASSIVE FIRE PROTECTION OF STRUCTURES. THE GOAL IS TO DEVELOP PRODUCTS AND TOOLS FOR THE CONSTRUCTION OF SAFE BUILDINGS.

Edilteco's productsDivisons are:

- **THERMAL** – Insulation & Chemicals Divisionfor thermal insulation, renovation and dehumidification;
- **DBRED** – Noise Reduction Division focused on acoustic insulation and correction;
- **PROTHERM LIGHT** – Fireproofing Division for fire protection;
- **EDILTECO GREEN** – EPS 2.0, the new range of CAM certified products, containing up to 90% of recycled material (regranulated EPS).

Edilteco S.p.A. Via dell'Industria, 710 . 41038
San Felice sul Panaro (MO) Italy
Ph. +39 0535 82161 . Fax +39 0535 82970
www.edilteco.com | info@edilteco.com

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