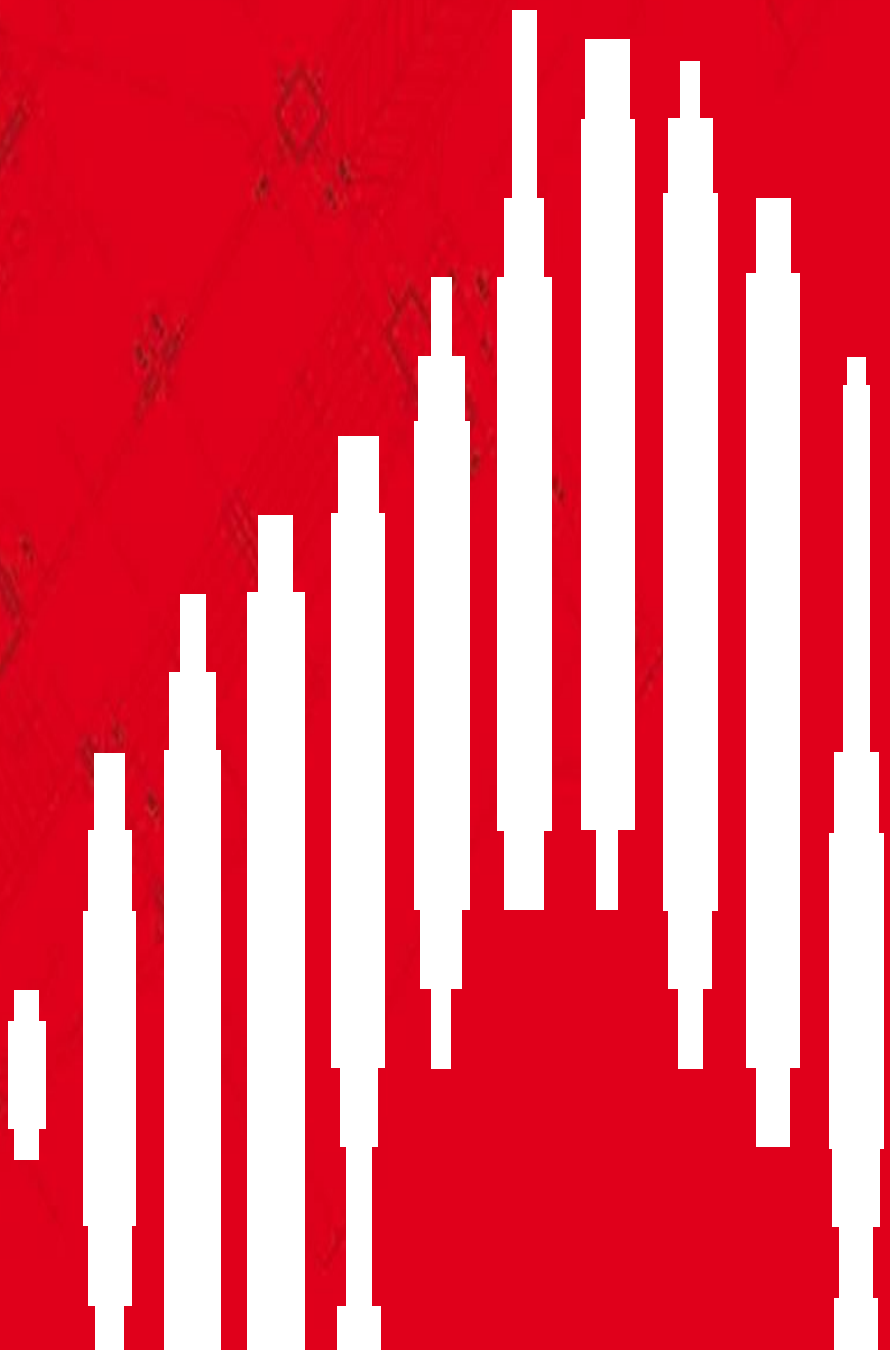
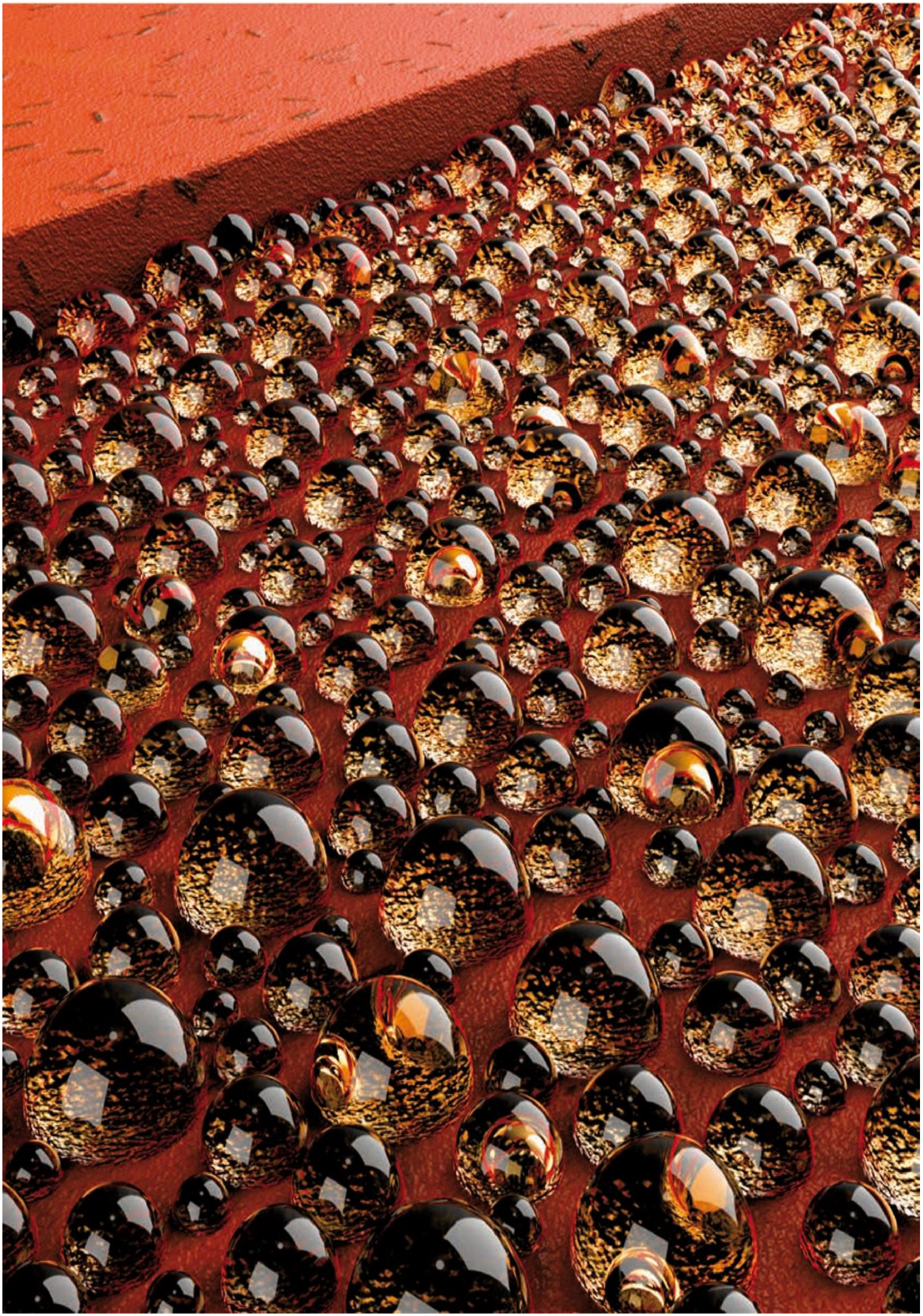
FIPRON





FIPRON

INNOVATIVE TECHNOLOGY FOR FIRE SUPPRESSION

A device of various size made in a form of a sticker or a cord, using FIPRON™ technology will remain in a "stand-by mode" for five years and once the fire occurs it will automatically activate to suppress it in the place where it is installed, therefore will extinguish the fire and will not allow it to spread further.

Today various composite materials have been created by FIPRON™ technology capable of suppressing fire. The structure of such materials include microcapsules with ecologically safe fire retardant agent confided within each capsule. When the activation temperature is reached, the microcapsule shell bursts and the fire suppressing agent is released.

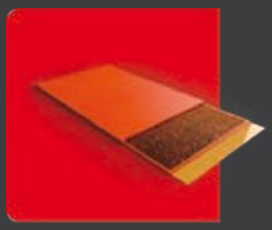
FIPRON™ products serve as an additional layer of security to the existing fire extinguishing systems, providing protection to electrical panels and electrical equipment acting similar in part to what the car airbags have done to the safety of drivers and passengers in the automotive industry. FIPRON™ products are easily installed into any electrical box or outlet of any type located in buildings, automobiles, busses, trains, and anywhere where there are electrical wires exist.

FIPRON™ Cord and FIPRON™ Stickers will extinguish fires of classes A, B, and E.

MICROCAPSULES

The technology of microencapsulation is well known and widely used in many industries, however, FIPRON™ technology is the first ever example of microencapsulation technique applied in the field of fire suppression. Inside of FIPRON based products there are tens of thousands of microcapsules that store environment friendly fire suppressing agent and ensure fire suppression when the temperature they are designed for is reached. Polymeric shell of microcapsules retains fire retardant compound in working order for five years after installation and erupts only at a certain temperature, thereby releasing fire suppression agent and making each individual microcapsule a stand-along micro fire suppression device.

FIPRON



FIPRON™ Sticker is a miniature self-contained, automatic local fire suppression product, designed with application of FIPRON™ technologies. It may be used as a protection against fires in electrical sockets, distribution boxes, and power distribution panels.

FIPRON™ Cord is elastic variable length self-contained, automatic local fire suppression product, designed with application of FIPRON™ technologies. It may be used as a protection against fires in a medium to a large size distribution boxes and electrical panels.

COMPOSITE MATERIALS

FIPRON™ technology allows creation of highly effective multipurpose standalone fire extinguishing compounds and materials. Fire extinguishing paints, powders, foams, adhesive elastic plates and tapes, solid and plastic multilayer composites made using FIPRON™ diverse technologies may be applied in many industries to suppress fire at source. Any product or a composite material created with FIPRON™ technologies represents a breakthrough in fire suppression industry and is environmentally friendly.

FIPRON


FIPRON
STICKER
Plaka Tipi Yangın Söndürücü
FIPRON
STICKER
Plaka Tipi Yangın Söndürücü
15
25
P
TSEK


A
ORDINARY COMBUSITBLES
B
FLAMMABLE LIQUIDS
E
ELECTRICAL EQUIPMENT

FIPRON™ ADVANTAGES

- Innovative technology
- Does not require a power supply
- Suppresses fires of classes A, B, and E
- Protects equipment by suppressing fire at source
- Fully autonomous and no maintenance is required for five years

- Flexible in size and easy of installation allows for FIPRON™ Cord and FIPRON™ Sticker to be installed in hard to reach places
- Wide range of operating temperatures from -50 ^{o}C to +80 ^{o} C and humidity of up to 90%
- Easy installation due to its form and does not require alterations to the existing equipment

FIPRON STICKER

P

30 x 30 mm
Up to 0.3 liters

FIPRON™ STICKER P is a plate type fire suppressing product, intended to protect against fires in a confined space of up to 0.03 liters of electrical boxes, switches, wall sockets having a rating IP20 or higher. It should be installed inside of a protected socket or connector above where a potential short circuit, overheating, spark formation, or fire may occur.

Activation temperature 120 °C
Accepted humidity up to 90%
Working temperature -50 °C to +80 °C

Warranty period is 5 years after

15

45 x 85 mm
Up to 15 liters

25

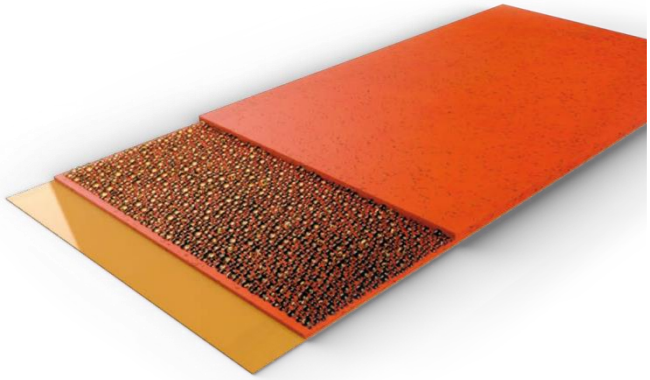
65 x 110 mm
Up to 25 liters

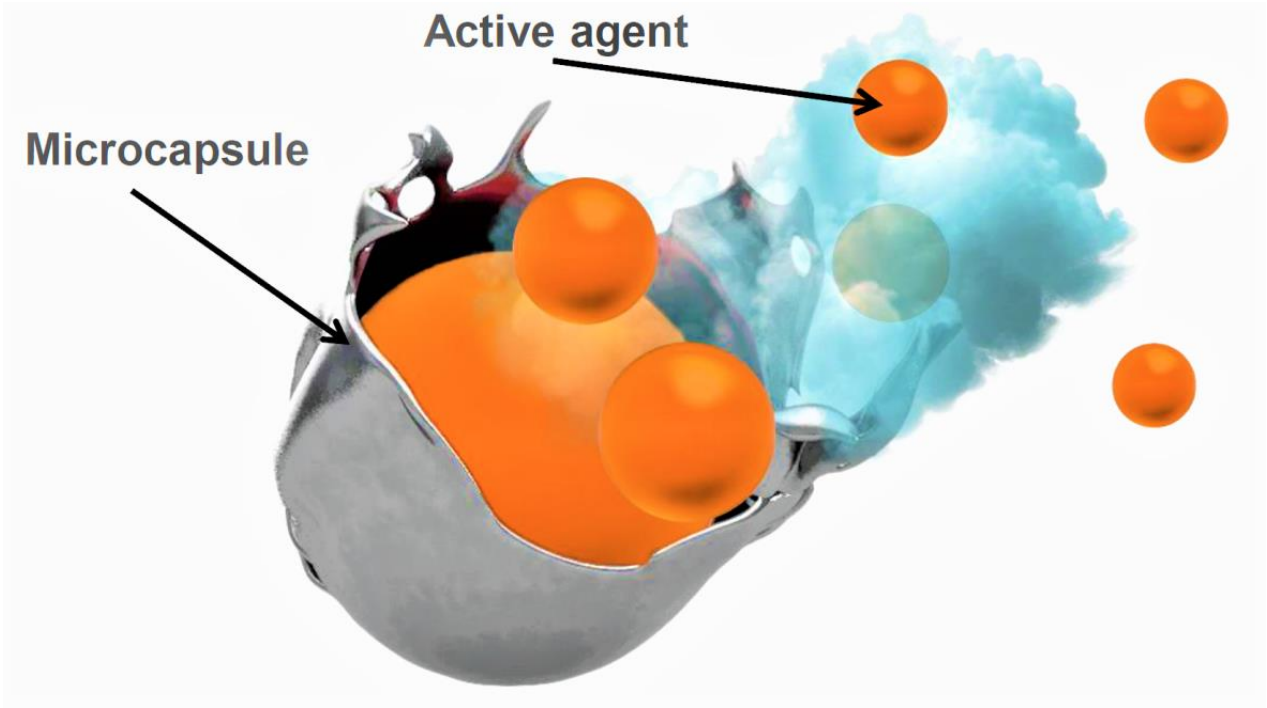
FIPRON™ STICKER 15 and 25 is a plate type fire suppressing product, intended to protect against fires in a confined spaces of electrical boxes having a rating IP20 or higher. FIPRON™ STICKER 15 will protect electrical box having a total volume of up to 15 liters and FIPRON™ STICKER 25 will protect electrical box having a total volume of up to 25 liters.

FIPRON™ STICKER 15 and 25 should be installed inside of a protected electrical box above where a potential short circuit, overheating, spark formation, or fire may occur.

Activation temperature 120 °C
Accepted humidity up to 90%
Working temperature range -50 °C to +80 °C

Warranty period is 5 years after installation





FIPRON™ STICKER is an autonomous fire suppressing product which contains a thermally activated microencapsulated fire suppression agent FIPRON™. It is a fundamentally new solution designed specifically to protect from fire occurrences in electrical sockets, connectors, and electrical boxes having a rating IP20 or higher and a volume ranging from 0.03 to 25 liters.

FIPRON™ STICKER operates as an intelligent and autonomous fire suppression system and automatically activates at 120 ^{o}C at which point microcapsules burst and release fire suppressing agent FIPRON™ to extinguish a fire.

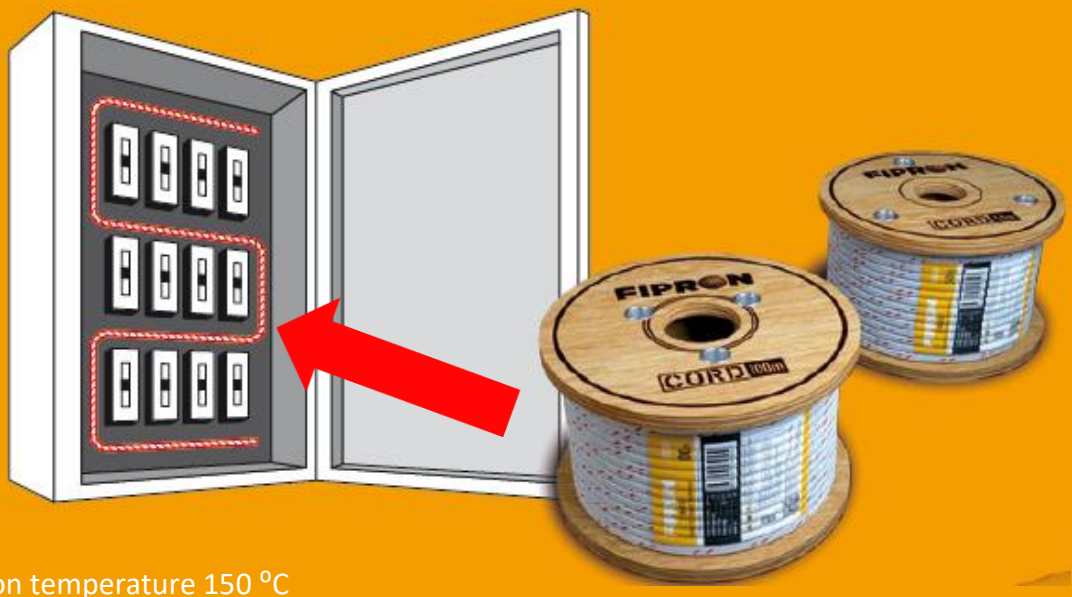
FIPRON™ STICKERS are flexible, easily installed in confined spaces, have different bending radius, lightweight and can be used in a temperature range between -50 ^{o}C to +80 ^{o}C.

The contents of the microcapsules are a gas extinguishing agent 3M™ Novec™ 1230 FIRE PROTECTION FLUID (FK-5-1-12; CF3CF2C(O)CF(CF3)2; 1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-3-pentanone), which does not contain ozone-depleting substances.

FIPRON CORD

CORD MS	**1 meter protects Volume of up to 50 liters** **Recommended for use in volume of up to 200 liters**
CORD 1	**1 meter protects Volume of up to 100 liters** **Recommended for use in volume of up to 400 liters**
CORD 2	**1 meter protects Volume of up to 200 liters** **Recommended for use in volume of up to 800 liters**
CORD 3	**1 meter protects Volume of up to 300 liters** **Recommended for use in volume of up to 1,200 liters**

FIPRON™ CORD is a flexible cord used as a fire suppressing product, intended to protect against fires in a confined spaces of electrical boxes having a rating IP20 or higher. FIPRON™ CORD should be installed inside of a protected electrical box above where a potential short circuit, overheating, spark formation, or fire may occur.

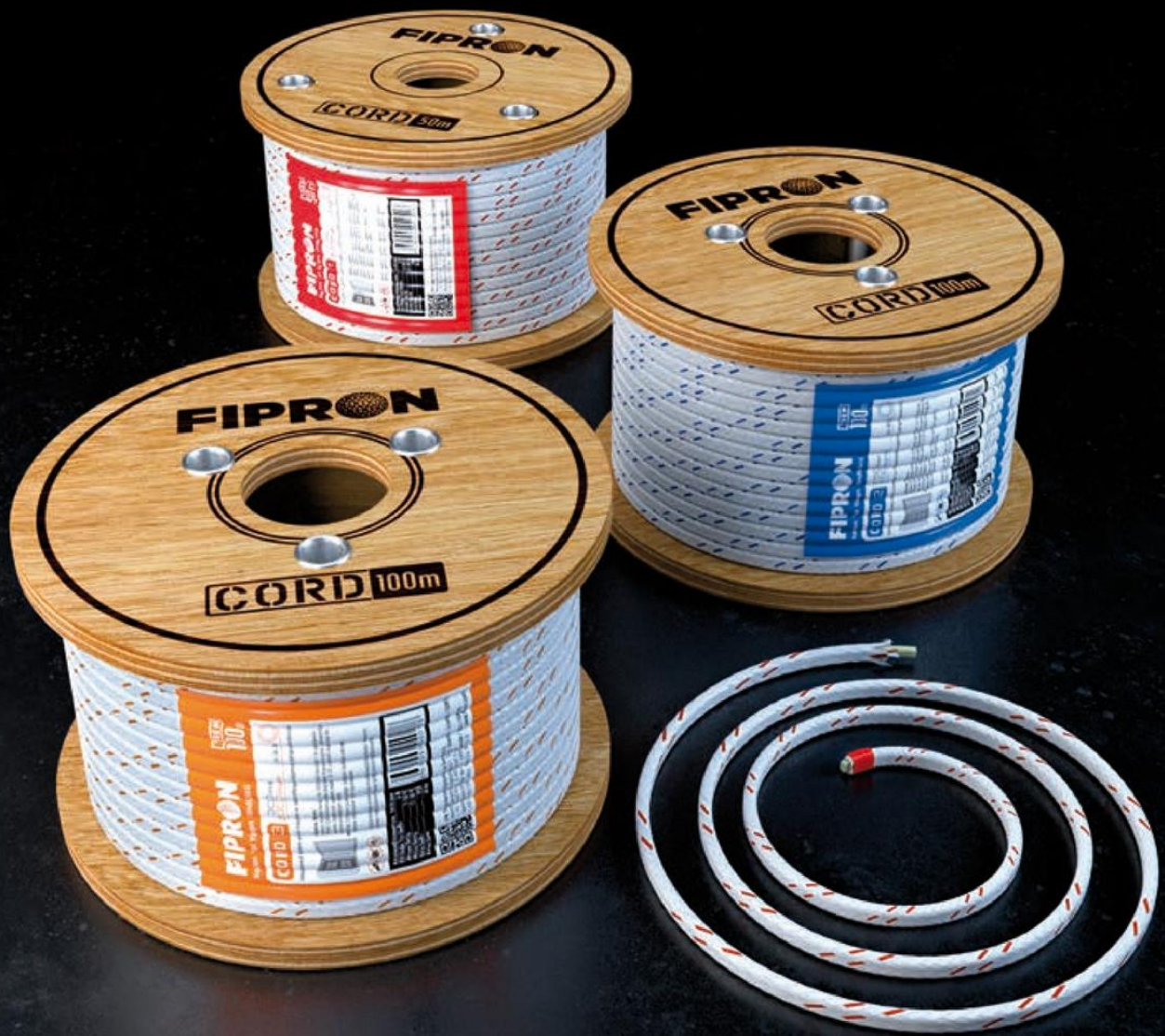


Activation temperature 150 °C
Accepted humidity up to 90%
Working temperature range -50 °C to +80 °C

Warranty periods is 5 years after installation

FIPRON™ CORD extinguishes inflammation source at early stages of fire, prevents distribution of fire beyond limits of a protected space, and excludes repeated ignition in the protected volume for over 30 minutes. Due to its elasticity it is simple in installation, does not require power source, and remains in standby mode for over five years without any maintenance.

FIPRON™ CORD is enclosed in a high temperature resistant gas permeable mesh to ensure its mechanical strength, maintain elasticity and integrity, while allowing for the active ingredients to be released throughout its length at activation.



FIPRON™ CORD is safe for the environment and does not deplete ozone layer.

All FIPRON™ products have unlimited scope of use because they can be applied to any area or place where there is an electrical interconnection. Being miniature in size and ranging from FIPRON™ STICKERS to FIPRON™ CORD allows protecting large areas. FIPRON™ products may be installed in wall sockets, electrical panels, control boards, server areas, computer work-stations, televisions, refrigerators, and many other consumer products. FIPRON™ CORD can easily be installed in small, medium, and large electrical boxes which do not have any other alternative for fire suppression. The installation process is very easy and does not require any alteration to the existing electrical equipment or hosing, thereby making it the most cost effective new security addition to the existing fire extinguishing systems.

Commercial uses are virtually unlimited, due to their vast electrical wire networks. Public places like schools, universities, hospitals, shopping centers, museums, warehouses, manufacturing areas, and large residential and office buildings will be secured to the greater extent with the use of FIPRON™ products.

FIPRON products are creating an additional industry in fire protection sector. FIPRON™ products do not compete with existing fire extinguishing systems and create an additional security by addressing fire risks at their potential source. FIPRON™ products work locally, autonomously, do not require a power source, and minimize damage to the equipment it is protecting, as opposed to the traditional fire extinguishers. Automotive industry, petroleum industry, gas stations, subways, buses, and electrical power generation companies will all benefit from the use of FIPRON™ products and potentially will be able to cause the reduction of fire hazard insurance.

FIPRON






SCOPE OF APPLICATION


BUILDINGS

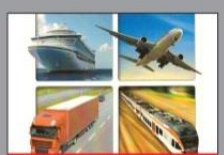

HOUSES


FACTORIES


SERVERS


SOCKETS


SWITCHBOARDS


TRANSPORTS


UNDERGROUND