



# **FIRE DESTROYER**

## **ZERO FIRE**

**YOUR CONCERNS, OUR SOLUTION**

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## **ABOUT THE COMPANY:**

Germa trade d.o.o. consists of a team of young and ambitious people aware of the issue of fire safety. We focus on solutions related to active fire protection. In collaboration with our business partner, we have developed a modern type of automatic fire extinguishing devices intended for fire departments, industry, transport and the civilian population. Germa trade d.o.o. has internationally protected the development of its products under the FIRE DESTROYER trademark. To test our products, we have provided future users with a test site at the company's headquarters, where we can present and demonstrate the operation of automatic fire extinguishers in more detail.

## **VISION AND MISSION**

With FIRE DESTROYER products, we want to ensure active fire safety for both people and property. The company's vision and mission is to become the leading company in Europe in the field of active fire protection with the FIRE DESTROYER trademark. We are committed to constant development of our products and to introduce our products to as many users as possible.

## WHAT ARE FIRE DESTROYER EXTINGUISHERS?

FIRE DESTROYER automatic fire extinguishers are a new type of active fire protection for extinguishing various types of fires. It is primarily intended for situations where no one is present at the scene of the fire or when people at the scene cannot use fire extinguishers. Compared to a conventional fire extinguisher, an automatic fire extinguisher is automatically activated when it comes into contact with a flame, releasing the extinguishing agent in the form of powder, which creates the appropriate extinguishing effect. To ensure optimal use, the location of installation of the fire extinguisher is therefore a very important factor.

The product represents active fire protection. When a flame is detected, FIRE DESTROYER products activate automatically and extinguish the fire before it can cause major property damage or endanger lives.

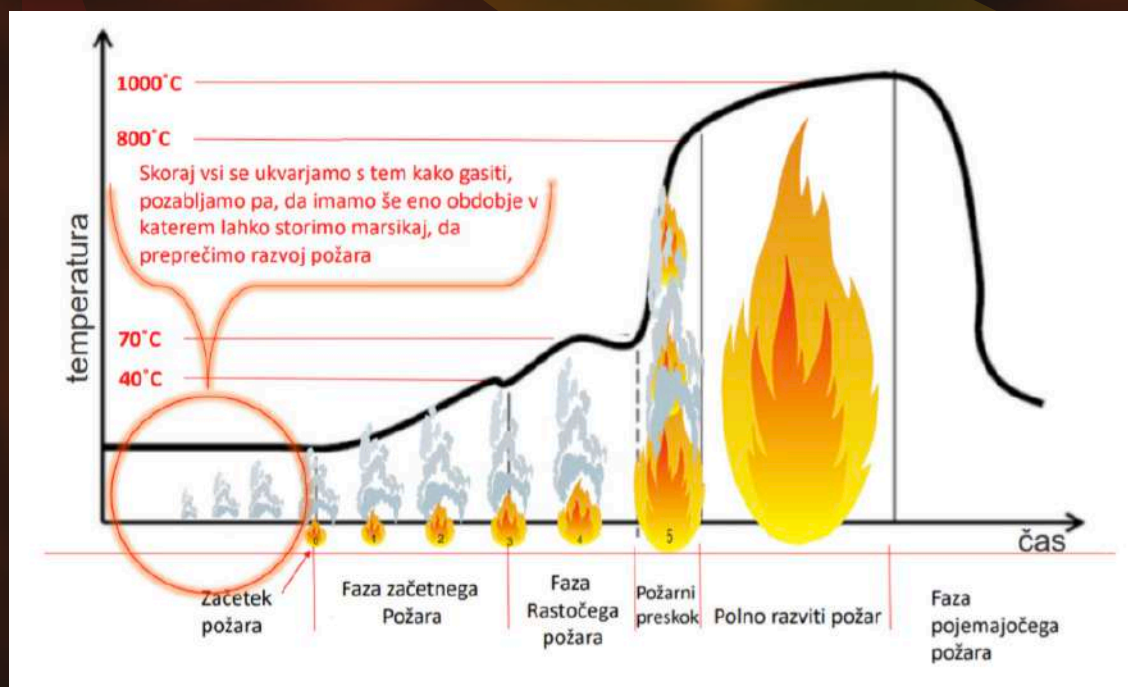
With this approach, you do not need to be present when the fire breaks out. You only need to make sure that you strategically place the FIRE DESTROYER products to get the best extinguishing results.

FIRE DESTROYER automatic fire extinguishers are cost-effective active fire protection that does not require any additional investments in the construction of installations or any other spatial interventions.

## How does the FIRE DESTROYER extinguisher work?

When a flame comes into contact with the device, the fuses surrounding it ignite in a few seconds, and the reaction in the device is automatically triggered. The extinguishing agents in the form of a dry substance is dispersed throughout the area and extinguishes the fire. Fire extinguishers effectively cover an area of 1 to 12 cubic meters, depending on the size of the device used.

**FIRE DESTROYER ensures your peace of mind in the event of fire hazard. By using FIRE DESTROYER products, you can save your business, your property or even lives.**





# FIRE DESTROYER BALL – Prepared for the unexpected

The FIRE DESTROYER BALL is an excellent active fire protection intended for installation in:

- households (boiler room, attic, heat pump room, garage, above the electrical cabinet, etc.);
- industrial plants (welding, grinding, plants with chemical products, above machines in production plants, in tunnels with electrical wiring, warehouses, transformer stations);
- business premises (data cabinets, computers, kitchenettes, etc.);
- agriculture (barns, sheds with agricultural machinery, stables, etc.).

## Installation:

Install the FIRE DESTROYER BALL near a potential source of fire or above higher-value objects. It can be hung from the ceiling, attached to the wall, or simply placed on a flat surface.

## Technical specifications of FIRE DESTROYER BALL:

- Extinguishing agent: powder, harmless to human health and the environment (NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>).
  - Effective for fire classes: A, B, C, E, F.
  - Upon contact with fire, the mechanism will be activated within 3–5 seconds, dispersing the extinguishing agent in the form of powder throughout the room.
  - Ball dimensions range from 150 to 236 mm in diameter and from 1.3 kg to 6 kg in weight.
- |         |         |         |           |        |
|---------|---------|---------|-----------|--------|
| TYPE 1: | weight: | 1.3 kg; | diameter: | 150 mm |
| TYPE 2: | weight: | 2.8 kg; | diameter: | 186 mm |
| TYPE 3: | weight: | 6 kg;   | diameter: | 236 mm |
- The volume of the extinguishing agent in the ball is sufficient for 1 m<sup>3</sup> to 12 m<sup>3</sup>.
  - The fire extinguishing ball is additionally protected with an anti-moisture covering film, so it can be exposed to milder moisture effects.
  - The fire extinguishing ball has a service life of five years and does not require additional maintenance.
  - The sound upon activation reaches up to 120 dB.



# FIRE DESTROYER DISC – Carefree on your journey!

The FIRE DESTROYER DISC product is suitable for installation in the engine area of vehicles and vessels. Because of its shape and ease of installation, it is a very simple solution to prevent major fires. When the flame comes into contact with the DISC, it automatically activates, dispersing the extinguishing agent in the form of powder and extinguishing the fire.



## Installation:

- engine area (trucks, buses, delivery vehicles, cars, agricultural machinery);
- machine rooms (ships and boats);
- narrow spaces where a fire can occur.

## About the product:

- Extinguishing agent: dry powder, harmless to human health and the environment (NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>).
- Reaction time: 3–5 seconds.
- The volume of the extinguishing agent in the FIRE DESTROYER DISC is sufficient for up to 1 m<sup>3</sup>.
- Effective for fire classes: A, B, C, E, F.
- The FIRE DESTROYER DISK has a service life of three years and does not require additional maintenance during this time.
- Dimensions: weight 800 g, diameter 130 mm\*, height 55 mm.
- Estimated installation time is 15 minutes.

## The most common causes of fire are:

- overheating engine;
- deterioration or fault in electrical installations;
- damage to installations due to rodents;
- deterioration or damage on the engine fuel supply;
- heating device (truck at a standstill).

# FIRE DESTROYER STICKER

## – Small and accessible everywhere!

Because of its shape and size, the FIRE DESTROYER sticker is intended for installation in extremely narrow spaces in buildings. The common point of every building is the electrical cabinet, which represents the «heart of electrical installations» inside the building. Due to the increasing dependence on electronic devices, we are consuming more and more electricity, which often overloads the capacity of the power supply network and installations within buildings. With the FIRE DESTROYER STICKER, we can actively protect our power supply network from fire.

### Installation:

Simply stick the FIRE DESTROYER STICKER on a flat surface and it's ready for extinguishing potential fires. Upon contact with fire, the mechanism activates within 3–5 seconds, dispersing the extinguishing agent throughout the room. With the FIRE DESTROYER STICKER, we ensure active fire safety in narrower area that are more difficult to access, where there is a potential fire hazard. Due to product dimensions and the capacity of the extinguishing agent, it is suitable for rooms up to 1 m<sup>3</sup>.

It is suitable for installation in electrical, control and switch cabinets, next to batteries, amplifiers, computers, etc.

### About the product:

- The extinguishing agent is friendly to health and the environment. Reaction time: 3–5 seconds.
- Effective for fire classes: A, B, C, E, F.
- Dimensions: From the smallest 90 mm x 80 mm to the largest 305 mm x 90 mm.
- Extinguishing volume up to 1 m<sup>3</sup>.

### Causes of fire:

- old, deteriorated fuses;
- unprofessional connection;
- network overload;
- poor quality of materials;
- overheating;
- contamination;
- mechanical damage;
- damage due to rodents.





# Advantages of the FIRE DESTROYER automatic extinguishers:

**1. Light and portable:** from 90 g to 6 kg.

**2. Simple handling:**

- **The BALL** is simply thrown into the fire or placed in a location with a fire hazard.

- **The STICKER** is attached to an exposed location with limited access.

- **The DISC** is intended for vehicles and vessels, and can be simply placed next to the engine or in another dedicated area, thereby protecting your property and lives in the event of a fire.

**3. Responsiveness:** The activation time of the FIRE DESTROYER mechanism from contact with the flame is 3–5 seconds.

**4. Alarm function:** Fire extinguishers installed in fire hazard areas will trigger when a fire occurs and cause a noise of up to 120 decibels.

**5. Safe and effective:** Because of its automatic operation, it automatically extinguishes a fire without the presence of people.

**6. Useful life:** 3–5 years (depending on the product), requiring no maintenance.

**7. Active fire protection:** It is on standby 24/7.

**8. Friendly to health and the environment:** The FIRE DESTROYER products is completely harmless to the environment and human health.

**9. Investments:** The FIRE DESTROYER active fire protection does not require any additional investments in the construction of installations or any other spatial interventions.

## Warning:

Do not expose the fire extinguisher to mechanical damage and water sources during the standby phase, so as not to damage the fire extinguisher mechanism.

## Instructions for maintenance of the FIRE DESTROYER dry-powder automatic fire extinguisher:

- In case of mechanical damage, you must promptly replace the fire extinguisher.

- During its useful life, it is not necessary to check the quality of the extinguishing agent.

- Fire extinguishers do not require maintenance and have a useful life of 3–5 years, depending on the product.

- Install the device 10–50 cm from a potential source of fire.

## FIRE CLASSES:

In the event of a fire, extinguishing is activated automatically with a quick response time for fire classes A/B/C/E/F.

- Class A – wood

- Class B – gases

- Class C – liquid soluble substances such as gasoline, oil, etc.

- Class E – electricity

- Class F – Cooking oil

## STANDARDS

**1. Compliance with standards GA 602-2013, CE, 2013/29/EU**

**2. SGS test, PONY test, ILand International Testing and Certification test**

**3. Patented protection**

**4. Internationally protected trademark**



COMPARISON OF FIRE EXTINGUISHING	FIRE DESTROYER	CLASSIC FIRE EXTINGUISHER	SPRINKLER SYSTEM
PRICE	✓	✓	✗
COST OF INSTALLATION	✓	✓	✗
MAINTENANCE	Does not require maintenance	Requires maintenance	Requires maintenance
TRAINING	Not required	Required	Not required
ANNUAL INSPECTION OF DEVICE	Not required	Required	Required
DEVICE PORTABILITY	✓	✓	✗
SELF-ACTIVATION	✓	✗	✓
EXTINGUISHING DISTANCE	Not required	Required distance from fire	Not required
SAFETY SIGNAL	✓	✗	✓
REACTION TIME	3-5 seconds from fire contact	Presence of a person	When smoke is detected or at 70 °C at the ampoule
WEIGHT	1,3 - 6 kg	1kg - 6 kg	Irrelevant information
CLEANING AFTER ACTIVATION	Dust removal with a vacuum cleaner	Depending on the extinguishing media	Drying of areas
ENVIRONMENTALLY SOUND	✓	✓	✓
GUARANTEE	5 years	1 year	1-5 years
REQUIRED INSTALLATION TIME	15 min	15 min	Lengthy process



Every year, countries of the European Union spend approximately 30.9 billion euros in total to fight fires. This amounts to approximately 0.5 percent of all public financial expenditures at the EU level.

The following statistical information applies to the Republic of Slovenia, a country in Central Europe with a population of approximately 2 million. Due to high-quality construction and electrical infrastructure, fire protection standards, and other preventive and control measures, Slovenia is one of the countries with the lowest number of fires on the global level, in terms of percentage of damage claims due to fires.

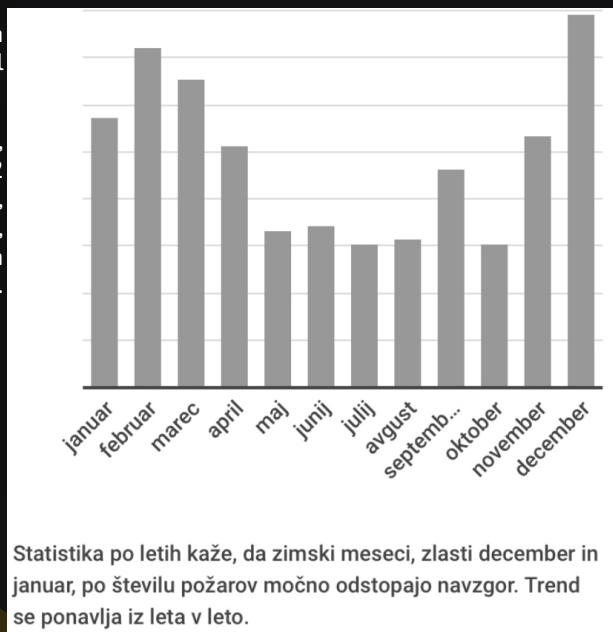
## STATISTICS:

- On average, 4,000 to 5,000 fires break out in Slovenia.
- 400 to 600 vehicles burn down.
- 45% of all fires occur in industry and 55% in private residential buildings.
- 200–350 people are injured in fires in Slovenia.
- On average, 10 people die in fires.

### Fires in residential premises

Statistics show that as many as 60% of fires in Slovenia occur in the home environment. Such fires are the most deadly, as a quarter of them occur between 10 pm and 6 am, when we are sleeping, and they cause as much as 70% of all fire-related deaths. »Among the important causes are: portable heaters (mainly from December to February), cigarette butts (cause 25% of fires with fatalities) and alcoholism (cause around 40% of fires with fatalities) ...«

»The most common causes of fires in the home environment are carelessness when using electrical (washing machines, dryers) and heating devices (electric pillows, heaters, irons, stoves), their deterioration, damaged and overloaded electrical wiring, sockets, extension cords, smoking in bed, unclean and poorly maintained chimneys and careless use of candles ...«



## Fires in industry

### An ignition source represents the presence of energy in a specific form:

- thermal energy (e.g. use of open fire);
- electrical energy (e.g. sparking when the phase and neutral conductors come into contact);
- mechanical energy (e.g. sparking from grinding metal);
- chemical energy (e.g. reaction of water with a lot of acid);
- biological energy (e.g. microbiological activity in hay).

### Causes of fires in industry:

- »hot work« in inappropriate places without a fire watch (e.g. use of open flame, welding, grinding, etc.) – a very common cause of fire in industry;
- natural phenomena (e.g. lightning, earthquake, wind, etc.);
- electrical energy (e.g. improper use of devices, short circuit, overloads, deteriorated electrical wiring, discharge of accumulated static electricity, etc.);
- construction deficiencies (e.g. deterioration of individual parts of the building or device, inadequate maintenance of machines and devices, improper use of facilities, etc.).



## Freight trucks

Burning trucks often have devastating consequences. Truck fires endanger both the driver and other road users. In addition to damage to the vehicle, there is also a great risk of damage to the cargo, which could be avoided in most cases.



## Vessels

The most common causes of fire in the ship superstructure are the use of open fire by the crew, smoking, fire in the galley, and overloading of electrical installations. Despite their training in the field of fire prevention, the crew often acts negligently. Improper removal of embers and too many electrical devices connected to distribution boards are the most common causes. On top of the superstructure is the ship's bridge. All navigational devices (rudder, radars, transmitters, drive controls, etc.) are also connected to additional backup power supply via batteries installed in the superstructure. This allows the devices to be used during a power outage before the backup power generator kicks in. There can be many of these batteries, as they have to power many devices. However, because the batteries are constantly powered, release of hydrogen may occur in the event of irregular inspections and maintenance, resulting in a fire or explosion.



The ship's engine room is the most critical place for a fire to occur. Such a fire can be compared to a fire in industrial processes. Many devices can cause a fire. In addition to large engines, the engine room also contains diesel electricity generators, turbines (gas, steam), fuel separators (purifiers), daily fuel tanks, lubricating oil tanks, air compressors and cooling systems, a large number of pumps driven by electric motors, a steam boiler, a warehouse for spare parts, a machining workshop and a few other devices. The most common fires are those involving flammable liquids and electrical installations.



## Cars

It is not common, but a car can also catch fire. The most common causes are faults in electrical wiring, deteriorated lines or seals, which can cause fuel to come in contact with the hot surface of the engine, and often also a combination of unfortunate circumstances in the event of a serious traffic accident, when the leaked fuel comes in contact with a spark. It often takes more than seven minutes for the fire fighters to arrive, at which point the fire has already fully developed.

Although electric car fires are very rare, they attract a lot of attention due to their intensity and the great effort required by fire fighters to contain them. Fire fighters use tens of thousands of litres of water, special foam or powder to extinguish electric cars, bury cars in sand, immerse them in improvised pools of water, or simply leave them burning as they can't put out the fire.

»The problem with electric vehicles is access to batteries. Batteries generate a lot of heat. Fire fighters often let an electric car that is on fire burn until it gets to the point where they can actually get to the batteries and spray water or extinguishing foam on the batteries themselves.«





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