



- 1 Fight the fire safely outside.
With a closed door there's minimal risk for flashover.
- 2 A small entrance hole and water jet
Prevents air entrainment.
- 3 Long range and small water droplets
High cooling effect by inversion.
- 4 Minimal water requirements
Low risk of water damage – save property.

coldcut™ cobra method

Safer Fire Fighting

Efficient Fire Fighting

Saving Environment

With regard to the work environment for rescue personnel in general, and indoors fire fighting with breathing apparatus in particular, there are few operations in working life that are subject to greater risk than indoors fire fighting. The work method of fire fighting with breathing apparatus involves serious risks as it subjects firefighting personnel to extreme stress. Personnel are subjected to both physical risks (such as intense heat, explosion, falling parts of buildings, sharp objects, and the risk of falling when the range of vision is reduced or is nonexistent) and also mental risks due to extremely stressful situations.

The coldcut™ cobra cutting extinguisher method, conducted from a safe position, of accessing and interrupting development of the fire by quickly penetrating through more or less all types of building materials and cooling the fire gases is at present the safest option available to Rescue Services. In order to reduce indoor fire fighting, the incident commander must always consider alternative methods to minimize risk exposure at the preliminary stage of the rescue action. The coldcut™ cobra cutting extinguisher method offers a safe and efficient alternative compared to traditional firefighting.

Combined methods, using coldcut™ cobra cutting extinguisher, thermo camera and positive pressure fans, provide greatly improve possibilities for the Incident Commander, instead of indoor firefighting with breathing apparatus.

The ability as far as possible to secure a safe work environment for rescue personnel should be paramount for all those concerned; everyone from the owner/proprietor of the object exposed to fire, via the head of the Rescue Service in the municipality and all the way to the individual fireman.

Safety advantages of the coldcut™ cobra cutting extinguisher

- Improvement of firefighter safety since the fire is attacked from a safe position outside a building/ construction, avoiding the risk of injury due to intense heat radiation and/or explosion of fire gases.
- Improvement of work environment for firefighters as a fire can be attacked from the outside, reducing the need to enter into hot and smoke-filled areas, involving the risk of toxic and carcinogenic substances affecting the skin and the lungs.

The coldcut™ cobra cutting extinguisher method

The coldcut™ cobra cutting extinguisher technique consists of a mixture of water and cutting agent (abrasive) being ejected through a special nozzle at high pressure (>250 bar @ pump) to efficiently cut through all known building and construction materials in short time.

The method facilitates attacking of fire and of fire gases from the outside of the fire location. The high water pressure results in very high velocity (>200 m/s) and dispersal into very small droplets.

When a roof, wall, door, casing, car body, hull, silo wall, or similar construction, has been penetrated, the cutting medium is shut off and only water is applied through the small size hole in the form of a very finely distributed mist.

Thanks to the small diameter of the penetration hole no oxygen is admitted to the fire area. This significantly boosts the firefighting effect in the area. The smaller the opening to the fire area, the more effectively will the temperature be reduced, as the mass of gas will be more easily made inert. The water vapour stays longer in the area and the temperature is reduced accordingly.

Practical actions with the cutting extinguisher also demonstrates that the higher the temperature in the fire area, the better the cooling and extinguishing effect will be.

Even though fire spreads through the roof construction during a fire in an attic or similar area, the Cutting Extinguisher is an efficient firefighting tool.

When the water droplets enter into the fire area, a highly effective extinguishing process begins, which can be said to consist of four different parts:

- cooling of the gas in the area around the fire
- cooling of fuel and potential pockets of fire
- reduction of the oxygen concentration
- absorption of the heat radiation

Generally, the evaporation of water is faster in relation to a greater available droplets area - many small drops provide a greater effective surface area of water. The higher the velocity of the droplets, the faster the cooling of the fire gases will be.



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Main advantages of the cobra™ cutting extinguisher

- Improvement of firefighter safety as the fire is combated from a safe position outside a building/construction whereby the risk of injury due to intense heat radiation and/or explosion of fire gases can be avoided.
- Improvement of firefighters working environment as a fire can be combated from the outside, reducing the need to enter into hot and smoke-filled areas involving the risks of carcinogenic substances affecting the skin and the lungs.
- Saving of time achieved by fast cutting extinguisher/inerting action at an early stage in a fire. The Incident Commander is provided with better conditions for planning and accomplishing the continued action, as cooling of fire gases can begin at an early stage of a fire.
- Enhanced options for the Incident Commander since a fire can now be combated using new methods. Combined action using Cutting Extinguishers, thermo cameras and positive pressure fans has proved to be very effective in the fighting of many fires. Better access to fire in closed constructions such as double floors, wall and roof, attics, ventilation ducts, and other with sections access.
- Considerable reduction in damage due to "surplus" water compared to using ordinary spray nozzles, as most of the droplets are vaporized by the fire. An ordinary spray nozzle of the Fogfighter type generates considerably bigger drops of water, which contribute to the resulting damage in buildings and objects subjected to fire.
- Large volumes of water is not only a problem of its own, but it also adds the risk of contaminating ground water as well as other bodies of water as the water transports hazardous substances from the fire to use less amount of water when putting out a fire is good for the environment. The ability to fight a fire faster also saves the environment from additional poisonous firegases.
- Small units can quickly begin qualified firefighting. In principle one person can handle the equipment, but normally a cutting extinguisher team should consist of one person operating the tool and one person who monitors the burning construction with the aid of a thermo camera. The equipment can be fitted on a small vehicle. The hose is narrow and reaches up to 300 meters at good power.

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