Fire Extinguisher Types Explained: Choosing, Siting and Maintaining Them

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Why Extinguisher Choice Matters

Using the wrong extinguisher on a fire can make things considerably worse rather than better. Water sprayed onto live electrical equipment risks electrocuting the user; water thrown onto a burning deep fat fryer causes a violent fireball as steam expands beneath the burning oil almost instantly. Under the Regulatory Reform (Fire Safety) Order 2005, which applies in England and Wales, the responsible person for a premises, usually the employer, owner or managing agent, must ensure that appropriate firefighting equipment is provided and kept in working order, and that nominated staff are trained to use it. A proper fire risk assessment is where this starts: it identifies the fire hazards present, the classes of fire those hazards create, and therefore which extinguishers are genuinely needed and where they should be sited.

Extinguisher provision is not a one-off decision made when a building first opens. As a premises changes use, so should its firefighting equipment. Converting a stockroom into a server room, or installing a small kitchen area for staff, should trigger a review of what is on the walls. Businesses across Leicestershire and the wider East Midlands often find, when a fire risk assessment is carried out, that extinguisher provision has not kept pace with how the building is actually being used, leaving gaps that nobody noticed until an assessor pointed them out.

The Fire Classes You Need to Recognise

Extinguishers are matched to classes of fire, and knowing the classes is the first step to understanding why one extinguisher suits a room and another does not:

- **Class A:** solid combustibles such as wood, paper, cardboard and textiles
- **Class B:** flammable liquids such as petrol, solvents, paints and thinners
- **Class C:** flammable gases, where most extinguishers are of limited use and isolating the supply matters more
- **Class D:** combustible metals, a specialist risk found mainly in certain manufacturing processes
- **Class F:** cooking oils and fats, relevant anywhere food is fried in quantity
- **Electrical risk:** not a class in its own right, but a hazard that rules out water-based and foam extinguishers unless specifically rated for use near live equipment

The Main Extinguisher Types

Water (red label)

The workhorse for Class A fires in offices, schools, shops and warehouses full of ordinary combustibles. It is simple, cheap and effective on the fires it is designed for, but it must never be used on electrical equipment, flammable liquids or cooking oils.

Foam (cream label)

Covers Class A and Class B fires, making it a sensible general choice where flammable liquids are stored or handled alongside ordinary combustible materials. Many modern foam units are tested for low electrical conductivity if accidentally discharged near equipment, but they are not a substitute for a proper electrical extinguisher and should not be chosen for that purpose.

Carbon dioxide, CO2 (black label)

The standard choice for electrical risks such as server rooms, switchgear, workshops and offices full of IT equipment. CO2 leaves no residue, which protects sensitive equipment, but the discharge horn becomes extremely cold during use, so operators should hold the handle only, and the room should be ventilated afterwards since CO2 displaces oxygen.

Dry powder (blue label)

Multi-purpose ABC powder is effective across Class A, B and C fires and is commonly fitted in vehicles, plant and outdoor or semi-open settings such as loading bays. Indoors it creates a dense cloud that obscures escape routes and is unpleasant and harmful to breathe, so it is generally the wrong choice for enclosed offices, shops or welfare areas. Sites in warehousing and logistics often need both powder, for vehicles and yard areas, and water or CO2 for the warehouse interior.

Wet chemical (yellow label)

Purpose-built for Class F cooking oil fires in commercial kitchens. It cools the burning oil rapidly and forms a soapy layer across the surface that seals in vapours and prevents reignition. Any premises with deep fat fryers, including pubs, restaurants, schools and care homes with their own kitchens, should have a wet chemical extinguisher close to the cooking line, alongside a fire blanket.

Siting: Where Extinguishers Should Go

Correct siting matters as much as correct type. Extinguishers that are present but poorly placed get ignored in an emergency, or worse, force someone to walk towards a fire rather than away from it. Good practice looks like this:

- Positioned on escape routes and near exits, so the user always has a clear way out behind them
- Sited next to specific hazards, such as a wet chemical unit by the fryers or a CO2 unit by the server cabinet
- Fixed on brackets or stands at a consistent height, never left loose on the floor or hidden behind stock or furniture
- Clearly signed, particularly in larger or more complex buildings where the extinguisher itself is not immediately visible
- Close enough that nobody has to travel more than around 30 metres to reach an extinguisher suitable for a Class A fire, with shorter distances for higher-risk areas

Checks, Servicing and Records

Good practice, set out in BS 5306-3, splits extinguisher maintenance into regular checks and periodic servicing, and the responsible person needs both in place. A monthly visual check, which can be done by a trained member of staff rather than an engineer, confirms the extinguisher is in its correct location, unobstructed, showing the correct pressure gauge reading, with its pin and tamper seal intact and no obvious damage or corrosion. This takes minutes per extinguisher and should be logged, even briefly, so there is a record showing the check happened.

On top of that, a competent extinguisher engineer should carry out a full annual service on every unit, and certain extinguisher types need more involved work at longer intervals, such as an extended service, with replacement or testing after a set number of years depending on the manufacturer and type. The service engineer should leave a tag or certificate on each extinguisher recording the date and what was done, and these records should be kept centrally as well, alongside the fire risk assessment, so they can be produced if a fire authority or insurer asks for them.

Responsibility for all of this sits with the responsible person under the Regulatory Reform (Fire Safety) Order 2005, though in practice it is usually delegated to a facilities manager, office manager or nominated fire warden. Whoever holds it should be named, know the monthly check is due, and know who to call when the annual service is due. This is exactly the kind of gap that shows up

during a wider health and safety audit of a site.

Common Mistakes We See on Site

Several issues come up repeatedly when extinguisher provision is reviewed. Being aware of them helps avoid an unpleasant surprise during an inspection or, worse, during an actual fire:

- Powder extinguishers fitted indoors in offices or shops, left over from an old vehicle or workshop stock, where a water or CO2 unit would be far more appropriate
- No wet chemical extinguisher near a kitchen that has quietly acquired a fryer since the last review
- Extinguishers obscured by stacked stock, coat racks or furniture, especially in schools and other busy buildings where storage pressure builds up over time
- Monthly checks not happening, or happening but never recorded anywhere
- An extinguisher used during a minor incident and never reported, refilled or replaced
- Staff who have never actually handled an extinguisher and would be guessing under pressure

People, Not Just Equipment

An extinguisher is only useful in the hands of someone who understands when to fight a small, contained fire and, just as importantly, when to abandon the attempt and get everyone out. That judgement is what fire awareness training helps to build, and it is not something staff can reliably pick up from a laminated notice on the wall.

Integral Safety is an IOSH approved training provider and runs Fire Awareness training for staff, alongside fire risk assessments for businesses across Coalville, Leicester and the wider East Midlands. If your extinguisher provision has not been reviewed recently, or your team needs fire awareness training, contact us to arrange either.

Talk to Integral Safety Ltd

We are health and safety consultants based in Coalville, Leicestershire, working with businesses across the East Midlands. If anything in this guide applies to your workplace, we can help.

Phone	01530 382 150 or 01664 400 450
Email	info@integralsafetyltd.co.uk
Website	integralsafetyltd.co.uk

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