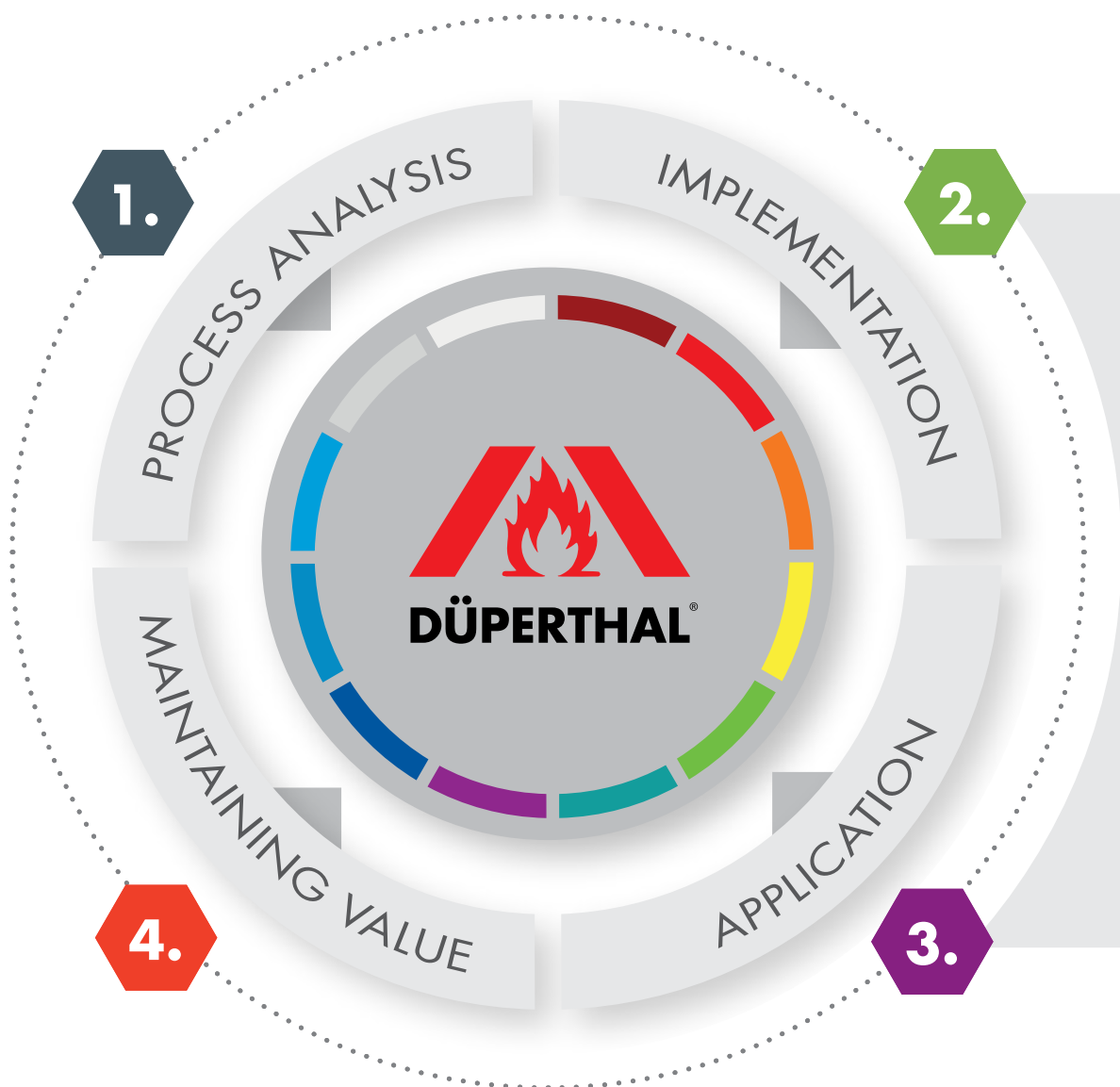
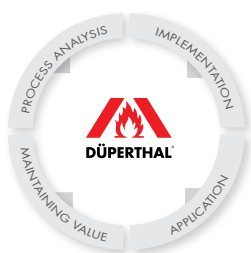


From the process to realisation: We go with you

We offer products and service for every requirement

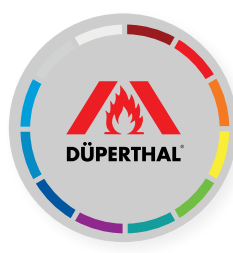
DÜPERTHAL offers system solutions for process-optimised storage of chemicals and hazardous substances. for scientific research, development and production. Our goal is to always fulfil your individual requirements with customised solutions. This is why you can expect not only outstanding certified products from us, but also outstanding full service.





Services throughout the process

One of our distinctive features is our profound knowledge of our customers' processes. For more than 40 years, we have stood by you as an active companion and consultant: from the analysis of your individual requirements, to the planning and implementation of the optimal solution, through to permanent maintenance.



Innovative products for every situation

Our product portfolio for the storage, use and disposal of chemicals and hazardous substances is as diverse as the requirements for their handling. In addition to high-quality, certified safety storage cabinets, we offer a variety of fitting options and accompanying products for every need, however specific.



Technical added advantages

- » Safety storage cabinets and accompanying products for every application
- » More occupational safety and environmental protection through maximum fire protection.
- » Maximum comfort during use and operation

Economic added advantages

- » Optimisation of processes and work processes.
- » Continuous value retention
- » Excellent service throughout the process

Tailored to your processes



1. Process analysis

Your problem is our challenge

Your processes should run optimally - in every respect. Our experts take a closer look at safety-relevant and profitability aspects. You are guaranteed the greatest possible flexibility in implementation. Because we have the right solution for every situation.



From process analysis to concept

Together with you on site, our experts will collect extensive data in an as-is analysis. Based on this information and your requirements, a target state is defined in a task folder.



Modular and tested system solutions

We use the full range of DÜPERTHAL's standard technologies and supplement them with modular and type-tested systems, adapted to your requirements.



2. Implementation

Safe and economical solutions

Not only do you get a technically perfect system from us, but we also make sure that you have to put in as little effort as possible. We deliver our products directly to the site and take over the implementation. Full service is our principle.



Shipment and delivery

Safety for us starts with the delivery of the product. The specialist carrier appointed by us works according to a detailed checklist and therefore ensures that our products are professionally transported to and installed in their final place of use - delivery just-in-time and just-in-place.



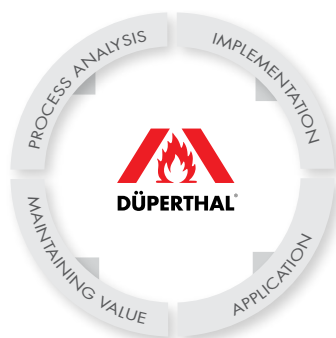
Project support on site

The professional handling of complex projects requires more than just delivering safety storage cabinets. DÜPERTHAL therefore provides comprehensive support for your national and international projects with planning, delivery service, construction site support and training of the lab managers and users.



Installation, implementation and final acceptance

Our team of specialists ensures a smooth and optimal assembly process on site. After complete installation of all components, the commissioning and joint final acceptance will be carried out with you.



3.

Application

Optimal integration – safe and economical solutions

We work conscientiously to optimise your process flows sustainably. This means that we attach great importance to documentation and training. In addition, the latest technology is used for evaluations. In this way, we integrate our products ideally into your existing structures.



Documentation

A detailed operations manual is supplied with each product, especially for complex projects. This already includes the CE certificate of conformity and the type certificate for the patented system solutions tested by independent third parties.



Training and risk assessment

In order that you are sure that our components can be used professionally and can be operated without any risk, we will be happy to train the responsible persons directly on the spot. The points treated can be included in your risk assessment.



Evaluation

With the Internet-capable Cabi2Net, all relevant operating parameters of the safety storage cabinets can be constantly monitored and evaluated. The query can be sent simply from a mobile phone, tablet or PC. This also safeguards your processes and helps you to make the internal value chain even more efficient.

4.

Maintaining value

Product life cycle - maximum safety

To ensure the functionality and safety of your system solution in the long term, we recommend an annual inspection. Our service agreement guarantees you maintenance and spare parts long after installation and commissioning.



Occupational safety and health OSHA / EU-OSHA

When dealing with hazardous substances, the highest priority is the protection of employees and the environment. Therefore, DÜPERTHAL safety storage cabinets guarantee compliance with the requirements of the Occupational Safety and Health Administration (OSHA and EU-OSHA). We will clarify all relevant topics and train you in the safe handling of our products

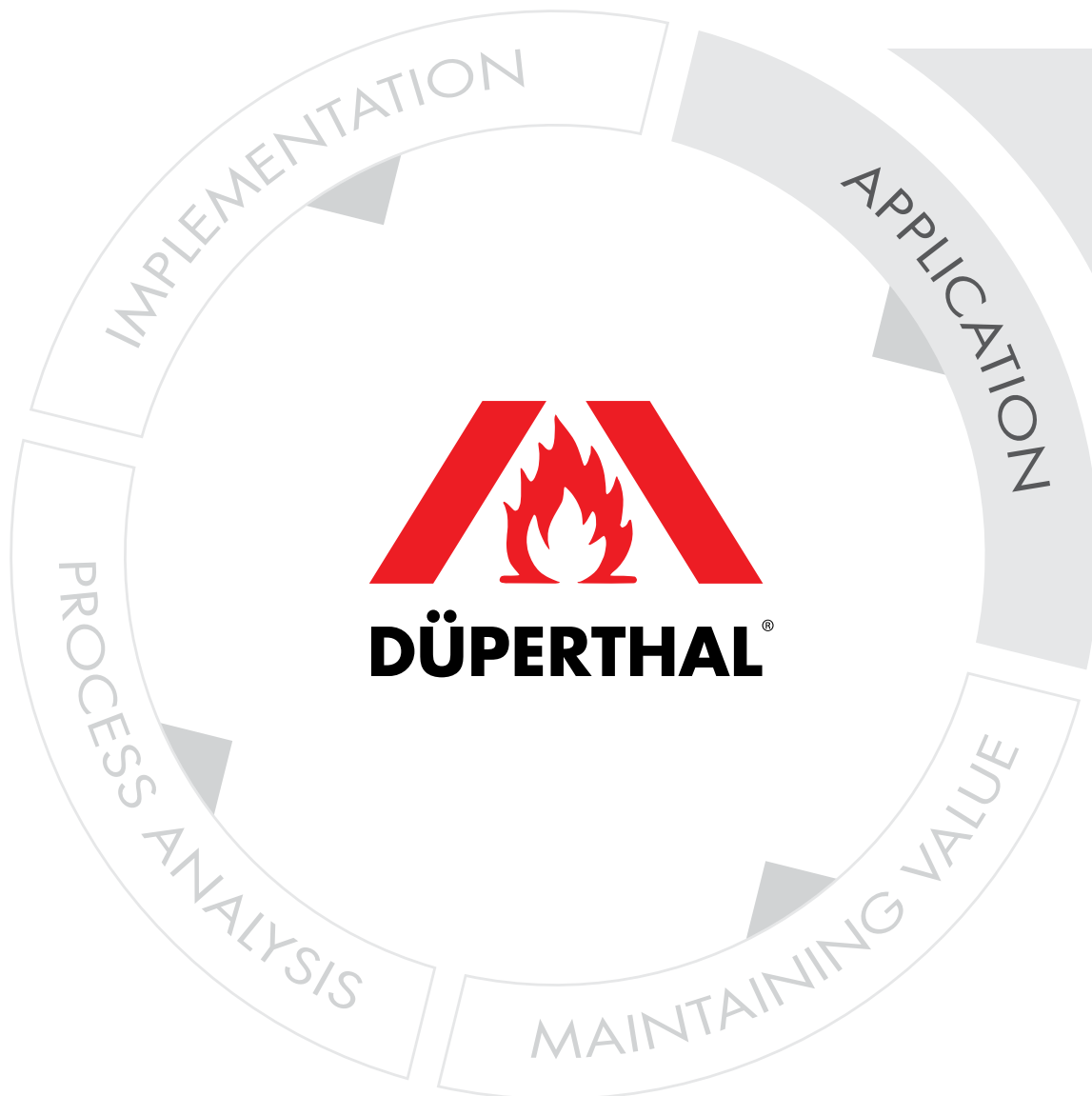


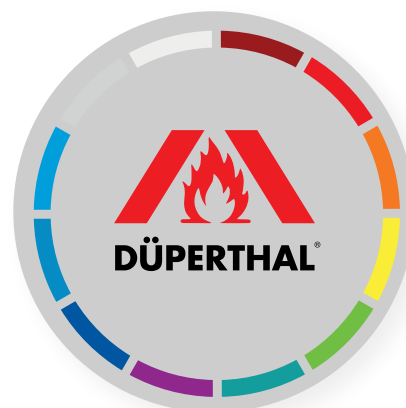
Permanent service agreement with regular maintenance and service

Highly complex processes rely on robust structures. With our service agreement, we can safeguard our reliable system solutions even better in your interest. The annual maintenance also extends the manufacturer's guarantee. A double benefit for you - in terms of safety and profitability.

Your Challenge – Our Solution

The handling of hazardous substances is subject to stringent regulations – for good reason. DÜPERTHAL can help you to meet all the relevant requirements whilst at the same time optimising your work processes. Based on the analysis of the actual status and the jointly defined objective, you receive an individually tailored and modular system solution from us. Thanks to our varied product range, you can design your laboratory and workplace flexibly and as needed.





1. Storage

Safely storing hazardous substances

We offer a wide range of products for the safe storage of sensitive hazardous goods. Up to 90 minutes of protection in case of fire ensures maximum safety.



2. Use

Using products ergonomically

In addition to a large range of standard solutions, we have tailor-made solutions that integrate seamlessly into your workflows and optimise them.



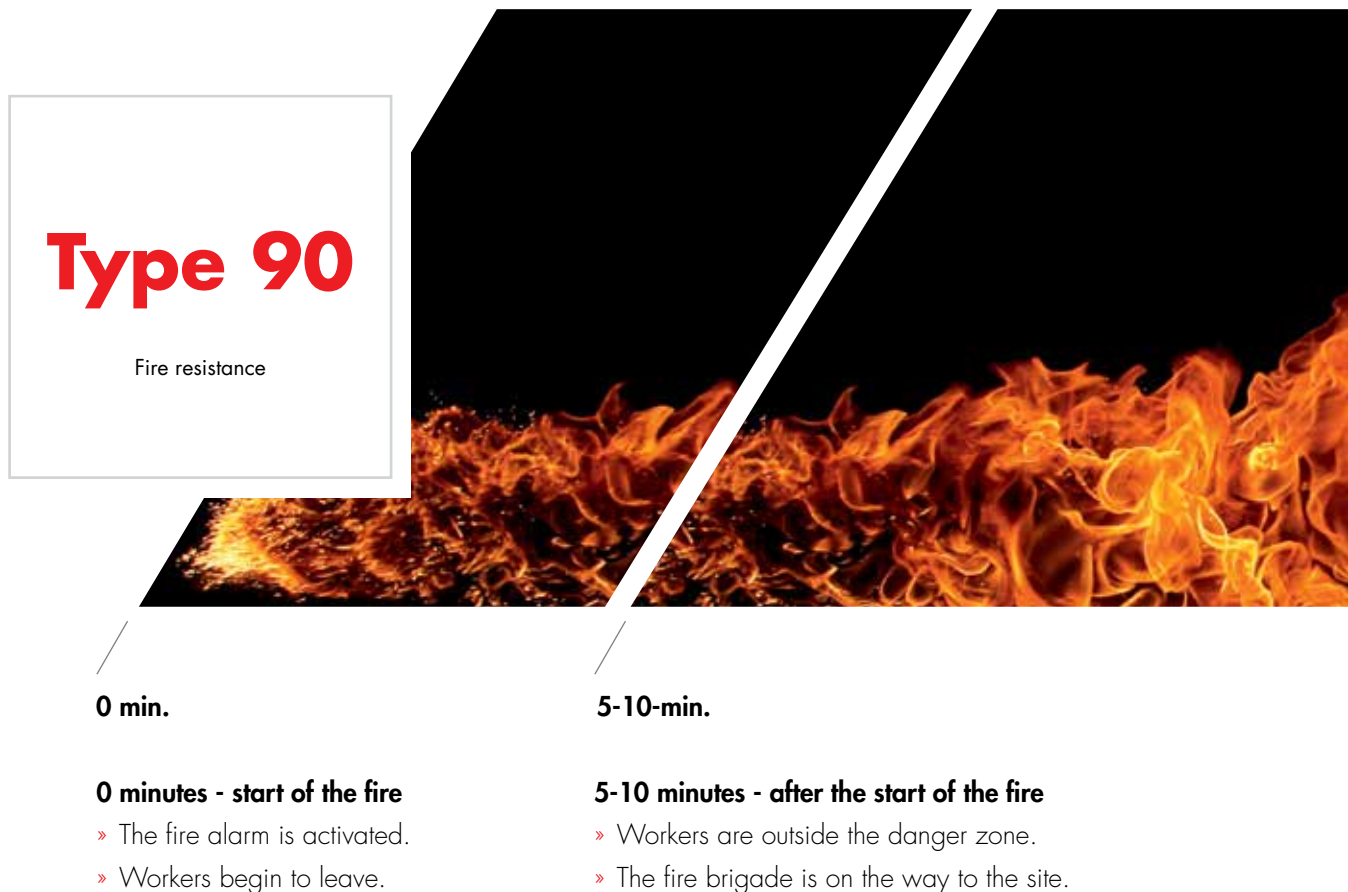
3. Disposal

Disposing of materials in an environmentally sound manner

There are strict regulations for the disposal of dangerous goods. We provide a wide range of products and components for safe implementation in compliance with regulations.

90 minutes – Course of events and timetable of a fire

In the event of a fire, the 90 minutes of tested fire protection is the decisive factor in protecting people and minimising damage to property. DÜPERTHAL safety storage cabinets of fire resistance rating Type 90 allow sufficient time for workers to leave the room in the event of a fire and allow the fire brigade sufficient time to get into the laboratory. Just before a smaller extinguishable fire from stored flammable substances causes an uncontrollable fire.



The test of the cabinet under fire conditions is part of the standard. Each cabinet model is type-tested in a fire chamber in accordance with DIN EN 14470-1. The test parameters and test temperatures in the fire chamber and directly in the cabinet are specified in the standard, and further details are provided on the following pages.



10-15 min.

10-15 minutes - after the start of the fire

- » The fire brigade is at the source of the fire.

After 10 minutes of burn time

- » Safety storage cabinets with a fire resistance of 10 minutes are now losing their function.
- » The flammable substances are no longer safe.
- » The fire brigade must fight the fire at a considerably increased risk.
- » Heavy damage is to be expected.

90 min.

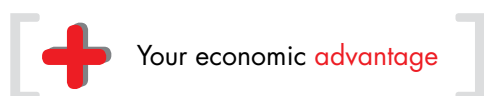


Your benefits with the 90-minute technology

- » Safety storage cabinets Type 90 retain their function for 90 minutes.
- » The hazardous substances are stored safely for at least 90 minutes.
- » The fire brigade has considerably more time to extinguish the fire safely.
- » Reduction of the fire load and minimisation of damage.

Fire chamber test according to DIN EN 14470-1

The fire resistance rating of safety storage cabinets in accordance with DIN EN 14470-1 is determined by the rise of temperature of the cabinet interior inside of a fire chamber according to the temperature-time curve in accordance with DIN EN 1363-1. Starting from an initial temperature of 20 ± 5 °C and after the time until the temperature in the cabinet interior increases to 180 °C maximum, the cabinet is then classified as Type 15, 30, 60 or 90 (analogous to time in minutes). Safety storage cabinets for pressurised gas cylinders are subjected to a comparable test in accordance with DIN EN 14470-2, details on this are provided on page 264.



Example calculation:
(average values)

Cost of purchasing a
safety storage cabinet
tested fire resistance

Profitability/Costs

US standards European standard
FM/UL, NFPA 30 DIN EN 14470-1

€ 1,000
10 minutes

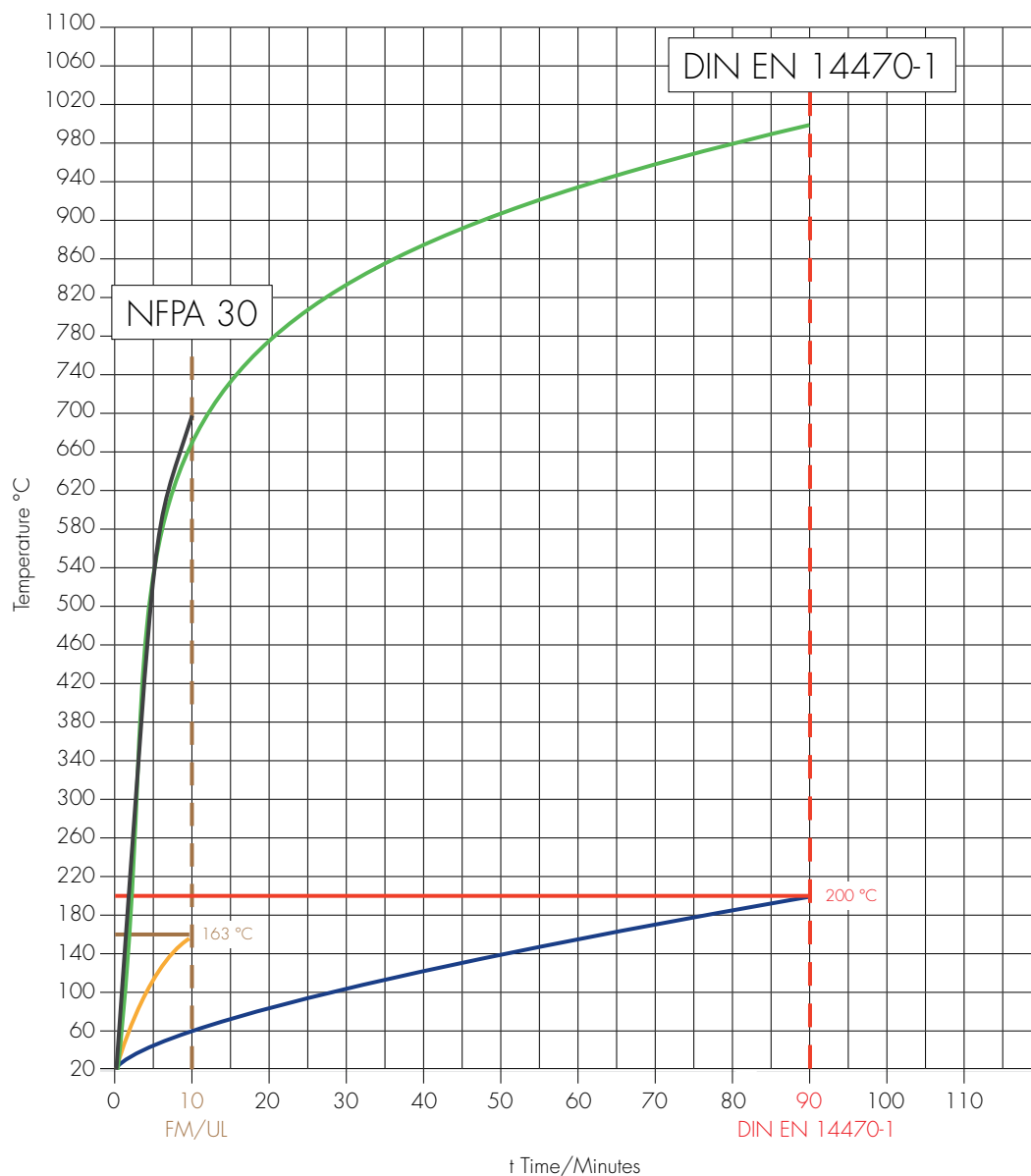
100 € per min.

€ 2,430
90 minutes

27 € per min.

Video of an
extreme test





Fire and explosion-proof safety storage cabinets Type 90 by DÜPERTHAL offer a reliable fire resistance of 90 minutes in accordance with DIN EN 14470-1.

US standards according to FM/UL, NFPA 30

- Maximum allowed temperature in the cabinet in acc. with FM/UL = 163 °C (325 °F).
- Temperature profile in accordance with NFPA 251 in the open fire chamber.
- Example of the rising temperature in an FM/UL cabinet during the fire test, monitored with 1 thermometer.

European standard DIN EN 14470-1.

- Maximum allowed temperature in the cabinet in acc. with DIN EN 14470-1 = 200 °C (392 °F).
- Temperature profile in accordance with DIN EN 1363-1 in the closed fire chamber.
- Example of the rising temperature in a Type 90 cabinet during the fire test, monitored with 11 thermometers.

Fire resistance class – Type 90:

90 minutes of safety thanks to special construction

Utmost care is essential in the handling of hazardous substances. Our technology with maximum fire resistance helps you to achieve this. Thus, thanks to their special construction, our safety storage cabinets guarantee fire resistance of 90 minutes, type-tested according to DIN EN 14470-1.



Type 90

Fire resistance

Construction:

- » The doors and the outer carcass are made of powder-coated sheet steel.
- » The inner carcass and the inside of the doors are made of high-quality decor panels.
- » There is a special insulation between the inner and outer carcasses, so that the heat cannot penetrate into the cabinet interior in case of fire.
- » In case of fire, doors, drawers and ventilation openings for air supply and exhaust air are automatically closed and the door gaps as well as open joints are sealed by foam-forming gaskets.



Your benefits through DÜPERTHAL safety storage cabinets Type 90:

- » A chain reaction will be avoided in case of fire.
- » Workers, the fire brigade, and rescue services will be protected.
- » Maximum fire protection for buildings and systems.
- » Reduction of insurance contributions for fire protection is possible.
- » Financial security, e.g. by reducing the risk of default of production and buildings.
- » Fulfilment of the requirements of risk management in accordance with ISO 9000 and ISO 14001.
- » Use of high-quality safety storage cabinets conserves resources and strengthens the image of your company.

Test criteria, protection objectives and minimum requirements

The three essential requirements of a safety storage cabinet in accordance with DIN EN 14470-1 are the minimisation of the risk of fire, the minimisation of fumes released into the work environment, and the retention of possible leakages. The test requirements of the laboratory furniture standard DIN EN 14727 also ensure a minimum of quality.



Extracts from DIN EN 14470-1

Ventilation

- » To prevent an explosive atmosphere, the ventilation must be effective directly above the bottom tray.
- » Ventilation openings for air supply and exhaust air must self-close when the temperature reaches 70 °C (158 °F).

Interior fittings

- » The bottom tray for the restraint of possible leakages must still be functional even after the fire resistance test
- » The shelves must be made of non-absorbent material, bear the permissible load over the duration of the fire and be at most 1.75 m (5.74 ft) above the floor.

Door technology

- » Complete self-locking of the doors within a maximum of

20 seconds, optionally, an arrest system with temperature release at 50 °C (122 °F) is possible.

- » Closing force between the main closing and opposite closing edge of the door must not exceed 100 Newtons.
- » Each wing of the door must be operational with one hand.
- » If the doors are lockable, the locking device must not prevent self-closing in case of fire.

Fire chamber test

- » Each cabinet model and size is type-tested in a fire chamber test in accordance with DIN EN 14470-1 Type 90.

Tested safety at a very high level including:



Extracts from DIN EN 14727

Static endurance test

- » Standing surfaces, e.g. storage shelves, are subject to a static load and impact tests and must not show any breakage or other damage.

Dynamic load test

- » All components that move mechanically such as pull-out shelves, drawers and doors are tested with 50,000 cycles each. After the tests, the doors must close exactly and snap into place.



Tested safety at a very high level including

- » Type-testing according to DIN EN 14470-1 by recognised test institutes (TÜV Süd, iBMB Braunschweig, ift Rosenheim).
- » TÜV-tested according to DIN EN 14727 (laboratory furniture standard).
- » Type 90 classification in accordance with DIN EN 14470-1.
- » GS/CE mark.
- » High Quality mark of approval for upper-level style, user-friendliness and increased lifetime.

High-quality safety storage cabinets with maximum fire protection



Your added advantage with DÜPERTHAL safety storage cabinets!

» Maximum fire protection for your safety

Maximum safety with Type 90 technology and automatic self-closing doors in case of fire.

» Upper-level style for your health

Ventilation in every cabinet level with visual inspection of the butterfly valves, with a continuous earthing concept as a standard.

» Increased lifetime for your investment

Continuous testing in accordance with DIN EN 14727, even 80,000 instead of 50,000 cycles in the dynamic load test.



1 Ventilation

Ventilation in **every cabinet level** and visual inspection of the venting cut-off flaps.

2 Earthing (system)

To prevent ignition hazards through earthing in accordance with TRGS 727, the bearing surfaces are conductively connected as a standard to the equipotential bonding saddles.

3 Automatic closing of the doors

In case of fire, a thermocouple automatically triggers the uninterrupted closing system via the non-wearing safety feature (functional principle similar to the air bag system).

4 Base

A setback base is the solution to ergonomic working and a safe position.

5 Lock arrangement

The ergonomic lock arrangement at handle level increases handling convenience.

6 Transport

Due to the base construction with removable base boards, the cabinet is accessible from all sides. As a result, simple transport, for example with a hand pallet truck, is possible.

Solved internally, confirmed externally and independently

For DÜPERTHAL, quality is the main focus. Proof of this is provided by the quality marks of approval awarded to each of our safety storage cabinets, in recognition of our comprehensive quality management system as per DIN EN ISO 9001. One basic condition here is that, apart from our own in-house inspections, production of the safety storage cabinets is continuously monitored by external accredited test institutes.



Tested safety - Made in Germany

Tested safety at the highest level including

- » Type-tested according to DIN EN 14470-1 as well as DIN EN 14470-2 by recognised test institutes (TÜV Süd, iBMB Braunschweig, ift Rosenheim).
- » TÜV testing according to DIN EN 14727 (laboratory furniture standard).
- » GS/CE mark.
- » High Quality mark of approval for upper-level style, user-friendliness and increased lifetime.



DÜPERTHAL Innovation –

sustainably protected technical inventions based on well over

50 national and international patents!

DIN EN



Explosion and health protection

In accordance with DIN EN 14470, safety storage cabinets must be provided with supply and exhaust air connection in order to prevent hazardous vapours escaping into the working area by means of a technical exhaust air system. In this case, the ventilation must be carried out to the open air in a safe place. Alternatively, ATEX-compliant (2014/34 / EU) recirculating air filter systems have been tried and tested in practice in safety storage cabinets for solvents. In accordance with TRGS 510, safety storage cabinets without industrial ventilation must be earthed due to the increased danger potential.



» Exhaust air systems

» Filter systems



Your added advantage with industrial ventilation!

» Preventing an explosive atmosphere

A concentration dilution can already be achieved in the safety storage cabinet from a 10-fold air exchange per hour, so that an ex-zone around the cabinet is avoided. Please note that a lab bottle that has been opened once can already be a permanent source of emissions.

» Minimisation of health risks

With industrial ventilation, an increased risk of explosion as well as odour pollution can be

counteracted. In practice, it might be necessary to set a higher air exchange.

» Effectiveness / Functionality

The ventilation must be effective immediately above the bottom tray, since solvent vapours are often heavier than air. The laboratory directive also requires that the extraction is applied directly at the point of danger. Therefore, all DÜPERTHAL safety storage cabinets are equipped with ventilation at each cabinet level.

Our commitment to sustainable action

As an internationally operating family business with a company culture characterised by the community, we maintain clear values that characterise our daily thinking and action. In this way, we always have the big picture in mind in order to achieve satisfaction and success together with our customers and partners. This vision is committed to bringing the requirements of customers, the environment and society into harmony.





Economic aspects

The holistic view of the processes of our customers is deeply rooted in our corporate philosophy. This is how we create the basic conditions for optimised, safe and ergonomic work processes. Retaining the value of the products not only reduces costs. The increased lifetime of the safety storage cabinets also saves resources and saves energy for production.



Ecological aspects

DÜPERTHAL is committed to environmental protection and resource efficiency. We attach great importance to the commitment to use locally available raw materials. The short transport routes from suppliers in the surrounding area help to reduce emissions of harmful substances. At the same time, the use of recyclable materials relieves the environment during production.



Socio-cultural aspects

We promote and protect scientific research and development. With our products and services we increase safety in the workplace. We help our customers focus on the essentials - their work and the development of innovations that advance our society. Therefore, we do not limit ourselves to Germany. We document and certify our services in many countries and languages in order to implement our high standards on a comprehensive basis.

We continue the advancement of our company with the same diligence. For that is how we lay the the foundation stone for securing our future-oriented production sites and the preservation of valuable jobs in the region.