KITCHEN EXHAUST DUCTS

In large kitchens, the combination of heat, grease, and continuous operation creates a high-risk environment. **Fire-rated kitchen smoke exhaust ducts are not just a safety feature—they are a necessity**. They play a vital role in preventing fire spread, protecting lives, and ensuring compliance with fire safety regulations.

Kitchen exhaust systems are designed to remove heat, smoke, grease-laden vapours, and odours from cooking areas. Over time, **grease and oil residues** accumulate inside the ductwork, creating a highly flammable environment. If a fire starts in a cooking appliance, it can quickly spread through the duct system, potentially reaching other parts of the building.

Our fire-rated PROMADUCT® kitchen exhaust ducts are specially designed and tested to:

- → Contain fire and smoke within the duct for a specified period (typically 60 to 120 minutes)
- → Prevent fire spread to adjacent rooms, floors, or structural elements
- → Maintain structural integrity under extreme heat
- → Support safe evacuation and firefighting efforts

Why they're critical in large kitchens

High fire load

Large kitchens operate for extended hours with multiple cooking stations, increasing the risk of fire ignition and spread.

Complex building layouts

In large facilities, kitchen ducts often pass through multiple fire compartments. Fire-rated ducts ensure that a fire in the kitchen doesn't compromise the safety of other areas.

Regulatory compliance

Fire codes and health regulations in most jurisdictions require fire-rated ducting for commercial kitchen exhaust systems. Non-compliance can result in fines, closures, or insurance issues.

Protection of occupants and property

By containing fire and smoke, these systems protect both people and infrastructure, reducing downtime and repair costs after an incident.

PROMADUCT® – fire-tested safety with PROMATECT® calcium silicate boards

PROMATECT® calcium silicate boards are at the core of PROMADUCT® systems, offering **non-combustibility**, **thermal insulation**, and **mechanical strength** – essential for reliable passive fire protection. To ensure performance in real fire conditions, these systems undergo rigorous **fire testing** in accredited independent laboratories according to EN 1366 standards.

Fire testing evaluates:

- Reaction to fire (ignitability, flame spread, smoke)
- Fire resistance (structural integrity, insulation, stability)
- Thermal conductivity and heat transmission

For kitchen extract ducts or ducts with combustible internal linings, EN 1366-1 includes additional safety measures. Four internal thermocouples (T3) are installed to monitor temperatures inside the duct, ensuring it prevents internal ignition during external fire exposure. This extra criterion addresses the specific risk of grease or residue igniting inside kitchen ducts.

PROMATECT® boards are **CE-certified**, meeting strict European safety and environmental standards. Backed by **proven lab performance** and real-world reliability, PROMADUCT® delivers peace of mind in both standard and high-risk fire scenarios.

How our PROMADUCT® system performs in tests

- **High thermal stability:** Calcium silicate PROMATECT® boards can withstand temperatures up to **1000–1200°C** without melting or dripping
- **Low thermal conductivity:** This helps delay heat transfer, protecting adjacent structures and systems.
- **Structural integrity:** Even under fire exposure, calcium silicate retains its shape and strength, making it ideal for ducts, walls, and enclosures.

Products used for Kitchen ducts

PROMATECT®-LS, **PROMATECT®-H**, **Promat-Kleber® K84**