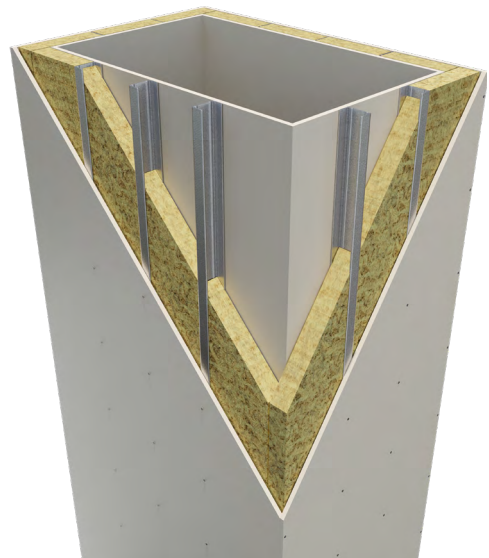


FIRE-RATED SHAFT DUCTS

In high-rise buildings, where vertical space is maximized and thousands of occupants may share a single structure, **fire safety** becomes a complex and critical challenge. One of the most vital components in this safety strategy is the **fire-rated shaft duct**.

Fire-rated shaft ducts are vertical enclosures that house essential building services—such as HVAC systems, electrical cabling, plumbing, and smoke extraction ducts—while providing a **certified level of fire resistance**. These ducts are designed to **contain fire and smoke**, preventing them from spreading between floors through service penetrations.



Why are shaft ducts critical in high-rise buildings?

Vertical fire spread prevention

In tall buildings, fire and smoke can rapidly travel upward through shafts and ducts. Fire-rated shaft ducts act as **barriers**, maintaining the integrity of fire compartments and slowing the vertical spread of fire.

Protection of life-saving systems

Systems like **smoke extraction**, **stairwell pressurization**, and **emergency power** often run through vertical shafts. Fire-rated ducts ensure these systems remain operational during a fire, supporting **safe evacuation** and **firefighting efforts**.

Compliance with fire codes and standards

Building regulations worldwide mandate the use of fire-rated enclosures for service shafts in high-rise structures. These ducts are tested to standards such as EN 1366-8, BS 476 Part 24, or ISO 6944, ensuring they meet strict performance criteria.

Minimizing structural and economic damage

By containing fire within a limited area, fire-rated shaft ducts help **protect structural elements**, reduce smoke damage, and **limit business interruption** – a key concern in commercial and mixed-use towers.

Design flexibility and space efficiency

Modern fire-rated duct systems like PROMADUCT® eliminate the need for bulky shaft walls, offering **more usable floor space** and **greater design freedom** without compromising safety.

Typical applications

- Smoke extraction and ventilation shafts
- Electrical and communication risers
- Kitchen and commercial kitchens exhausts
- Pressurization ducts for escape routes



Products used Shaft ducts

PROMATECT®-L500, PROMATECT®-H, Promat-Kleber® K84