

**FIRE RATED
DUCTS**



FR 05



CONTENTS



1. Firmac Duct Work	-----	03
2. Flame Guard	-----	04
3.Fire Rated Duct	-----	05
4.Building Regulations	-----	06



Firmac Ductworks

Galvanized Steel

At **Firmac** Industries, we manufacture a wide range of rectangular ducts to meet the most stringent HVAC/Industrial specification and quality standard. Rectangular ducts are fabricated out of Hot dipped galvanized steel sheet/coil of lock forming duct material. All the ducts are manufactured in accordance to SMACNA, DW 144 and ASHRAE standards. GI ducts are available in various raw material makes like Nippon Steel Japan, Nisshin Steel Japan, AGIS U.A.E, Jindal Steel India, Hadeed Steel KSA, and others as per project requirement. GI Coils/sheet always confirm to ASTM A653 standard or equivalent having a minimum zinc coating of G90.

Mild Steel

We manufacture a wide range of Mild Steel duct ranging from 1.50mm to 5.0mm thickness in welded construction. The Mild Steel ducts are commonly used for Kitchen Ventilation & Extract system. These are manufactured as welded construction complete with MS angle flanges and we are delivered with a single/double coat of red-oxide primer paint on the surface area of the duct. If required for Fire Rated System, black steel ducting can be provided with fire rated coating on the surface area to provide stability and integrity as per fire rating requirement.

Aluminum

At **Firmac** Industries, we manufacture a wide variety of Aluminum ducts starting from 0.5mm to 4.0mm thickness from plain/stucco as specified aluminum sheets. We manufacture Aluminum ducts in Lock Forming Pittsburgh construction suitable for low pressure application and also in welded construction for high pressure application. We also manufacture and install Aluminum cladding for all types ducting. Aluminum ducts are commonly used for Air duct applications in area such as swimming pools, clean rooms of sensitive/industrial firms, and operation theaters.

Stainless Steel

Firmac Industries manufactures Stainless Steel ducting using SS sheets starting from 0.50mm to 3.0mm thickness. We manufacture SS ducts both in Lock formed Pittsburgh construction suitable for low pressure application as well as welded construction for high pressure application. Stainless Steel ducts are useful for business and large manufacturing companies which call for its specialized use in voluminous and industrialized applications. Some examples common areas of application are Laboratory room, battery room, and clean room. Stainless Steel ducts are also suitable for Kitchen Extract or Toilet Extract systems.

Pre-Insulated

At **Firmac** Industries, we manufacture Pre-Insulated rectangular ducts and fitting as per client's requirement. These ducts are manufactured by trained personnel on the state-of-art CNC machines from USA and meet the highest standard of quality and workmanship. We have a manufacturing capacity of 1500 sqmtr of ducts/day. The PI ducts are used in building services/HVAC applications. It is suitable for both new building and refurbishment project in residential, commercial, public, light industrial and leisure sectors.



Flame Guard Non Coated Fire Rated Ductworks System

Introduction:

Flame Guard fire rated ducts are engineered to withstand high temperatures and prevent flames traveling from one area of a building to another. These ducts are typically constructed using fire-resistant materials such as Galvanized steel (Minimum G90, Z275), Mild steel, Stainless steel, Flame Guard Fire Rated Ducts are tested by Exova labs in the United Kingdom and approved by Dubai, Abu Dhabi & Sharjah Civil Defence authorities. Flame Guard fire rated ducts are designed with safety and performance in mind, our fire-rated duct systems are engineered to withstand extreme temperatures and prevent the spread of fire and smoke within buildings. With our innovative products, you can trust that your building's occupants and assets are protected in the event of a fire.

Product Overview:

- **Flame Guard:** fire rated ducts meet the requirement of BS 476: Part 24: 1987 (ISO 6944:1985) & BS 5588 Part 9.
- **Superior Fire Protection:** Our duct systems are rigorously tested and certified to meet industry standards for fire resistance, ensuring maximum protection for building occupants and property.
- **Durable Construction:** Built to withstand high temperatures and harsh conditions, our fire-rated ducts offer long-lasting performance and reliability, 4 hours Stability & Integrity and 120 minutes Insulation.
- **Code Compliance:** In accordance to BS 476; Part 24 (ISO 6944:1985): Our products comply with all relevant building codes and regulations, giving you peace of mind that your building meets the necessary safety requirements.

Application

- Commercial Buildings
- Hospitals and Healthcare Facilities
- Educational Institutions
- Industrial Facilities
- High-Rise Residential Buildings
- Retail Spaces

Location

- Smoke Extract
- Car Park Extract
- Kitchen Extract
- Dual / Smoke Extraction Systems
- Pressurization Systems



FLAMEGUARD
FIRE RATED DUCT

BUILDING REGULATIONS

- **Method 1:**

The Use of Fire Dampers

Fire is isolated in the compartment of origin by the automatic actuation of Fire Dampers within the ductwork system; as this method blocks the passage of air this is not acceptable where ventilation requires to be maintained, or where the use of Fire Dampers is not permitted.

(I.e. Smoke Extracts, Car Park Extracts, Kitchen Extract & Pressurization Systems.)

It should also be noted that wherever a ventilation duct crosses an escape route without serving that area, as well as the use of Fire Dampers, this duct must be protected to method 2 or method 3.

- **Method 2:**

Protective Enclosures

A services shaft is constructed through which the ventilation ductwork passes, if this enclosure is constructed to the highest standard of fire resistance of the structure through which it penetrates, it forms a compartment known as a protected shaft. Fire dampers require to be installed where ventilation ductwork enters or exits this shaft.

However if there is only one duct and no other services within the shaft between the fire compartment and the outside of the building, then no fire dampers will be required.

- **Method 3:**

Fire Resisting Ductwork

The ductwork itself forms a protected shaft, the fire resistance may be achieved by the ductwork material itself, or by the application of a protective material, providing that the protected duct is constructed to the standard by which the product was originally tested and certified.

The fire resistance of the ductwork when tested from either side, should not be less than the fire resistance required for the elements of construction in the area/ compartment through which it passes.



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