

Frequently Asked Questions about Fireproof Enclosures

What is a Fireproof Enclosure and how does it work?

A Fireproof Enclosure™ is a custom designed and manufactured ceramic fiber insulated SS enclosures, which protects by minimizing the radiant, convective and conductive heat transfer from the fire to the protected equipment. Typical fire test temperature rise in a UL-1709 Fire Test is 70-110°F (21-43.3°C).

What is the fireproof rating of the Fireproof Enclosures™?

Fireproof Enclosures™ are rated at 30 minutes for the 2" thick panels and 1 hour for enclosures with 4" panels. Time ratings are based on the UL1709 Structural Steel Hydrocarbon Fire Test criteria of 2000°F±200°F, with a heat flux of 65,000 ± 5000 Btu/hr/ft².

How are the enclosures supported or attached to the equipment?

Depending on the type and size of equipment being protected the enclosures are supported with brackets attached to the equipment or supports from surrounding structural steel. In most designs the bottom of the enclosure contains the bracket mechanism allowing the side and top panels to be assembled onto the enclosure base.

When enclosing actuators how do we perform maintenance on the protected equipment without removing the entire enclosure?

Enclosures are manufactured with inspection and access doors to allow adjustment and setting of actuators. If major maintenance is required, any one panel may be removed by removal of the captive fasteners holding the panels together. Access and inspection doors are hinged and are secured with locking latches.

How are the Fireproof Enclosure™ fire ratings established?

At Thermal Designs, Inc. fire ratings are established by actual fire test. We do not depend on the ceramic fiber manufacturers rating of material as the rating for the enclosures. The enclosure is a total design incorporating insulation and conductive material with penetrations. We do not recommend or support the practice of relying on fire ratings of material used to determine the rating or effectiveness of the fireproofing design.

How are pneumatic, hydraulic and electrical connections made to the enclosed equipment? Can I just drill a hole and run my tubing to the equipment?

Connections are made from outside the enclosure to the equipment through use of stainless steel couplings, bulkhead fittings or half couplings. Couplings are used for electrical connections requiring conduit, half couplings are used where cable glands and SO cord are used and bulkhead fittings are used to connect fluid lines.

How do we protect conduit or fireproof cable power and instrument cables at the Fireproof Enclosure juncture?

K-MASS® fireproofing is one of the most efficient and effective fireproofing materials available. It is an intumescent epoxy, meaning that it swells upon exposure to heat. This fire reaction, involves cooling and reflecting the heat away from the substrate. Cast **K-MASS®** K-Guards and connector protectors are clamshell covers that are constructed to be field installed over conduit and cable glands. Conduit fittings can be **K-MASS®** coated.



Thermal Designs, Inc. - United States
5352 Prudence Street
Houston, Texas 77045 USA
Phone: +011 713-433-8110
ussales@tdikmass.com

Thermal Designs, Inc. - United Kingdom
The Broadway Market Lavington Devizes
Wiltshire, England UK SN10 5RQ
Phone: +44 (0)1380 813394
uksales@tdikmass.com

Thermal Designs, Inc. - Canada
Unit 1, 5220 Duncan Ave
Blackfalds, Alberta T0M 0J0
Phone: +011 403-391-1578
casales@tdikmass.com