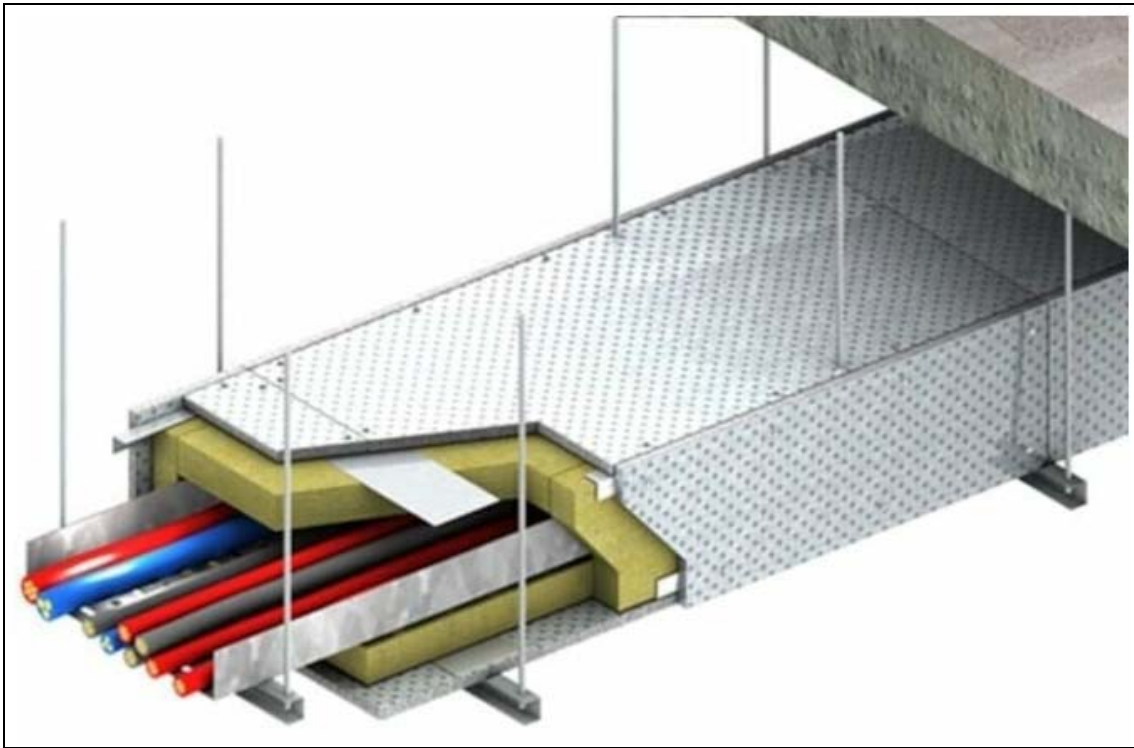


TWO OR FOUR HOUR FIRE RATED DURASTEEL® ENCLOSURE TO E&M SERVICES SYSTEM



1.0 Preliminaries

- 1.1 Shop drawings submission and approval.
- 1.2 Determine the location and dimension of the services to be enclosed.
- 1.3 Take measurement of the intended enclosure.
- 1.4 Ensure the steel hanger rod and the steel support bracket of the enclosure are within the permissible tensile stress at space at appropriate intervals.

2.0 Installation of steel channel collars

- 2.1 Select suitable size of steel channel collar and steel support bracket
- 2.2 Determine the interval between steel channel collars framing transversely and longitudinally is within 1.5sqm of unsupported boards area
- 2.3 Cut the steel channel framing to desire length to fit the enclosure.
- 2.4 For 4-sided enclosure
 - 2.4.1 Place the steel channel into position, fold it all round the services to form a complete loop.
 - 2.4.2 The spacing between steel channel collar is either 610mm or 1220mm apart.
- 2.5 For 3-sided enclosure

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- 2.5.1 Prefabricate a suitable steel channel framework and form into a U-shaped steel collar around the enclosure. Both ends of the U-shaped steel collar profile are welded with endplate
 - 2.5.2 Place the U-shaped steel collar into position and secured it to the concrete soffit with suitable all steel anchor bolts through the endplate.
 - 2.5.3 The spacing between steel channel collar is either 610mm or 1220mm apart.
 - 2.5.4 Repeat similarly for subsequent collars along the length.
 - 2.5.5 Place the suitable perimeter steel angle between the steel channel collars, secure it to the concrete soffit with suitable all steel anchor bolts at 500mm intervals.
- 3.0 Installation of steel corner angles
- 3.1 From one end/corner, place the suitable steel corner angles perpendicular to the channel collars
 - 3.2 Adjust and connect the steel corner angles with the steel channel collars.
 - 3.3 Repeat similarly for other corners of the steel channel collars.
- 4.0 Install mineral rockwool infill within enclosure
- 4.1 Place the mineral rock wool slab of appropriate thickness and density correspond to the fire rating along the body of the services.
 - 4.2 Trim away any excess rock wool insulation
 - 4.3 When more than one layer of rock wool slabs, ensure the insulation slabs are placed in stagger manner such that their joints never coincide
 - 4.4 Ensure the cavity within the steel channel collar is filled with rock wool
- 5.0 Install Hanger Rod and Steel Bracket Support (applicable for 4-sided enclosure)
- 5.1 Measure and determine the position of the suitable steel hanger rod, drill hole in the soffit and fix the hanger in place.
 - 5.2 Slot the predetermine steel bracket through the hanger rods and underneath the enclosure and secured it in position by tightening the nut and washer
 - 5.3 Repeat for subsequent hanger rods and bracket until completion.
 - 5.4 The rod hanger interval shall be either 600mm or 1200 apart.
 - 5.5 Ensure both the rod hanger and steel bracket support is within the permissible tensile stress.
- 6.0 Install DURASTEEL® facing boards

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- 6.1 Cut the boards to the required measurements and place boards over the steel framing and rock wool insulation
 - 6.2 Start by installing the bottom layer boards, adjust until satisfactory.
 - 6.3 Fix the board to the steel framing with M5.5 self-drilling teks screw at 200mm centres.
 - 6.4 Repeat similarly for subsequent boards until completion.
 - 6.5 Ensure a clean and close boards' butt-joints. Any large shall be sealed with PROMASEAL® A sealant or coupled with DURASTEEL® cover strip 100mm wide by 9.5mm thick.
- 7.0 Install DURASTEEL® 100mm wide by 9.5mm thick cover strips at wall penetration
- 7.1 Measure, trim and place the cover strips around the enclosure at the junction of penetration.
 - 7.2 Fix and secure the cover strip to the wall with all steel anchor bolts
 - 7.3 Repeat steps for the other side penetration for wall.
- 8.0 Penetration Through the Fire Rated Enclosure
- 8.1 When unavoidable, building services penetrating through the fire rated enclosure shall be duly sealed with appropriate PROMASEAL®/PROMASTOP® fire seal system to ensure the fire integrity of the enclosure is not compromise
 - 8.2 Penetration by non-combustible services with gap not more than 10mm gaps shall be sealed with PROMASEAL®A fire rated sealant or other suitable PROMASEAL®/PROMASTOP® fire seal systems
 - 8.3 Penetration by combustible plastic pipe shall be duly coupled with PROMASTOP® Unicollars.
- 9.0 Application of architectural finishes
- 9.1 Apply necessary finishes over the joints accordingly