

PART 1 - GENERAL

1.1 CODES AND REFERENCES

- .1 American National Standards Institute/National Fire Protection Association (ANSI/NFPA).
 - .1 ANSI/NFPA 90A-2002, Standard for the Installation of Air Conditioning and Ventilating Systems.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .3 Underwriters Laboratories of Canada (ULC).
 - .1 CAN4-S112-M1990, Fire Test of Fire Damper Assemblies.
 - .2 CAN4-S112.2-M84, Standard Method of Fire Test of Ceiling Firestop Flap Assemblies.
 - .3 ULC-S505-1974, Fusible Links for Fire Protection Service.

1.2 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet. Include product characteristics, performance criteria, and limitations.
 - .1 Submit two Material Safety Data Sheets (MSDS) copies.
 - .2 Indicate the following:
 - .1 Fire dampers;
 - .2 Smoke dampers;
 - .3 Fire stop flaps;
 - .4 Operators;
 - .5 Fusible links;
 - .6 Design details of break-away joints.
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.2 Closeout Submittals:

- .1 Provide maintenance data for engines, transmissions and guards, and attach them to the "Operating and Maintenance Manual".

1.3 QUALITY ASSURANCE

.1 Certificates:

- .1 Technical data provided by manufacturer's documentation must be reliable and based on tests performed by an independent certified laboratory or by the manufacturer itself, in order to demonstrate material compliance with the applicable standard.

1.4 MAINTENANCE

.1 Extra Materials:

- .1 Provide following:
 - .1 Six fusible links of each type.

1.5 TRANSPORT, STORAGE, AND HANDLING

.1 Packaging, Shipping, Handling, and Unloading:

- .1 Transport and store products and materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 FIRE DAMPERS

- .1 Fire dampers: Arrangement type listed and bear label of ULC and UL meet requirements of Fire Commissioner of Canada (FCC), CFFM, and ANSI/NFPA 90A, and authorities having jurisdiction. Fire damper assemblies fire tested, in accordance with CAN4-S112.
 - .2 Mild steel, factory fabricated for fire rating requirement to maintain integrity of fire wall and/or fire separation.
 - .3 Top hinged: Offset, round or square; multi-blade hinged or interlocking type; guillotine type; sized to maintain full duct cross section, as indicated.
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- .4 Fusible link activated, with counterweight to close and lock in closed position, when the mechanism is activated, or using a total closure antagonist spring command for many blades type or horizontally mounted enrolment closure device for vertical air duct.
 - .5 Fire dampers must be as defined by SMACNA, (Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems), for high pressure tightness.
 - .1 Wall-trough air transfer: Type A;
 - .2 Rectangular ducts: Type B;
 - .3 Circular ducts: Type C;
 - .4 Oval ducts: Type C.
 - .6 Fire dampers factory-mounted within a sleeve, minimum thickness of the sleeve must meet recommendation from SMACNA and UL 555 Standards.
 - .7 Fire dampers made with a galvanized steel frame installed so that it does not interrupt the continuity of the duct in which it is installed.
 - .8 Penetration hole frames/sleeves made of stainless steel with angle beams fixed on each side of the wall or floor. When the floor/ceiling or ceiling/roof assembly have a degree of fire resistance, conduits must conform to penetrating hole ULC Standards.
 - .9 Dampers designed and built so that they do not reduce the size of duct or opening in which they are installed.
 - .10 Holding Angles: To be installed on the sleeve's periphery, on each side of the fireproof separation.
 - .1 Sleeve with greater dimension up to 1,200 mm: folded galvanized steel, 1.5 mm (0.06 in) minimal thickness.
 - .2 Sleeve with greater dimension over 1,200 mm: folded galvanized steel, minimal dimensions 40 x 40 x 3 mm.
 - .11 Protection Time: In accordance with Quebec and City Building Codes, but no less than 1.5 hr.
 - .12 Acceptable Products: Controlled Air Manufacturing Ltd.; Nailor; Penn Ventilator Canada Ltd.; Ruskin (Kerr-Hant); AMI.
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2.2 COMBINED FIRE/SMOKE DAMPERS

- .1 Dampers: Must meet requirements for dampers, as described above at Articles 2.1 and 2.2.
- .2 Combined Activator: Electrical command system, activated by a smoke sensor or a smoke detection system, and by a fusible link.
- .3 Acceptable Products: Ruskin FSD60 or equivalent.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

- .1 Install equipments complying with ANSI/NFPA 90A standards, according with ULC approval requirements and following the "Basic Fire Damper Installation Details" from SMACNA.
 - .2 Complete works without altering the fire resistance level of casing within which equipments are mounted.
 - .3 Install fire dampers in ductwork each time it goes through a fire resistant partition.
 - .1 Floors that separate two levels.
 - .2 Technical shaft partitions.
 - .3 Technical room partitions.
 - .4 Fire stopper suspended ceilings.
 - .5 As indicated on drawings.
 - .6 Fire stopper partitions indicated in architectural documents.
 - .7 Where required by the Quebec Construction Code or Municipality.
 - .8 Every where else required, but not mentioned in this list.
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- .4 If needed, wait for approval from the authority having jurisdiction, before hiding any components.
- .5 Install one access door next to each damper.
- .6 Coordinate work with those installing fire/smoke stopper materials.
- .7 Install the devices where the access doors, the fuse links and servo-motors are visible and easily accessible.
- .8 Install approved isolation joints on each side of the fire stopper partition.
- .9 Mounting: Follow the "Basic Fire Damper Installation Details" from the "Fire, Smoke and Radiation Damper, Installation Guide for HVAC Systems" section provided by SMACNA.
 - .1 Partition mounted: "Case 2: Vertical Fire Damper Installation".
 - .2 Floor mounted: "Case 3: Horizontal Fire Damper Installation".
 - .3 Wall air transfer mounted: "Case 7: Vertical Fire Damper Installation".
 - .4 Any other mounting not listed at Articles 9.1, 9.2 and 9.3 or not accepted.

3.3 CLEANING

- .1 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools, and equipment.

END OF SECTION
