

1 **GENERAL**

1.1 **REFERENCES**

- .1 American National Standards Institute/National Fire Protection Association (ANSI/NFPA)
 - .1 ANSI/NFPA 90A-2012, 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-S112-2010, 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 in accordance with Section 01 00 10 – General Instructions. Include product characteristics, performance criteria, and limitations.
 - .1 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) in accordance with Section 01 00 10 – General Instructions.
 - .2 Indicate the following:
 - .1 Fire dampers.
 - .2 Fusible links.
 - .3 Design details of break-away joints.
- .2 Quality assurance submittals: submit following in accordance with Section 01 00 10 – General Instructions.
 - .1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .2 Instructions: submit manufacturer's installation instructions.
- .3 Closeout Submittals:
 - .1 Provide maintenance data for incorporation into manual specified in Section 01 00 10 – General Instructions.

1.3 **QUALITY ASSURANCE**

- .1 Health and Safety Requirements: do construction occupational health and safety in accordance with Section 01 35 29.06 – Health and Safety Requirements.
- .2 Certificates:
 - .1 Catalogue or published ratings those obtained from tests carried out by manufacturer or those ordered by manufacturer from independent testing agency signifying adherence to codes and standards.

1.4 **MAINTENANCE**

- .1 Extra Materials:
 - .1 Provide maintenance materials in accordance with Section 01 00 10 – General Instructions.
 - .2 Provide following:
 - .1 6 fusible links of each type.

2 **PRODUCTS**

2.1 **FIRE DAMPERS**

- .1 Fire dampers: arrangement Type A, listed and bear label of ULC, meet requirements of Fire Commissioner of Canada (FCC) and ANSI/NFPA 90A. 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.
 - .1 Fire dampers: 1-1/2 hour fire rated unless otherwise indicated.
 - .2 Fire dampers: To have dynamic rating suitable for maximum air velocity and pressure differential to which it will be subjected.
- .3 Top hinged: interlocking type sized to maintain full duct cross section.
- .4 Fusible link actuated, weighted to close and lock in closed position when released or having negator-spring-closing operator for multi-leaf door type in horizontal position with vertical air flow.
- .5 40 x 40 x 3 mm retaining angle iron frame, on full perimeter of fire damper, on both sides of fire separation being pierced.
- .6 Equip fire dampers with steel sleeve or frame installed disruption ductwork or impair damper operation.
- .7 Equip sleeves or frames with perimeter mounting angles attached on both sides of wall or floor opening. Construct ductwork in fire-rated floor-ceiling or roof-ceiling assembly systems with air ducts that pierce ceiling to conform with ULC.
- .8 Design and construct dampers to not reduce duct or air transfer opening cross-sectional area.
- .9 Dampers shall be installed so that the centerline of the damper depth or thickness is located in the centerline of the wall, partition of floor slab depth or thickness.
- .10 Unless otherwise indicated, the installation details given in SMACNA Install Fire Dampers for HVAC and in manufacturer's instructions for fire dampers shall be followed.

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 in accordance with ANSI/NFPA 90A and in accordance with conditions of ULC listing.
- .2 Maintain integrity of fire separation.
- .3 After completion and prior to concealment obtain approvals of complete installation from authority having jurisdiction.
- .4 Install access door adjacent to each damper. See Section 23 33 00 – Air Duct Accessories.
- .5 Co-ordinate with installer of fire stopping.
- .6 Ensure access doors, fusible links, are easily observed and accessible.
- .7 Install break-away joints of approved design on each side of fire separation.

3.3 **CLEANING**

- .1 Proceed in accordance with Section 01 00 10 – General Instructions.