

PART 1 - GENERAL

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| <u>1.1 REFERENCES</u> | <ul style="list-style-type: none">.1 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE)..2 Department of Justice Canada (Jus).<ul style="list-style-type: none">.1 Canadian Environmental Protection Act (CEPA), 1999, c. 33..2 Transportation of Dangerous Goods Act, 1992 (TDGA), c. 34..3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).<ul style="list-style-type: none">.1 Material Safety Data Sheets (MSDS)..4 National Fire Protection Association (NFPA).<ul style="list-style-type: none">.1 NFPA 90A-02, Standard for the Installation of Air-Conditioning and Ventilating Systems..2 NFPA 90B-02, Standard for Installation of Warm Air Heating and Air-Conditioning Systems..5 Sheet Metal and Air-Conditioning Contractors' National Association (SMACNA).<ul style="list-style-type: none">.1 SMACNA HVAC Duct Construction Standards - Metal and Flexible, 95 (Addendum No.1, November 1997)..2 SMACNA IAQ Guideline for Occupied Buildings under Construction, 1st Edition 1995..6 Underwriters' Laboratories Inc. (UL).<ul style="list-style-type: none">.1 UL 181-96, Standard for Factory-Made Air Ducts and Air Connectors..7 Underwriters' Laboratories of Canada (ULC).<ul style="list-style-type: none">.1 CAN/ULC-S110-1986(R2001), Fire Tests for Air Ducts. |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | <ul style="list-style-type: none">.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures..2 Product Data: submit product data for the following:<ul style="list-style-type: none">.1 Thermal properties..2 Friction loss..3 Acoustical loss..4 Leakage..5 Fire rating. |

1.3 QUALITY
ASSURANCE

- .1 Certification of Ratings:
 - .1 Catalogue or published ratings to be those obtained from tests carried out by manufacturer or independent testing agency signifying adherence to codes and standards.
- .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.

1.4 DELIVERY,
STORAGE AND
HANDLING

- .1 Protect on site stored or installed absorptive material from moisture damage.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 10 10 - General Instructions.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site bins for recycling.
 - .4 Place materials defined as hazardous or toxic in designated containers.
 - .5 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.
 - .6 Ensure emptied containers are sealed and stored safely.
 - .7 Fold up metal and plastic banding, flatten and place in designated area for recycling.

1.5 INDOOR AIR
QUALITY (IAQ)
MANAGEMENT PLAN

- .1 During construction meet or exceed the requirements of SMACNA IAQ Guideline for Occupied Buildings under Construction.

PART 2 - PRODUCTS

- 2.1 GENERAL .1 Factory fabricated to CAN/ULC-S110.
- .2 Pressure drop coefficients listed below are based on relative sheet metal duct pressure drop coefficient of 1.00.
- .3 Flame spread rating not to exceed 25. Smoke developed rating not to exceed 50.
- 2.2 NON-METALLIC - INSULATED .1 Type 4: non-collapsible, coated aluminum foil/mylar type mechanically bonded to, and helically supported by, external steel wire with factory applied, 25 mm thick flexible mineral fibre thermal insulation with vapour barrier and vinyl or reinforced mylar/neoprene laminate jacket, as indicated.
- .2 Performance:
- .1 Factory tested to 1.0 kPa without leakage.
- .2 Maximum relative pressure drop coefficient: 3.
- .3 Thermal loss/gain: 1.3 W/m². degrees C mean.

PART 3 - EXECUTION

- 3.1 DUCT INSTALLATION .1 Install in accordance with: NFPA 90A, NFPA 90B and SMACNA.