

PART 1 - GENERAL

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| <u>1.1 REFERENCES</u>                          | .1 | Health Canada/Workplace Hazardous Materials Information System (WHMIS).<br>.1 Material Safety Data Sheets (MSDS).                                                                                                                                                                                                                                                                                             |
|                                                | .2 | Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).<br>.1 SMACNA - HVAC Duct Construction Standards - Metal and Flexible.                                                                                                                                                                                                                                                            |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Submittals in accordance with Section 01 33 00 - Submittal Procedures.                                                                                                                                                                                                                                                                                                                                        |
|                                                | .2 | Product Data:<br>.1 Submit manufacturer's printed product literature, specifications and data sheet. Indicate the following:<br>.1 Flexible connections.<br>.2 Duct access doors.<br>.3 Turning vanes.<br>.4 Instrument test ports.                                                                                                                                                                           |
|                                                | .3 | Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.<br>.1 Certification of ratings: catalogue or published ratings to be those obtained from tests carried out by manufacturer or independent testing agency signifying adherence to codes and standards. |
|                                                | .4 | Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.                                                                                                                                                                                                                                                 |
|                                                | .5 | Instructions: submit manufacturer's installation instructions.                                                                                                                                                                                                                                                                                                                                                |
|                                                | .6 | Manufacturer's Field Reports: manufacturer's field reports specified.                                                                                                                                                                                                                                                                                                                                         |
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1.2 ACTION AND INFORMATIONAL SUBMITTALS (Cont'd)	.7	Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
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1.3 QUALITY ASSURANCE	.1	Pre-Installation Meetings: .1 Convene pre-installation meeting one week prior to beginning on-site installations in accordance with Construction Progress Schedule. .1 Verify project requirements. .2 Review installation and substrate conditions. .3 Co-ordination with other building subtrades. .4 Review manufacturer's installation instructions and warranty requirements.
	.2	Health and Safety: .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 DELIVERY, STORAGE AND HANDLING	.1	Waste Management and Disposal: .1 Separate waste materials for reuse and recycling.
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## PART 2 - PRODUCTS

2.1 GENERAL	.1	Manufacture in accordance with SMACNA - HVAC Duct Construction Standards.
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2.2 FLEXIBLE CONNECTIONS	.1	Frame: galvanized sheet metal frame with fabric clenched by means of double locked seams.
	.2	Material: .1 Fire resistant, self extinguishing, neoprene coated glass fabric, temperature

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2.2 FLEXIBLE CONNECTIONS (Cont'd)	.2	Material:(Cont'd) .1 (Cont'd) rated at minus 40 degrees C to plus 90 degrees C, density of 1.3 kg/m <sup>2</sup> .
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2.3 ACCESS DOORS IN DUCTS	.1	Non-Insulated Ducts: sandwich construction of same material as duct, one sheet metal thickness heavier, minimum 0.6 mm thick complete with sheet metal angle frame.
	.2	Insulated Ducts: sandwich construction of same material as duct, one sheet metal thickness heavier, minimum 0.6 mm thick complete with sheet metal angle frame and 25 mm thick rigid glass fibre insulation.
	.3	Gaskets: neoprene.
	.4	Hardware: .1 Up to 300 x 300 mm: two sash locks complete with safety chain. .2 301 to 450 mm: four sash locks complete with safety chain. .3 451 to 1000 mm: piano hinge and minimum two sash locks. .4 Doors over 1000 mm: piano hinge and two handles operable from both sides. .5 Hold open devices.

2.4 TURNING VANES	.1	Factory or shop fabricated single thickness with trailing edge, to recommendations of SMACNA and as indicated.
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2.5 INSTRUMENT TEST	.1	1.6 mm thick steel zinc plated after manufacture.
	.2	Cam lock handles with neoprene expansion plug and handle chain.
	.3	28 mm minimum inside diameter. Length to suit insulation thickness.

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- 3.2 INSTALLATION      .2    Access Doors and Viewing Panels: (Cont'd)
- (Cont'd)
- .2    Locations:
- .1    Fire and smoke dampers.
- .2    Control dampers.
- .3    Devices requiring maintenance.
- .4    Required by code.
- .5    Reheat coils.
- .6    Elsewhere as indicated.
- .3    Instrument Test Ports:
- .1    General:
- .1    Install in accordance with  
                    recommendations of SMACNA and in  
                    accordance with manufacturer's  
                    instructions.
- .2    Locate to permit easy manipulation of  
            instruments.
- .3    Install insulation port extensions as  
            required.
- .4    Locations:
- .1    For traverse readings:
- .1    Ducted inlets to roof and wall  
                        exhausters.
- .2    Inlets and outlets of other  
                        fan systems.
- .3    Main and sub-main ducts.
- .4    And as indicated.
- .2    For temperature readings:
- .1    At outside air intakes.
- .2    In mixed air applications in  
                        locations as approved by  
                        Departmental Representative.
- .3    At inlet and outlet of coils.
- .4    Downstream of junctions of two  
                        converging air streams of different  
                        temperatures.
- .5    And as indicated.
- .4    Turning vanes:
- .1    Install in accordance with  
            recommendations of SMACNA and as indicated.
- 3.3 CLEANING      .1    Perform cleaning operations as specified in  
                    Section and in accordance with manufacturer's  
                    recommendations.
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3.3 CLEANING	.2	Upon completion and verification of
<u>(Cont'd)</u>		performance of installation, remove surplus
		materials, excess materials, rubbish, tools
		and equipment.