

**Part 1        General**

**1.1            PRODUCT DATA**

- .1        Submit product data in accordance with Section 01 33 00 – Submittal Procedures.
- .2        Indicate the following: Hardware, blade and frame construction.

**1.2            WASTE MANAGEMENT AND DISPOSAL**

- .1        Separate and recycle waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal, and with the Waste Reduction Workplan.

**Part 2        Products**

**2.1            GENERAL**

- .1        Manufacture to SMACNA standards.

**2.2            SINGLE BLADE DAMPERS**

- .1        Of same material as duct, but one sheet metal thickness heavier. V-groove stiffened.
- .2        Size and configuration to recommendations of SMACNA, except maximum height 150 mm.
- .3        Locking quadrant with shaft extension to accommodate insulation thickness.
- .4        Inside and outside nylon end bearings.
- .5        Channel frame of same material as adjacent duct, complete with angle stop.

**2.3            MULTI-BLADED DAMPERS**

- .1        Factory manufactured of material compatible with duct.
- .2        Opposed blade: configuration, metal thickness and construction to recommendations of SMACNA.
- .3        Maximum blade height: 100 mm.
- .4        Bearings: self-lubricating nylon.
- .5        Linkage: shaft extension with locking quadrant.

- .6 Channel frame of same material as adjacent duct, complete with angle stop.

**Part 3 Execution**

**3.1 INSTALLATION**

- .1 Install where indicated.
- .2 Install in accordance with recommendations of SMACNA and in accordance with manufacturer's instructions.
- .3 For supply, return and exhaust systems, locate balancing dampers in each branch duct.
- .4 Runouts to registers and diffusers: install single blade damper located as close as possible to main ducts.
- .5 All dampers to be vibration free.
- .6 Ensure damper operators are observable and accessible.

**END OF SECTION 23 33 14**