SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes ceiling- and wall-mounted louvers and grilles. See drawings and schedules for quantities.

1.2 SUBMITTALS

A. Product Data: For each product indicated, include the following:

1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
2. Air Device Schedule: Indicate Drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 GRILLES (EG)

A. General: Except as otherwise indicated, provide manufacturer's standard wall registers and grilles where shown; of size, shape, capacity and type indicated; constructed of materials and components as indicated, and as required for complete installation.

B. Performance: Provide grilles that have, as minimum, temperature and velocity traverses, throw and drop, and noise criteria ratings for each size device as listed in manufacturer's current data.

C. Ceiling Compatibility: Provide registers and grilles with border styles that are compatible with adjacent ceiling systems, and that are specifically manufactured to fit into ceiling construction with accurate fit and adequate support. Refer to general construction drawings and specifications for types of ceiling construction which will contain each type of ceiling register and grille.

D. Types: Provide grilles of type, capacity, and with accessories and finishes as listed on Air Device Schedule.

E. Manufacturer: Subject to compliance with requirements, provide wall registers and grilles by one of the following:
1. Anemostat Products Div., Dynamics Corp. of America

2. Carnes Co.; Div. of Wehr Corp.
3. Krueger Mfg. Co.
4. Titus.
5. Tuttle & Bailey series by Hart & Cooley.
6. Metalaire, Metal Industries, Inc.

2.3 LOUVERS (OAL, EL)

A. Except as otherwise indicated, provide manufacturer's standard louvers where shown; of size, shape, capacity and type indicated; constructed of materials and components as indicated, and as required for complete installation.

B. Performance: Provide louvers that have maximum free area, and minimum pressure drop for each type as listed in manufacturer's current data, complying with louver schedule.

C. Substrate Compatibility: Provide louvers with frame and sill styles that are compatible with adjacent substrate, and that are specifically manufactured to fit into construction openings with accurate fit and adequate support, for weatherproof installation. Refer to general construction drawings and specifications for types of substrate that will contain each type of louver.

D. Structural Design: The design and construction of the louver assembly shall be such that the louver integrity is maintained when exposed to the following loads resulting from high winds.

FACILITY TYPE	WIND LOAD (PSF)
< 1 mile from Coast	57.0
> 1 mile from Coast	40.7

Note: loads are based upon FBC 2007 maximum load from 130 mph wind speed (3-second gust)

E. Materials: Construct of aluminum extrusions, ASTM B 221, Alloy 6063-T52. Weld units or use stainless steel fasteners.

F. Coatings: Factory applied polyester urethane power coating shall be provided for all louvers. Color to be approved by Architect.

G. Louver Screens: On inside face of exterior louvers, provide 1/2" square mesh anodized aluminum wire bird screens mounted in removable extruded aluminum frames.

H. Manufacturer: Subject to compliance with requirements, provide louvers by one of the following:
1. American Warming & Ventilating, Inc.
2. Arrow United Industries, Inc.
3. Dowco Corp.
4. Louvers & Dampers, Inc.
5. Penn Pentilator Co., Inc.
6. Ruskin Mfg. Co.
7. Metalaire, Metal Industries, Inc.
8. Greenheck.
9. C/S Louvers.

2.4 SOURCE QUALITY CONTROL

A. Verification of Performance: Rate diffusers, registers, and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install louvers and grilles level and plumb and in accordance with manufacturers written instructions.

B. Ceiling-Mounted Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practicable. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

C. Install louvers and grilles with airtight connections to ducts and to allow service and maintenance.

END OF SECTION 233713