SECTION 233713

DIFFUSERS, REGISTERS, AND GRILLES

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
	1. SUMMARY
		1. Section Includes:
			1. Rectangular and square ceiling diffusers.
			2. Perforated diffusers.
			3. Louver face diffusers.
			4. Adjustable bar registers and grilles.
			5. Fixed face registers and grilles.
		2. Related Sections:
			1. Section 089000 - Louvers and Vents for fixed and adjustable louvers and wall vents, whether or not they are connected to ducts.
			2. Section 233300 - Air Duct Accessories for fire and smoke dampers and volume-control dampers not integral to diffusers, registers, and grilles.
	2. SUBMITTALS
		1. Product Data: For each type of 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. Diffuser, Register, and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.
2. PRODUCTS
	1. CEILING DIFFUSERS
		1. Rectangular and Square Ceiling Diffusers:
			1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Carnes.
				2. Hart & Cooley Inc.
				3. Krueger.
				4. METALAIRE, Inc.
				5. Nailor Industries Inc.
				6. Price Industries.
				7. Titus.
				8. Tuttle & Bailey.
			2. Devices shall be specifically designed for variable-air-volume flows, where required.
			3. Material: Steel or Aluminum, as specified. Aluminum shall be used in humid climates.
			4. Finish: Baked enamel, white or anodized aluminum, per requirements.
			5. Face Size: 24 by 24 inches (600 by 600 mm) for lay-in ceilings or as otherwise required.
			6. Mounting: Surface or T-bar, as required.
			7. Pattern: Fixed or adjustable, as required.
			8. Dampers: Radial opposed blade.
			9. Insulation: Back plate covered with glass fiber insulation with an aluminum foil vapor barrier to prevent harmful effects of condensation.
	2. REGISTERS AND GRILLES
		1. Fixed Face Grille or Register:
			1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Carnes.
				2. Hart & Cooley Inc.
				3. Krueger.
				4. METALAIRE, Inc.
				5. Nailor Industries Inc.
				6. Price Industries.
				7. Titus.
				8. Tuttle & Bailey.
			2. Devices shall be specifically designed for variable-air-volume flows, where required.
			3. Material: Steel or Aluminum, as specified. Aluminum shall be used in humid climates.
			4. Finish: Baked enamel, white or anodized aluminum, per requirements.
			5. Face Size: 24 by 24 inches (600 by 600 mm) for lay-in ceilings or as otherwise required.
			6. Mounting: Surface or T-bar, as required.
			7. Pattern: Fixed or adjustable, as required.
			8. Dampers: Radial opposed blade.
			9. Insulation: Back plate covered with glass fiber insulation with an aluminum foil vapor barrier to prevent harmful effects of condensation.
	3. SOURCE QUALITY CONTROL
		1. Verification of Performance: Rate diffusers, registers, and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."
3. EXECUTION
	1. INSTALLATION
		1. Install diffusers, registers, and grilles level and plumb.
		2. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and 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 practical. 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.
		3. Install diffusers, registers, and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.
	2. ADJUSTING
		1. After installation, adjust diffusers, registers, and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022