SECTION 235100

BREECHINGS, CHIMNEYS, AND STACKS

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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. This Section includes the following:

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**NOTE TO SPECIFIER**

Adjust list below to suit Project.

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* + - 1. Listed chimney liners.
      2. Listed single and/or double-wall vents/chimneys.
      3. Listed grease and dishwasher ducts.
    1. See Division 23 Section "Draft Control Devices" for induced-draft and mechanical fans and for motorized and barometric dampers.
  1. SUBMITTALS
     1. Product Data: For the following:
        1. Chimney liners.
        2. Type B and BW vents.
        3. Type L vents.
        4. Special gas vents.
        5. Building-heating-appliance chimneys.
        6. Grease ducts.
     2. Shop Drawings: For vents, breechings, chimneys, and stacks. Include plans, elevations, sections, details, and attachments to other work.

1. PRODUCTS
   1. LISTED CHIMNEY LINERS
      1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
         1. American Metal Products; MASCO Corporation.
         2. Deflect-O Corp.
         3. Heat-Fab, Inc.
         4. Industrial Chimney Company.
         5. Metal-Fab, Inc.
         6. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
         7. Shook Manufactured Products, Inc.
         8. Simpson Dura-Vent Co., Inc.; Subsidiary of Simpson Manufacturing Co.
         9. Tru-Flex Metal Hose Corp.

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**NOTE TO SPECIFIER**

Straight, stainless-steel chimney liners can be used for dishwasher exhaust ducts and Type II, commercial kitchen hood exhaust ducts.

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* + 1. Description: Straight or corrugated single-wall chimney liner tested according to UL 1777 and rated for 1000 deg F continuously, or 2100 deg F for 10 minutes; with negative or positive flue pressure complying with NFPA 211.
    2. Straight Liner Materials: ASTM A 666, Type 304 stainless steel.
    3. Corrugated Liner Materials: ASTM A 240/A 240M, Type 321, ASTM A 240/A 240M, Type 430, or ASTM A 959, Type 29-4C stainless steel.
    4. Accessories:
       1. Fittings: Tees, elbows, increasers, draft-hood connectors, metal caps with bird barriers, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar or compatible materials and designs.

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**NOTE TO SPECIFIER**

Retain first subparagraph below for positive-pressure applications.

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* + - 1. Sealant: Manufacturer's standard high-temperature sealant.
      2. Insulating Fill: Manufacturer's standard high-temperature insulation fill material in annular space surrounding chimney liner including high-temperature, ceramic-fiber insulation required to seal chimney at top and bottom.
  1. LISTED TYPE B AND BW VENTS
     1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        1. American Metal Products; MASCO Corporation.
        2. Cleaver-Brooks; Div. of Aqua-Chem Inc.
        3. FAMCO.
        4. Hart & Cooley, Inc.
        5. Heat-Fab, Inc.
        6. Industrial Chimney Company.
        7. Metal-Fab, Inc.
        8. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
        9. Simpson Dura-Vent Co., Inc.; Subsidiary of Simpson Manufacturing Co.
        10. Tru-Flex Metal Hose Corp.
        11. Van-Packer Company, Inc.
     2. Description: Double-wall metal vents tested according to UL 441 and rated for 480 deg F continuously for Type B, or 550 deg F continuously for Type BW; with neutral or negative flue pressure complying with NFPA 211.
     3. Construction: Inner shell and outer jacket separated by at least a 1/4-inch airspace.

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**NOTE TO SPECIFIER**

Edit inner shell type as required for service.

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* + 1. Inner Shell: [ASTM B 209, Type 1100 aluminum] [ASTM B 209, Type 3003 aluminum] [ASTM B 209, Type 3105 aluminum] [ASTM A 666, Type 430 stainless steel].
    2. Outer Jacket: Aluminized steel.
    3. Accessories: Tees, elbows, increasers, draft-hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly.
       1. Termination: Round chimney top designed to exclude minimum 98 percent of rainfall.
       2. Termination: [Insert termination].
  1. LISTED TYPE L VENTS
     1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        1. American Metal Products; MASCO Corporation.
        2. FAMCO.
        3. Heat-Fab, Inc.
        4. Industrial Chimney Company.
        5. Metal-Fab, Inc.
        6. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
        7. Simpson Dura-Vent Co., Inc.; Subsidiary of Simpson Manufacturing Co.
        8. Tru-Flex Metal Hose Corp.
        9. Van-Packer Company, Inc.
     2. Description: Double-wall metal vents tested according to UL 641 and rated for 570 deg F continuously, or 1700 deg F for 10 minutes; with neutral or negative flue pressure complying with NFPA 211.

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**NOTE TO SPECIFIER**

Edit air space requirements based upon service and project requirements.

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* + 1. Construction: Inner shell and outer jacket separated by at least a[1-inch] [2-inch] [4-inch]airspace filled with high-temperature insulation.
    2. Inner Shell: ASTM A 666, Type 304 stainless steel.

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**NOTE TO SPECIFIER**

Provide stainless steel in corrosive environments

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* + 1. Outer Jacket: [Aluminized steel] [Stainless steel].
    2. Accessories: Tees, elbows, increasers, draft-hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly.

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**NOTE TO SPECIFIER**

Edit termination based upon service and project requirements.

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* + - 1. Termination: Round chimney top designed to exclude 98 percent of rainfall.
      2. Termination: Exit cone with drain section incorporated into riser.
      3. Termination: [Insert termination].
  1. LISTED SPECIAL GAS VENTS
     1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        1. Heat-Fab, Inc.
        2. Metal-Fab, Inc.
        3. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
        4. Z-Flex; Flexmaster Canada Limited.
     2. Description: Double-wall metal vents tested according to UL 1738 and rated for 480 deg F continuously, with positive or negative flue pressure complying with NFPA 211.
     3. Construction: Inner shell and outer jacket separated by at least a 1/2-inch airspace.
     4. Inner Shell: ASTM A 959, Type 29-4C stainless steel.
     5. Outer Jacket: Aluminized steel (provide stainless steel in corrosive environments).
     6. Accessories: Tees, elbows, increasers, draft-hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly.
        1. Termination: Stack cap designed to exclude minimum 90 percent of rainfall.
        2. Termination: Round chimney top designed to exclude minimum 98 percent of rainfall.
        3. Termination: Exit cone with drain section incorporated into riser.
        4. Termination: [Insert termination].
  2. LISTED BUILDING-HEATING-APPLIANCE CHIMNEYS
     1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        1. American Metal Products; MASCO Corporation.
        2. Cleaver-Brooks; Div. of Aqua-Chem Inc.
        3. FAMCO.
        4. Hart & Cooley, Inc.
        5. Heat-Fab, Inc.
        6. Industrial Chimney Company.
        7. Metal-Fab, Inc.
        8. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
        9. Simpson Dura-Vent Co., Inc.; Subsidiary of Simpson Manufacturing Co.
        10. Tru-Flex Metal Hose Corp.
        11. Van-Packer Company, Inc.

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**NOTE TO SPECIFIER**

Retain three paragraphs below for building-heating-appliance chimneys suitable for dual-fuel boilers, oven vents, water heaters, or exhaust for engines.

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* + 1. Description: Double-wall metal vents tested according to UL 103 and rated for 1000 deg F continuously, or 1700 deg F for 10 minutes; with neutral or negative flue pressure complying with NFPA 211.

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**NOTE TO SPECIFIER**

Edit air space requirements based upon service and project requirements.

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* + 1. Construction: Inner shell and outer jacket separated by at least a [1-inch] [2-inch] [3-inch] [4-inch] annular space [ filled with high-temperature, ceramic-fiber insulation].
    2. Inner Shell: ASTM A 666, Type 304 stainless steel.

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**NOTE TO SPECIFIER**

Retain three paragraphs below for 1400 deg F chimneys suitable for dual-fuel boilers, oven vents, water heaters, or exhaust for engines.

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* + 1. Description: Double-wall metal vents tested according to UL 103 and UL 959 and rated for [1400 deg F] continuously, or [1800 deg F] for 10 minutes; with positive or negative flue pressure complying with NFPA 211.

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**NOTE TO SPECIFIER**

Edit air space requirements based upon service and project requirements.

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* + 1. Construction: Inner shell and outer jacket separated by at least a [1-inch] [2-inch] [3-inch] [4-inch] annular space filled with high-temperature, ceramic-fiber insulation.
    2. Inner Shell: ASTM A 666, Type 304 stainless steel.

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**NOTE TO SPECIFIER**

Retain first three paragraphs below for Type HT chimneys suitable for fireplaces and other solid-fuel-burning appliances.

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* + 1. Description: Double-wall metal vents tested according to UL 103 and rated for 1000 deg F continuously, or 2100 deg F for 10 minutes; with neutral or negative flue pressure complying with NFPA 211.
    2. Construction: Inner shell and outer jacket separated by at least a [1-inch] [1-1/2-inch] [2-inch] [4-inch] annular space filled with high-temperature, ceramic-fiber insulation.
    3. Inner Shell: [ASTM A 666, Type 304] [ASTM A 666, Type 316] [ASTM A 240/A 240M, Type 430] stainless steel.

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**NOTE TO SPECIFIER**

Provide stainless steel in corrosive environments

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* + 1. Outer Jacket: [Aluminized steel] [Stainless steel].
    2. Accessories: Tees, elbows, increasers, draft-hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly.

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**NOTE TO SPECIFIER**

Edit termination based upon service and project requirements.

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* + - 1. Termination: Round chimney top designed to exclude minimum 98 percent of rainfall.
      2. Termination: Exit cone with drain section incorporated into riser.
      3. Termination: [Insert termination].
  1. LISTED GREASE DUCTS
     1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        1. American Metal Products; MASCO Corporation.
        2. Heat-Fab, Inc.
        3. Industrial Chimney Company.
        4. Metal-Fab, Inc.
        5. Selkirk Inc.; Selkirk Metalbestos and Air Mate.
        6. Simpson Dura-Vent Co., Inc.; Subsidiary of Simpson Manufacturing Co.
        7. Tru-Flex Metal Hose Corp.
        8. Van-Packer Company, Inc.
     2. Description: Double-wall metal vents tested according to UL 1978 and rated for 500 deg F continuously, or 2000 deg F for 30 minutes; with positive or negative duct pressure and complying with NFPA 211.

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**NOTE TO SPECIFIER**

Edit air space requirements based upon service and project requirements.

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* + 1. Construction: Inner shell and outer jacket separated by at least a [1-inch] [2-inch] [3-inch] annular space filled with high-temperature, ceramic-fiber insulation.
    2. Inner Shell: ASTM A 666, Type 304 stainless steel.
    3. Outer Jacket: Aluminized steel where concealed. Stainless steel where exposed.
    4. Accessories: Tees, elbows, increasers, hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly. Include unique components required to comply with NFPA 96 including cleanouts, transitions, adapters and drain fittings.

1. EXECUTION
   1. APPLICATION
      1. Listed Chimney Liners: High-efficiency boiler or furnace vents in masonry chimney, dishwasher exhaust, or Type II commercial kitchen hood.
      2. Listed Type B and BW Vents: Vents for certified gas appliances.
      3. Listed Type L Vents: Vents for low-heat appliances.
      4. Listed Special Gas Vents: Condensing gas appliances. Positive pressure AL29-4C, double wall venting.
      5. Listed Building-Heating-Appliance Chimneys: Dual-fuel boilers, oven vents, water heaters, and exhaust for engines. Fireplaces and other solid-fuel-burning appliances.
      6. Listed Grease Ducts: Type I commercial kitchen grease duct.
   2. INSTALLATION OF LISTED VENTS AND CHIMNEYS
      1. Locate to comply with minimum clearances from combustibles and minimum termination heights according to product listing or NFPA 211, whichever is most stringent.

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**NOTE TO SPECIFIER**

Retain first subparagraph below for positive-pressure applications.

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* + 1. Seal between sections of positive-pressure vents and grease exhaust ducts according to manufacturer's written installation instructions, using sealants recommended by manufacturer.
    2. Support vents at intervals recommended by manufacturer to support weight of vents and all accessories, without exceeding appliance loading.

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**NOTE TO SPECIFIER**

Retain first paragraph below for appliances more than 83 percent efficient.

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* + 1. Slope breechings down in direction of appliance, with condensate drain connection at lowest point piped to nearest drain.
    2. Lap joints in direction of flow.
    3. After completing system installation, including outlet fittings and devices, inspect exposed finish. Remove burrs, dirt, and construction debris and repair damaged finishes.
    4. Clean breechings internally, during and after installation, to remove dust and debris. Clean external surfaces to remove welding slag and mill film. Grind welds smooth and apply touchup finish to match factory or shop finish.
    5. Provide temporary closures at ends of breechings, chimneys, and stacks that are not completed or connected to equipment.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022