| Architectural Louvers

Suggested Specifications | Section 08 90 00
Model: PL-3600 – 3/8" hole pattern
Part 2 – Products

2.01 Manufacturers

A. Basis of Design – manufactured by Construction Specialties subject to compliance with requirements listed. The louvers and related materials herein specified and indicated on the drawings shall be manufactured by: Construction Specialties, 3 Werner Way, Lebanon, NJ 08833. Tel: 800.233.8493. Email: cet@c-sgroup.com. No substitutions.

B. Drawings and specifications are based on manufacturer's literature from Construction Specialties, Inc. drawings and specifications unless otherwise indicated. Other manufacturers must be approved equal by Architect/Owner.

2.02 Materials

A. Aluminum Extrusions: ASTM B211, Alloy 6063-T5, 6063-T6 or 6061-T6.
B. Aluminum Sheet: ASTM B3209, Alloy 1100, 3003 or 5005.

2.03 Fabrication, General

A. Provide CS louver models, blank-off panels, structural supports, and accessories as specified and/or shown on the drawings. Materials, sizes, depths, arrangements, and material thickness to be as indicated or as required for optimal performance with respect to strength; durability; and uniform appearance.
B. Louvers to be mechanically assembled using stainless steel or aluminum fasteners.
C. Include supports, anchorage, and accessories required for complete assembly.

2.04 Louver Models

A. CS 5.25" (133.4 mm) Deep Perforated Vertical Storm-Resistant Fixed Louver Model PL-3600
   1. Material: Heads, sills, jambs, and mullions to be one-piece structural aluminum members with integral caulking slot and retaining beads. Mullions shall be sliding interlock type. Louver to consist of a vertical blade in a drainable frame. Louvers to be supplied with 4" (101.6mm) high by full depth sill flashings formed from minimum 0.050" (1.27mm) thick aluminum. Sill flashings to have welded side panels. Louvers and sill flashings to be installed in accordance with the manufacturer's recommended procedures to ensure complete water integrity performance of the louver system. Material nominal thickness to be as follows: Heads, sills, jambs and mullions: Minimum of 0.080" (2.03 mm). Fixed blades: 0.050" (1.27 mm). Perforated Face to be .125" perforated aluminum panel with a hole pattern of 0.375" diameter x 0.500" centers, staggered. Perforated element is face fastened to rear frame and additionally supported as required to minimize deflection, warping, "oil canning" etc. and to comply with all engineering criteria.

Spacing and location of rear supports will be determined by engineering analysis and shall be identified on the shop drawings. Louver manufactures must supply test data results from an 3rd party organization that have perforated sheet with rear blades in a single frame that meet or exceed performance listed below.

2. Performance tested in accordance with AMCA 500-L: A 4' x 4' unit shall conform to the following:

Free Area	7.58 sq. ft. (0.704 sq. m.)
Intake Pressure drop at 1000 fpm free area velocity	0.168 in. H_2O (41.8 Pa)

3. Wind Driven Rain Performance: The louver test was based on a 39.370"(1.00m) x 39.370" (1.00 m) core area. Unit tested at a rainfall rate of 3.0 inches per hour (75 mm/hr) with a wind directed to the face of the louver at a velocity 29.1-mph (13 m/s) and a rainfall rate of 8.0 inches per hour (203 m/s) with a wind directed at the face of the louver at a velocity of 50 mph (22.3m/s). The test data shall show the water penetration effectiveness rating at each corresponding ventilation rate.

29.1 mph (13 m/s) & 3" (75mm) rain per hour

Core Ventilation Rate (m/s):	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Core Ventilation Rate (ft./min):	0	98	197	295	393	492	591	689	787	886	984
Free Area Ventilation Rate (ft./min):	0	192	387	579	772	966	1161	1353	1546	1738	1945
Rating Effectiveness @ 29 & 3	A	A	A	A	A	A	A	A	A	A	A
Effectiveness Ratio @ 29 & 3 (%)											100

50 mph (22.3 m/s) & 8" (203mm) rain per hour

Core Ventilation Rate (m/s):	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Core Ventilation Rate (ft./min):	0	96	197	288	396	482	588	691	792	888	992
Free Area Ventilation Rate (ft./min):	0	189	387	566	778	947	1155	1357	1556	1744	1949
Rating Effectiveness @ 50 & 8	A	A	A	A	A	A	A	A	A	A	A
Effectiveness Ratio @ 50 & 8 (%)											100
Effectiveness Rating:	A = 1 to 0.99		B = 0.989 to 0.95		C = 0.949 to 0.80		D = Below 0.80				

2.05 Finishes

A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes in factory. Protect finishes on exposed surfaces prior to shipment. Remove scratches and blemishes from exposed surfaces that

will be visible after completing finishing process. Provide color as indicated or, if not otherwise indicated, as selected by architect.

B. 100% Fluoropolymer Resin Powder Coat System complying with AAMA-2605-5 standards for gloss and color retention. Finish thickness to be 1.5 to 3.0 mils.
    1. Finish to allow zero VOCs to be emitted into facility of application or at job site.
    2. Finish to adhere to a 4H Hardness rating.
    3. Furnish manufacturers twenty (20) year warranty for finish for gloss and color retention.

OR

B. Three Coat Fluorocarbon Coating
    1. Louvers to be finished with a minimum 1.4 mil (0.035mm) thick full strength 70% resin, 3 coat Fluoropolymer system.
    2. All aluminum shall be thoroughly cleaned, etched, and given a chromated conversion pre-treatment before application of the Kynar/Hylar coating. The coating shall consist of a primer, a high metallic color coat and a clear PVF2 topcoat. It shall receive a bake cycle of 17 minutes at 450°F. All finishing procedures shall be one continuous operation in the plant of the manufacturer.
    3. Manufacturer to furnish an extended 20 limited warranty for the Kynar/Hylar coating. This limited warranty shall begin on the date of material shipment.

OR

B. Two Coat Fluorocarbon Coating
    1. Louvers to be finished with a minimum 1.0 mil (0.025mm) thick full strength 70% resin, 2 coat Fluoropolymer system.
    2. All aluminum shall be thoroughly cleaned, etched, and given a chromated conversion pre-treatment before application of the MICA II coating. The coating shall consist of a primer and a pearlescent pigmented PFV2 topcoat. It shall receive a bake cycle of 17 minutes at 450°F. All finishing procedures shall be one continuous operation in the plant of the manufacturer.
    3. Manufacturer to furnish an extended 20 limited warranty for the Kynar/Hylar coating. This limited warranty shall begin on the date of material shipment.

OR

B. Clear Anodize
    1. Louvers to be given a one-hour 215R1 Architectural Class I anodic coating of 0.7 mil (0.018mm) thickness (Aluminum Association designation AA-C22A41).
    2. The thickness of the coating shall be tested in accordance with ASTM B244-68.
    3. The coating shall be sealed to pass the ASTM B136-77 Modified Dye Stain Test.

OR

B. Bronze Anodic
   1. Louvers to be given a Bronze Anodic Architectural Class 1 coating of 0.7 mil (0.018mm) minimum thickness; and a minimum weight of 27 mg. per sq. in.
   2. The thickness of the coating shall be tested in accordance with ASTM B244-68.
   3. The coating shall be sealed to pass the ASTM B136-77 Modified Dye Stain Test.

2.06 Blank Offs

A. Furnish as specified and where indicated on the drawings. Blank- off panel systems to be fabricated and installed on the louver by the louver manufacturer.

B. Custom fabricated blank- off panels' factory sealed, and quality tested. Includes independent 0.50" aluminum sheet forming the primary air and water seal, which is adhered with butyl tape and whose perimeter is fully sealed and tooled with weather silicone. Any insulated blank-off panels are to be fastened independently to the rear side of the louver, through dry zones of the framing and NOT penetrating any part of the primary sealing sheet.

   Includes in-house quality control testing.

C. 0.050" (1.27mm) thick aluminum sheet blank-off (uninsulated) panels, model SO. Panels to be finished with standard black Kynar 500 minimum 1 mil (0.025mm) thick full strength 70% resin Fluoropolymer coating unless otherwise specified.

D. 1" (25.4mm) thick insulated blank-off panels model IBO-1S, fabricated with hydrophobic fire rated mineral wool core having an R-value of 4 per inch ($^{0}F*ft^{2}*h/Btu$), faced on both sides with 0.032" (0.81 mm) thick aluminum sheet. Panel perimeter frame to be 0.080" (2.03 mm) thick-formed aluminum channels. Panel frame to be mitered at the corners. Panels to be finished with standard black Kynar 500 minimum 1 mil (0.025mm) thick full strength 70% resin Fluoropolymer coating unless otherwise specified.

OR

2" (50.8mm) thick insulated blank-off panels model IBO-2S, fabricated with hydrophobic fire rated mineral wool core having an R-value of 4 per inch ($^{0}F*ft^{2}*h/Btu$), faced on both sides with 0.032" (0.81 mm) thick aluminum sheet. Panel perimeter frame to be 0.080" (2.03mm) thick-formed aluminum channels. Panel frame to be mitered at the corners. Panels to be finished with standard black Kynar 500 minimum 1 mil (0.025mm) thick full strength 70% resin Fluoropolymer coating unless otherwise specified.

OR

3" (76.2mm) thick insulated blank-off panels model IBO-3S, fabricated with hydrophobic fire rated mineral wool core having an R-value of 4 per inch ($^{0}F*ft^{2}*h/Btu$), faced on both sides with 0.032" (0.81 mm) thick aluminum sheet. Panel perimeter frame to be 0.080" (2.03mm) thick-formed aluminum channels. Panel frame to be mitered at the corners. Panels to be finished with standard black Kynar 500 minimum 1 mil (0.025mm) thick full strength 70% resin Fluoropolymer coating unless otherwise specified.

End of Section