PART 2 PRODUCTS

2.01 Manufacturers

A. The louvers and related materials herein specified and indicated on the drawings shall be as manufactured by:

Construction Specialties, Inc.
49 Meeker Avenue
Cranford, New Jersey 07016
Telephone: 800-631-7379

Construction Specialties, LTD.
895 Lakefront Promenade
Mississauga, Ontario L5E 2C2
Telephone: 888-895-8955

Construction Specialties, LLC
1705 World Trade Centre
PO Box 9260
Dubai, U.A.E.
Telephone: +971-4-3312167

CS Group Construction Specialties Ltd.
Room 616-617
No.899 Cross Region Plaza, Lingling Road
Xuhui District, Shanghai, China 200030
Telephone: +86-21-64329257

Construction Specialties (UK) LTD
1010 Westcott Venture Park, Westcott, Aylesbury,
Bucks HP18 0XB. United Kingdom.
Telephone: +44 (0) 1296 652800

B. Products equal to the CS materials may be offered providing that the manufacturer and materials are pre-approved at least 10 working days before the bid date.

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, bird screens, 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 1 3/8" (34.9mm) Deep High Performance Extruded Air Conditioning Louver Model 1302

1. **Material:** Frames and blades to be extruded aluminum sections. All frames to be neatly mitered at corners and reinforced with corner brackets. Material thickness to be as follows: Heads, sills, jambs and mullions: 0.064" (1.63mm). Blades: 0.064" (1.63mm).

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

Free Area	9.29 sq. ft. (0.863 sq. m.)
Intake Pressure drop at 700 fpm (213 m/min) free area velocity	0.06 in. H_2O (1.52mm)
Exhaust pressure drop at 1000 fpm free area velocity (305 m/min)	0.12n. H_2O (3.05 mm)

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.

3. Finish to allow zero VOCs to be emitted into facility of application or at job site.
4. Finish to adhere to a 4H Hardness rating.
5. Furnish manufacturer's 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 Bird Screens

A. Unless otherwise indicated, all louvers to be furnished with mill finish bird or insect screens.

B. Screens to be 5/8" (15.9mm) mesh, 0.050" (1.27mm) thick expanded and flattened aluminum bird screen secured within 0.055" (1.40mm) thick extruded aluminum frames. Frames to have mitered corners and corner locks.

OR

B. Screens to be 18 x 16 aluminum mesh 0.011" (0.279mm) diameter wire insect screens secured within 0.055" (1.40mm) thick extruded aluminum frames. Frames to have mitered corners and corner locks.

2.07 Blank Offs

A. Furnish where indicated on the drawings blank–off panels fabricated by the louver manufacturer.

B. Blank-off panels to be 0.050" (1.27mm) thick aluminum sheet. Panels to be finished with Kynar 500 minimum 1 mil (0.025mm) thick full strength 70% resin Fluoropolymer coating. Standard black Kynar.

OR

B. Blank-off panels to be 1" (25.4mm) thick and to be faced on both sides with 0.032" (0.81 mm) thick aluminum sheet. Panels to be fabricated with an mineral wool core (#6 density) having an R-value of 4 (0F*ft2*h/Btu) per inch. Insulation to comply with ASTM C 612 Minteral fiber block and board thermal insulation Type 1VB. Panel perimeter frame to be 0.050" (1.27mm) thick-formed aluminum channels. Panel frame to be mitered at the corners. Panels to be finished black.

Complies Fire Performance:	
ASTM E 136 Behavior of Materials at 750 °C (1382 °F)	Non-Combustible
CAN4 S114 Test for Non-Combustibility	Non-Combustible
ASTM E 84 (UL 723) Surface Burning Characteristics	Flame Spread = 0
Smoke Developed = 0	
CAN/ULC S102 Surface Burning Characteristics	Flame Spread = 0
Smoke Developed = 0	
Thermal Resistance:	
ASTM C 518 (C177) R-value/inch @ 75 °F	4.2 hr.ft^2.F/Btu***
RSI value/25.4 mm @24 °C	0.74 m^{2}K/W

OR

B. Blank-off panels to be 2" (50.8mm) thick and to be faced on both sides with 0.032" (0.81 mm) thick aluminum sheet. Panels to be fabricated with an mineral wool core (#6 density) having an R-value of 8 (0F*ft2*h/Btu). Panel perimeter frame to be 0.050" (1.27mm) thick-formed aluminum channels. Panel frame to be mitered at the corners. Panels to be finished black.

Complies Fire Performance:	
ASTM E 136 Behavior of Materials at 750 °C (1382 °F)	Non-Combustible
CAN4 S114 Test for Non-Combustibility	Non-Combustible
ASTM E 84 (UL 723) Surface Burning Characteristics	Flame Spread = 0
Smoke Developed = 0	
CAN/ULC S102 Surface Burning Characteristics	Flame Spread = 0
Smoke Developed = 0	
Thermal Resistance:	
ASTM C 518 (C177) R-value/inch @ 75 °F	4.2 hr.ft^2.F/Btu***
RSI value/25.4 mm @24 °C	0.74 m^{2}K/W