TENPLUS

TEN PLUS ARCHITECTURAL

Louvers • Sunshades • Vision Screens

InterCoast
BUILDING SOLUTIONS

OUR COMMITMENT

TEN Plus owes its success to the simple business philosophy of providing quality products, great service, and an unwavering commitment to customer satisfaction.

We accomplish our goals by investing in people and technology. We strive to improve productivity and optimize the use of our resources through investment in state-of-the-art equipment, training and the use of innovative design principles. Rigorous quality control and workplace safety practices ensure the well-being of our employees and business partners.

Our technical representatives possess comprehensive louver knowledge and extensive field experience. Each one is capable of assisting you through the design and engineering stage, as well as overcoming the unforeseen field conditions.

We trust that this catalogue will prove to be a useful aid and resource to selecting your louvers, sunshades and vision screens. However, should you have any questions or unique conditions requiring greater detail, please feel free to call us for assistance. Our staff is attentive to your needs and eager to serve you. We look forward to your call.

Ten Plus Architectural Products Ltd. 26 – 6535 Millcreek Drive, Mississauga, ON L5N 2M2
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NOTE: Although great care has been taken in the production of this catalogue, illustrative or copy errors may occur. TEN Plus Architechtural Products Ltd. assumes no liability for any errors contained herein. This publication supercedes all prior technical, policy, and print data. Specifications subject to change without notice.

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LOUVER SELECTION CHART

EXTRUDED ALUMINUM LOUVERS + VISION SCREENS

Model	Classification	Depth	Min. Height	AMCA Air Performance Certification	AMCA Water Performance Certification	AMCA Wind Driven Rain Certification
G1384	Door grille	1-3/8" - 1-3/4" (35 - 45mm)	6" (152mm)	-	-	-
B4450	Block vent	4" (102mm)	4" (102mm)	-	-	-
H2451	Storm blade	2" (52mm)	12" (305mm)	-	-	-
H4451	Storm blade	4" (102mm)	18" (457mm)	Yes	Yes	-
V4454	Sight proof	4" (102mm)	18" (457mm)	-	-	-
D4493	Drainable	4" (102mm)	18" (457mm)	Yes	Yes	-
H4451	Louvered Penthouse	4" (102mm)	18" (457mm)	Yes	Yes	-
S4522	Vision screen	4" (102mm)	18" (457mm)	-	-	-
V4454	Vision screen	4" (102mm)	18" (457mm)	-	-	-
R5455	Storm resistant	5" (127mm)	18" (457mm)	Yes	Yes	Yes
H6451	Storm blade	6" (152mm)	18" (457mm)	Yes	Yes	-
D6403	Drainable	6" (152mm)	18" (457mm)	Yes	Yes	-
S6452	Vision screen	6" (152mm)	18" (457mm)	-	-	-
A6457	Acoustical	6" (152mm)	18" (457mm)	-	-	-
R7355	Storm resistant	7" (178mm)	18" (457mm)	Yes	Yes	Yes
A8457	Acoustical	8" (203mm)	18" (457mm)	-	-	-
A12457	Acoustical	12" (305mm)	18" (457mm)	-	-	-

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LOUVER SELECTION GUIDELINES

FREE AREA

Free area is the unobstructed area of a louver through which air can pass freely. The free area and total volume of air will determine the velocity of air through the louver. The free area velocity determines the size of the louver based on design constraints such as static pressure drop and water penetration.

SIZING LOUVERS

To choose the correct louver size, please use the following steps:

- Determine which louver would be best suited for the applicati on.
- Determine the total volume of air (Cubic Feet per Minute or C FM) that will pass through the louver.
- Determine the most important design criteria, by choosing from a, b or c:
  - a) Not to allow water to penetrate the louver. If water penetration is the most important design criteria, then use a velocity less than that shown on the water penetration chart.
  - b) Not to exceed a determined static pressure drop. If static pressure drop is the most important design criteria, then use a velocity equal to that shown on the pressure drop chart.
  - c) If both are equally important, use the lower of the two velocities.
- To determine the total free area required, divide the volume of air (CFM) by the velocity through the free area (FPM).
- Match the free area required to the free area chart of the chosen louver. This will determine the overall dimensions of the louver required.

Feel free to call us for assistance on proper louvre sizing.

DRAINABLE LOUVERS

Drainable louvers are designed to collect the water that flows down each individual blade face and disperse the water through spouts in the mullions and jambs.

Drainable louvers are effective only when the blades and drainage spouts are free of debris. They should be checked regularly and cleaned when necessary, to ensure they continue to perform well. To benefit from their performance, drainable louvers should never be specified as continuous line louvers. The design of the louver system requires that the collected water be diverted from the face of each blade. By eliminating the visible mullions on a large span of d rainable louvers, it is possible for water to collect in the gu tters and overflow. This overflow, cascades down the face of the louver and may be sucked into the fans and mechanical systems behind the louver.

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ACCESSORIES

AVAILABLE ACC ESSORIES

- Custom louver shapes available
- Flanged frames
- Frames with glazing adaptor for curtain wall and window mullions
- 1/2" x 1/2" (12 x 12mm) inter-crimped 14 gauge (0.063") aluminum bird screens
- 5/8" (16 mm) mesh, 0.50" (1.27 mm) thick expanded and flattened aluminum bird screen
- 16 x 18 aluminum mesh insect screen
- Continuous blade construction with hidden mullions to give an uninterrupted appearance
- Continuous blade construction is not recommended for use on drainable louvers, save for model R7355
- Single sheet and insulated blank-off panels are available in aluminum or galvanized steel
- All welded construction is available when required
- Hinged louvered doors for applications that require access to the room or equipment behind the louver
- Security bars behind louvers
- Custom sill lengths and shapes are available

If you require an item not shown here, please contact our office. We will assist you in designing a louver or a feature that meets your design requirements.

FINISHES

- THREE COAT SYSTEM
  Superior performance three coat system (primer/colour coat/clear coat) including thermal setting application of 70% fluoropolymer resin minimum, PVDF with added colour pigment finish exceeding or meeting AAMA 2605 requirements. Ensure fluoropolymer baked resins form a continuous physically locked finish during manufacturing process. Apply fluoropolymer finish after multistage chemical treatment cleaning providing corrosion resistance surface ready to receive primer. Acceptable Product: Duranar XL by PPG Industries or equivalent by Valspar.

- TWO COAT SYSTEM
  High performance two coat system including thermal setting application of 70% fluoropolymer resin minimum, PVDF with added colour pigment finish exceeding or meeting AAMA 2605 requirements. Ensure fluoropolymer baked resins form a continuous physically locked finish during manufacturing process. Apply fluoropolymer finish after multistage chemical treatment cleaning providing corrosion resistance surface ready to receive primer. Acceptable Product: "Duranar" by PPG Industries or equivalent by Valspar.

- ONE COAT SYSTEM
  Pigmented Organic Thermal Setting Finish Process: (1 Coat Wet System) meeting or exceeding AAMA 2603. Acceptable Product: "Duracron" by PPG Industries or equivalent by Valspar.

- COLOUR ANODIZED FINISH
  Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Colour to be selected by consultan t.

- CLEAR ANODIZED FINISH
  Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applic ations.

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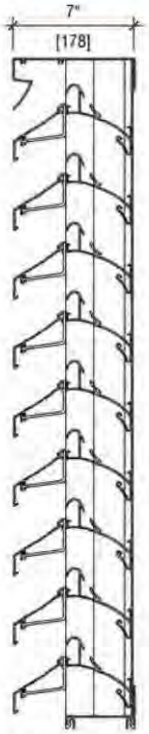
MODEL R7355 STORM RESISTANT DRAINABLE LOUVER

PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Continuous Line or Mullion Construction
Louver Depth	7" (178 mm)
Blade Angle	35^0
Free Area – 4'x4' Unit	8.03 sq.ft. (0.75 m^2)
Percentage Free Area	50.3%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	759 FPM (3.86 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	6097 CFM (2.9 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	0.25 in. H_2O (62.3 Pa)
Notes	Tested without bird screens
WIND DRIVEN RAIN WATER PENETRATION DATA (29 mph (13 m/s) wind velocity with a 3 in/hr (75 mm/hr) rainfall rate):	
Effectiveness Ratio: 99.1% (Class "A" Rating)	Core Ventilation Rate: 1.0 m/s (196 fpm) Free Area Velocity: 1.7 m/s (342 fpm)
Effectiveness Ratio: 98.7% (Class "B" Rating)	Core Ventilation Rate: 1.4 m/s (280 fpm) Free Area Velocity: 2.5 m/s (490 fpm)



VERTICAL SECTION

FLANGE FRAME OPTIONAL

GLAZING FRAME OPTIONAL

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 7" (178 mm) deep, storm resistant louver Model R7355. Submit all details to consultant for approval prior to fabrication.

Head, sill, jambs, mullions, and blades shall have a nominal thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy. Jambs and Mullions to be recessed and concealed, and shall have integral vertical gutters to direct water to the bottom of the exterior face of the louver away from the building. Front blades shall be continuous, with no exposed vertical mullions, with rear blades that include an integral horizontal gutter to lead water to the vertical gutters in the mullions and jambs. Provide a sill pan flashing at base of louvers. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and re-galvanized wire mesh in a mill finish, with aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater than 10' (3 m) high, will require a horizontal girt at mid span, by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the above criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal.

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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PERFORMANCE RATINGS – LOUVER MODEL R7355

FREE AREA CHART

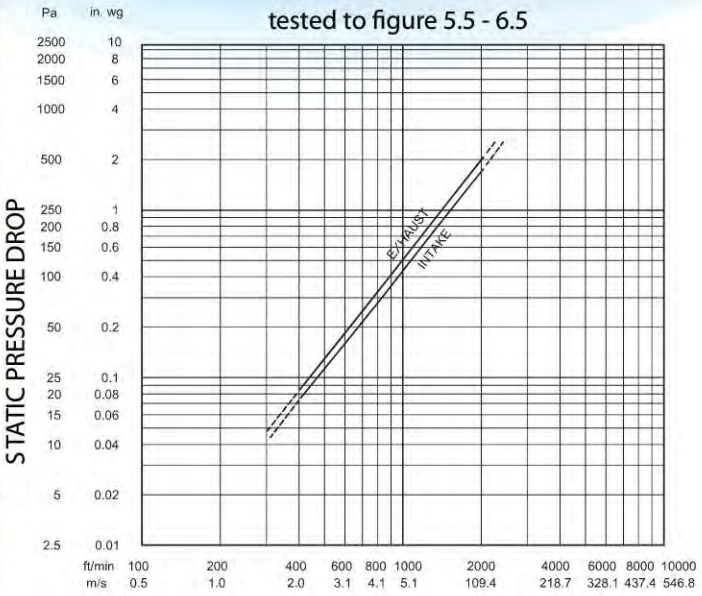
Louver Width

Louver Height inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
Free Area - Square Feet / Square Meters					
12 / 305	0.30 / 0.03	0.69 / 0.06	1.07 / 0.10	1.46 / 0.14	1.84 / 0.17
24 / 610	0.76 / 0.07	1.72 / 0.16	2.69 / 0.25	3.65 / 0.34	4.61 / 0.43
36 / 914	1.22 / 0.11	2.76 / 0.26	4.30 / 0.40	5.84 / 0.54	7.38 / 0.69
48 / 1219	1.68 / 0.16	3.79 / 0.35	5.91 / 0.55	8.03 / 0.75	10.15 / 0.94
60 / 1524	2.13 / 0.20	4.83 / 0.45	7.52 / 0.70	10.22 / 0.95	12.91 / 1.20
72 / 1829	2.59 / 0.24	5.86 / 0.54	9.14 / 0.85	12.41 / 1.15	15.68 / 1.46
84 / 2134	3.05 / 0.28	6.90 / 0.64	10.75 / 1.00	14.60 / 1.36	18.45 / 1.71
96 / 2438	3.51 / 0.33	7.93 / 0.74	12.36 / 1.15	16.79 / 1.56	21.22 / 1.97
108 / 2743	3.96 / 0.37	8.97 / 0.83	13.97 / 1.30	18.98 / 1.76	23.98 / 2.23
120 / 3048	4.42 / 0.41	10.00 / 0.93	15.58 / 1.45	21.17 / 1.97	26.75 / 2.49
132 / 3353	4.88 / 0.45	11.04 / 1.03	17.20 / 1.60	23.36 / 2.17	29.52 / 2.74
144 / 3658	5.33 / 0.50	12.07 / 1.12	18.81 / 1.75	25.55 / 2.37	32.28 / 3.00

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')

tested to figure 5.5 - 6.5



AIR VELOCITY

Ten Plus Architectural Products Ltd. certifies that louver model RS7355 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration and Wind Driven Rain ratings.

Submittal R7355 January12, 2014

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WIND DRIVEN RAIN PERFORMANCE

Core velocity - m/s (f/m)	0 (0)	0.6 (126)	1.0 (196)	1.4 (280)	1.9 (377)	2.4 (476)	3.0 (588)	3.5 (680)
Free area velocity - m/s (f/m)	0 (0)	1.1 (220)	1.7 (342)	2.5 (490)	3.4 (659)	4.2 (832)	5.2 (1027)	6.0 (1188)
Effectiveness classification	A	A	A	B	B	B	C	D
Effectiveness ratio	99.8%	99.6%	99.1%	98.7%	98.0%	95.1%	84.1%	71.3%

Discharge Loss Coeefficient Class (Intake) = 3

This test is based on a 1m x 1m (39.37" x 39.37") louver core size, at a rainfall rate of 76mm/hr (3 in/hr), with wind driven rain applied to the face of the louver at a velocity of 13 m/s (29 mph). The above table shows the effectiveness against water penetration at each corresponding ventilation airflow rate.

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MODEL R5455 STORM RESISTANT DRAINABLE LOUVER

PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion Construction
Louver Depth	5" (127 mm)
Blade Angle	45^0
Free Area – 4'x4' Unit	7.54 sq.ft. (0.70 m^2)
Percentage Free Area	47.1%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	1100 FPM (5.59 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	8294 CFM (4.0 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	0.40 in. H_2O (39.5 Pa)
Notes	Tested without bird screens
WIND DRIVEN RAIN WATER PENETRATION DATA (29 mph (13 m/s) wind velocity with a 3 in/hr (75 mm/hr) rainfall rate):	
Effectiveness Ratio: 99.8% (Class "A" Rating)	Core Ventilation Rate: 0.7 m/s (133 fpm) Free area velocity: 1.4 m/s (276 fpm)
Effectiveness Ratio: 98.9% (Class "B" Rating)	Core Ventilation Rate: 1.0 m/s (192 fpm) Free area velocity: 2 m/s (388 fpm)

VERTICAL SECTION

FLANGE FRAME OPTIONAL

GLAZING FRAME OPTIONAL

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 5" (127 mm) deep storm resistant louver Model R5455. Submit all details to consultant for approval prior to fabrication.

Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy. Jambs and Mullions shall have integral, vertical gutters to direct water to the bottom of the exterior face of the louver and away from the building. Blades shall be, 0.070" (1.77 mm) 6063-T5 aluminum alloy and include an integral horizontal gutter to lead water to the vertical gutters in the mullions and jambs provided with a sill pan flashing. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the above criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal.

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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PERFORMANCE RATINGS – LOUVER MODEL R5455

FREE AREA CHART

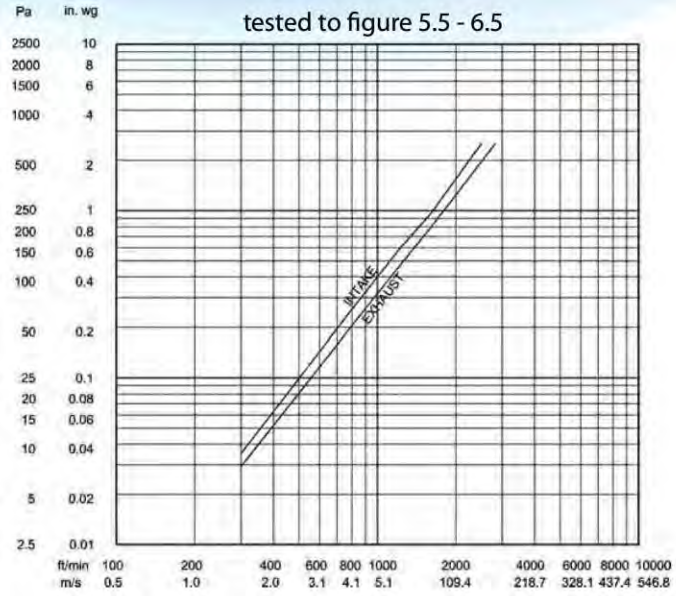
Louver Width

Louver Height: inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.27 / 0.02	0.60 / 0.06	0.92 / 0.09	1.25 / 0.12	1.58 / 0.15
24 / 610	0.66 / 0.06	1.46 / 0.14	2.27 / 0.21	3.08 / 0.29	3.89 / 0.36
36 / 914	1.13 / 0.11	2.52 / 0.23	3.91 / 0.36	5.31 / 0.49	6.70 / 0.62
48 / 1219	1.71 / 0.16	3.81 / 0.35	5.91 / 0.55	7.54 / 0.70	10.11 / 0.94
60 / 1524	1.99 / 0.19	4.45 / 0.41	6.90 / 0.64	9.36 / 0.87	11.81 / 1.10
72 / 1829	2.47 / 0.23	5.51 / 0.51	8.55 / 0.79	11.58 / 1.08	14.62 / 1.36
84 / 2134	2.94 / 0.27	6.57 / 0.61	10.19 / 0.95	13.81 / 1.28	17.43 / 1.62
96 / 2438	3.52 / 0.33	7.86 / 0.73	12.19 / 1.13	16.52 / 1.54	20.86 / 1.94
108 / 2743	3.74 / 0.35	8.34 / 0.78	12.94 / 1.20	17.55 / 1.63	22.15 / 2.06
120 / 3048	4.20 / 0.39	9.37 / 0.87	14.54 / 1.35	19.71 / 1.83	24.88 / 2.31
132 / 3353	4.67 / 0.43	10.42 / 0.97	16.17 / 1.50	21.92 / 2.04	27.67 / 2.57
144 / 3658	5.51 / 0.48	11.48 / 1.07	17.81 / 1.66	24.14 / 2.24	30.48 / 2.83

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')

tested to figure 5.5 - 6.5



AIR VELOCITY

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Submittal R5455 January12, 2014

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WIND DRIVEN RAIN PERFORMANCE

Core velocity - m/s (f/m)	0 (0)	0.7 (133)	1.0 (192)	1.4 (279)	1.9 (382)	2.4 (473)	3.0 (595)	3.5 (697)
Free area velocity - m/s (f/m)	0 (0)	1.4 (268)	2.0 (388)	2.9 (563)	3.9 (770)	4.8 (953)	6.1 (1199)	7.1 (1404)
Effectiveness classification	A	A	B	B	C	C	C	D
Effectiveness ratio	99.80%	99.40%	98.90%	97.20%	94.80%	92.30%	85.70%	74.70%

Discharge Loss Coeefficient Class (Intake) = 3

This test is based on a 1m x 1m (39.37" x 39.37") louver core size, at a rainfall rate of 76mm/hr (3 in/hr), with wind driven rain applied to the face of the louver at a velocity of 13 m/s (29 mph). The above table shows the effectiveness against water penetration at each corresponding ventilation airflow rate.

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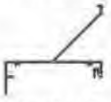
MODEL D6403 DRAINABLE LOUVER

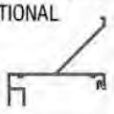
PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion or Continuous Line Construction
Louver Depth	6" (152 mm)
Blade Angle	40°
Free Area – 4'x4' Unit	9.01 sq.ft. (0.837 m ^{2})
Percentage Free Area	56.3%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft ^{2})	969.9 FPM (4.93 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	8739 CFM (4.12 m ^{3}/s)
Pressure Drop at Beginning Point of Water Penetration	0.16 in. H_2O (39.5 Pa)
Notes	Tested without bird screens

VERTICAL SECTION



FLANGE FRAME OPTIONAL



GLAZING FRAME OPTIONAL

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 6" (152 mm) deep, drainable louver Model D6403. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy.

Jambs and Mullions shall have integral, vertical gutters to direct water to the bottom of the exterior face of the louver and away from the building. Blades shall be, 0.090" (2.3 mm) 6063-T5 aluminum alloy and include an integral horizontal gutter to lead water to the vertical gutters in the mullions and jambs. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the following criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal:

Free area = 9.01 sq.ft. (0.837 m ^{2})
Free area velocity at point of beginning water penetration = 969.9 FPM (4.93 m/s)
Intake pressure drop at beginning point of water penetration = 0.16 in. H_2O (39.5 Pa)

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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PERFORMANCE RATINGS – LOUVER MODEL D6403

FREE AREA CHART

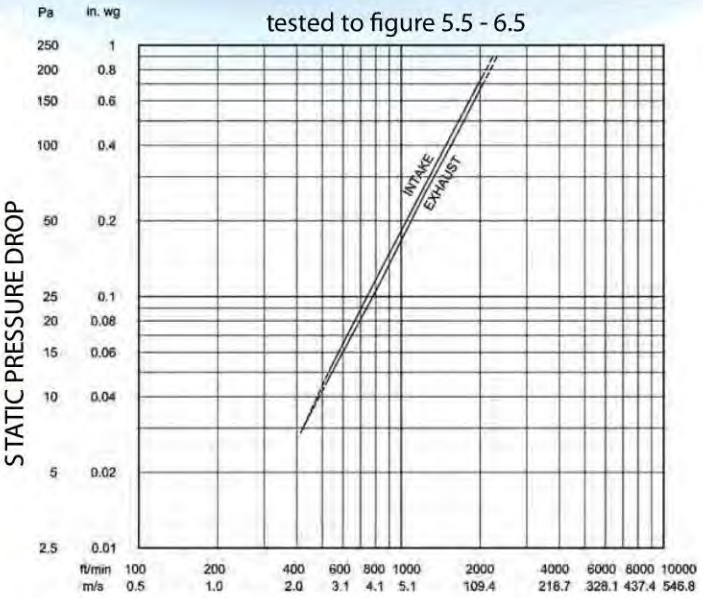
Louver Width

Louver Height inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
Free Area - Square Feet / Square Meters					
12 / 305	0.30 / 0.03	0.67 / 0.06	1.04 / 0.10	1.40 / 0.13	1.77 / 0.16
24 / 610	0.78 / 0.07	1.75 / 0.16	2.71 / 0.25	3.67 / 0.34	4.64 / 0.43
36 / 914	1.38 / 0.13	3.07 / 0.29	4.76 / 0.44	6.46 / 0.60	8.15 / 0.76
48 / 1219	1.86 / 0.17	4.15 / 0.39	6.44 / 0.60	8.72 / 0.81	11.02 / 1.02
60 / 1524	2.45 / 0.23	5.47 / 0.51	8.49 / 0.79	11.51 / 1.07	14.52 / 1.35
72 / 1829	2.94 / 0.27	6.55 / 0.61	10.17 / 0.94	13.78 / 1.28	17.40 / 1.62
84 / 2134	3.42 / 0.32	7.63 / 0.71	11.84 / 1.10	16.05 / 1.49	20.27 / 1.88
96 / 2438	4.01 / 0.37	8.95 / 0.83	13.89 / 1.29	18.84 / 1.75	23.78 / 2.21
108 / 2743	4.50 / 0.42	10.03 / 0.93	15.57 / 1.45	21.11 / 1.96	26.64 / 2.48
120 / 3048	4.98 / 0.46	11.11 / 1.03	17.25 / 1.60	23.38 / 2.17	29.51 / 2.74
132 / 3353	5.58 / 0.52	12.44 / 1.16	19.30 / 1.79	26.16 / 2.43	33.02 / 3.07
144 / 3658	6.06 / 0.56	13.52 / 1.26	20.98 / 1.95	28.43 / 2.64	35.89 / 3.34

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')

tested to figure 5.5 - 6.5



AIR VELOCITY

Ten Plus Architectural Products Ltd. certifies that louver model D6403 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration ratings.

Submittal D6403 January12, 2014

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MODEL D4493 DRAINABLE LOUVER

PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	49°
Free Area – 4'x4' Unit	7.68 sq.ft. (0.714 m^2)
Percentage Free Area	48%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	1033.2 FPM (5.25 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	7935 CFM (3.75 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	0.25 in. H_2O (62.3 Pa)
Notes	Tested without bird screens

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep, drainable louver Model D4493. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy.

Jambs and Mullions shall have integral, vertical gutters to direct water to the bottom of the exterior face of the louver and away from the building. Blades shall be 0.080" (2.0 mm) 6063-T5 aluminum alloy and include an integral horizontal gutter to lead water to the vertical gutters in the mullions and jambs. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the following criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal:

Free area = 7.68 sq. ft. (0.714 m^2)
Free area velocity at point of beginning water penetration = 1033.2 FPM (5.25 m/s)
Intake pressure drop at beginning point of water penetration = 0.25 in. H2O (62.3 Pa)

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

VERTICAL SECTION

FLANGE FRAME
OPTIONAL

GLAZING FRAME
OPTIONAL

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PERFORMANCE RATINGS – LOUVER MODEL D4493

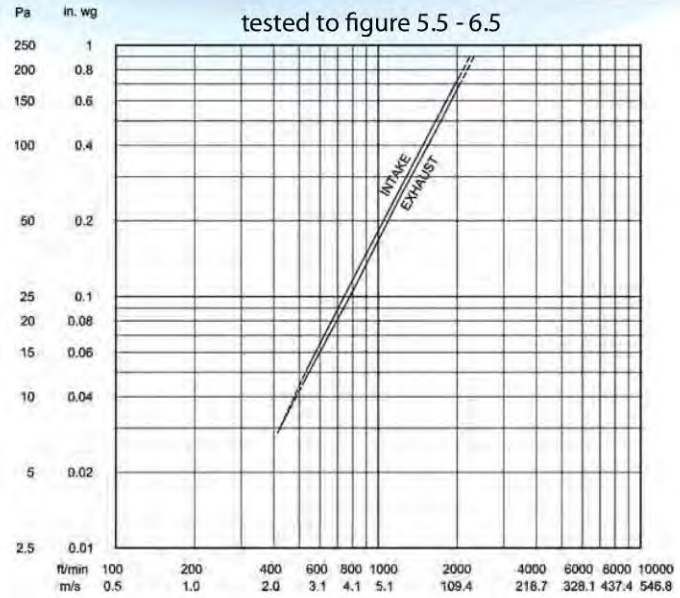
FREE AREA CHART

Louver Width

Louver Height: inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
Free Area - Square Feet / Square Meters					
12 / 305	0.30 / 0.03	0.67 / 0.06	1.05 / 0.10	1.42 / 0.13	1.79 / 0.17
24 / 610	0.70 / 0.07	1.57 / 0.15	2.44 / 0.23	3.30 / 0.31	4.17 / 0.39
36 / 914	1.23 / 0.11	2.74 / 0.25	4.25 / 0.39	5.76 / 0.54	7.27 / 0.68
48 / 1219	1.62 / 0.15	3.62 / 0.34	5.61 / 0.52	7.68 / 0.71	9.60 / 0.89
60 / 1524	2.15 / 0.20	4.80 / 0.45	7.45 / 0.69	10.10 / 0.94	12.75 / 1.19
72 / 1829	2.55 / 0.24	5.68 / 0.53	8.82 / 0.82	11.95 / 1.11	15.08 / 1.40
84 / 2134	2.94 / 0.27	6.56 / 0.61	10.18 / 0.95	13.80 / 1.28	17.42 / 1.62
96 / 2438	3.47 / 0.32	7.75 / 0.72	12.02 / 1.12	16.29 / 1.51	20.57 / 1.91
108 / 2743	3.87 / 0.36	8.62 / 0.80	13.38 / 1.24	18.14 / 1.69	22.90 / 2.13
120 / 3048	4.57 / 0.42	10.20 / 0.95	15.83 / 1.47	21.45 / 1.99	27.08 / 2.52
132 / 3353	4.79 / 0.45	10.69 / 0.99	16.59 / 1.54	22.49 / 2.09	28.38 / 2.64
144 / 3658	5.19 / 0.48	11.57 / 1.08	17.96 / 1.67	24.34 / 2.26	30.72 / 2.86

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')



AIR VELOCITY

Ten Plus Architectural Products Ltd. certifies that louver model D4493 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration ratings.

Submittal D4493 January12, 2014

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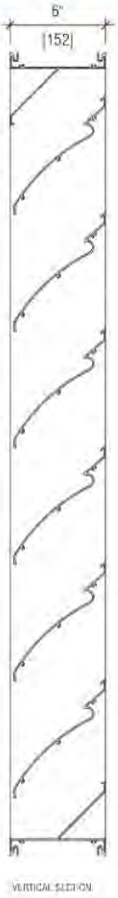
MODEL H6451 STORM BLADE LOUVER

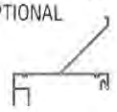
PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion or Continuous Line Construction
Louver Depth	6" (152 mm)
Blade Angle	45^0
Free Area – 4'x4' Unit	7.53 sq.ft. (0.700 m^2)
Percentage Free Area	47.1%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	653 FPM (3.32m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	4917 CFM (2.32 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	0.067 in. H_2O (16.69 Pa)
Notes	Tested without bird screens



VERTICAL SECTION

FLANGE FRAME OPTIONAL



GLAZING FRAME OPTIONAL

S UGGESTED SPECIFICATION

Where indicated on drawings, supply and install 6" (152 mm) deep storm blade louver Model H6451. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.090" (2.3 mm) 6063-T5 aluminum alloy with a storm hook design. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the following criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal:

Free area = 7.53 sq. ft. (0.700 m^2)
Free area velocity at point of beginning water penetration = 653 FPM (3.32 m/s)
Intake pressure drop at beginning point of water penetration = 0.067 in. H_2O (16.69 Pa)

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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PERFORMANCE RATINGS – LOUVER MODEL H6451

FREE AREA CHART

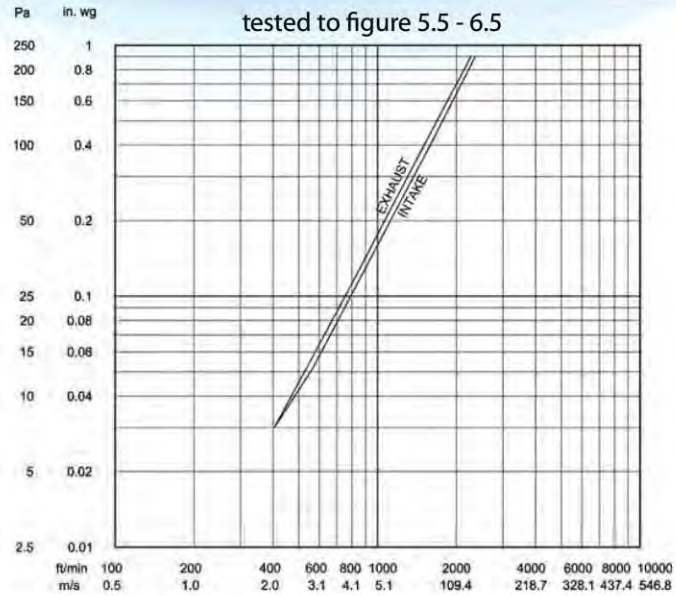
Louver Width

Louver Height inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.18 / 0.02	0.39 / 0.04	0.60 / 0.06	0.81 / 0.08	1.02 / 0.09
24 / 610	0.59 / 0.06	1.30 / 0.12	2.01 / 0.19	2.73 / 0.25	3.44 / 0.32
36 / 914	1.22 / 0.11	2.69 / 0.25	4.15 / 0.39	5.62 / 0.52	7.08 / 0.66
48 / 1219	1.64 / 0.15	3.61 / 0.34	5.58 / 0.52	7.53 / 0.70	9.51 / 0.88
60 / 1524	2.27 / 0.21	4.99 / 0.46	7.71 / 0.72	10.42 / 0.97	13.14 / 1.22
72 / 1829	2.69 / 0.25	5.91 / 0.55	9.13 / 0.85	12.35 / 1.15	15.57 / 1.45
84 / 2134	3.10 / 0.29	6.83 / 0.63	10.56 / 0.98	14.28 / 1.33	18.01 / 1.67
96 / 2438	3.73 / 0.35	8.21 / 0.76	12.68 / 1.18	17.16 / 1.59	21.64 / 2.01
108 / 2743	4.15 / 0.39	9.13 / 0.85	14.11 / 1.31	19.09 / 1.77	24.07 / 2.24
120 / 3048	4.57 / 0.42	10.05 / 0.93	15.53 / 1.44	21.01 / 1.95	26.50 / 2.46
132 / 3353	5.19 / 0.48	11.43 / 1.06	17.66 / 1.64	23.90 / 2.22	30.13 / 2.80
144 / 3658	5.61 / 0.52	12.35 / 1.15	19.09 / 1.77	25.82 / 2.40	32.56 / 3.03

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')

tested to figure 5.5 - 6.5



AIR VELOCITY

Ten Plus Architectural Products Ltd. certifies that louver model H6451 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration ratings.

Submittal H6451 January12, 2014

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MODEL H4451 STORM BLADE LOUVER

PERFORMANCE

Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	45°
Free Area – 4'x4' Unit	8.12 sq.ft. (0.755 m^2)
Percentage Free Area	51%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	658 FPM (3.34 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	5343 CFM (2.52 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	.077 in. H_2O (19.18 Pa)
Notes	Tested without bird screens

VERTICAL SECTION

FLANGE FRAME
OPTIONAL

GLAZING FRAME
OPTIONAL

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep storm blade louver Model H4451. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.080" (2.0 mm) 6063-T5 aluminum alloy with a storm hook design. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the following criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal:

Free area = 8.12 sq. ft. (0.755 m^2)
Free area velocity at point of beginning water penetration = 658 FPM (3.34 m/s)
Intake pressure drop at beginning point of water penetration = 0.077 in. H_2O (19.18 Pa)

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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PERFORMANCE RATINGS – LOUVER MODEL H4451

FREE AREA CHART

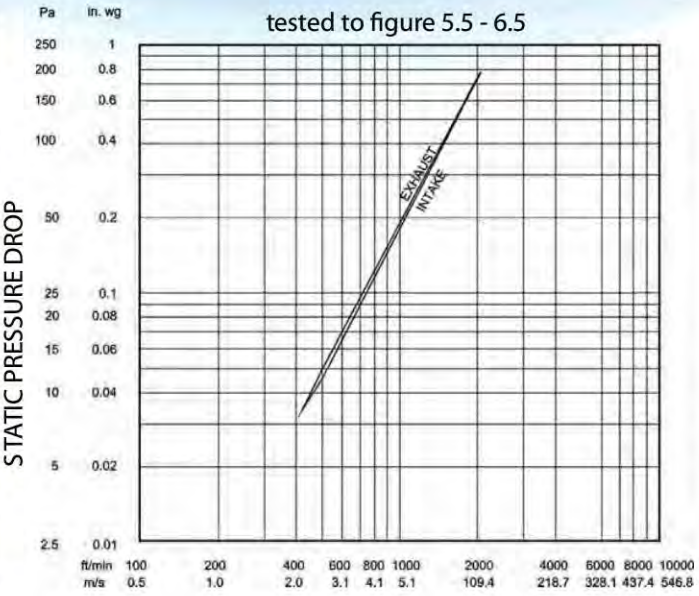
Louver Width

Louver Height inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.30 / 0.03	0.73 / 0.07	1.13 / 0.10	1.53 / 0.14	1.92 / 0.18
24 / 610	0.74 / 0.07	1.62 / 0.15	2.51 / 0.23	3.40 / 0.32	4.28 / 0.40
36 / 914	1.29 / 0.12	2.83 / 0.26	4.38 / 0.41	5.92 / 0.55	7.46 / 0.69
48 / 1219	1.78 / 0.17	3.92 / 0.36	6.05 / 0.56	8.12 / 0.75	10.32 / 0.96
60 / 1524	2.24 / 0.21	4.93 / 0.46	7.62 / 0.71	10.31 / 0.96	13.00 / 1.21
72 / 1829	2.79 / 0.26	6.14 / 0.57	9.49 / 0.88	12.84 / 1.19	16.19 / 1.50
84 / 2134	3.45 / 0.32	7.60 / 0.71	11.74 / 1.09	15.89 / 1.48	20.03 / 1.86
96 / 2438	3.75 / 0.35	8.24 / 0.77	12.74 / 1.18	17.23 / 1.60	21.73 / 2.02
108 / 2743	4.15 / 0.39	9.14 / 0.85	14.12 / 1.31	19.10 / 1.78	24.08 / 2.24
120 / 3048	4.70 / 0.44	10.34 / 0.96	15.98 / 1.49	21.63 / 2.01	27.27 / 2.53
132 / 3353	5.25 / 0.49	11.55 / 1.07	17.85 / 1.66	24.15 / 2.24	30.45 / 2.83
144 / 3658	5.66 / 0.53	12.44 / 1.16	19.23 / 1.79	26.02 / 2.42	32.81 / 3.05

AIR FLOW RESISTANCE

(TEST SIZE OF 4' X 4')

tested to figure 5.5 - 6.5



AIR VELOCITY

Ten Plus Architectural Products Ltd. certifies that louver model H4451 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration and Wind Driven Rain ratings.

Submittal H4451 January12, 2014

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MODEL S6452 STRAIGHT BLADE LOUVER

PERFORMANCE

Louver Type	Mullion or Continuous Line Construction
Louver Depth	6" (152 mm)
Blade Angle	45 ^{0}
Free Area – 4'x4' Unit	7.44 sq.ft. (0.692 m ^{2})
Percentage Free Area	46.5%

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 6" (152 mm) deep straight blade louver Model S6452. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.090" (2.3 mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.090" (2.3 mm) 6063-T5 aluminum alloy. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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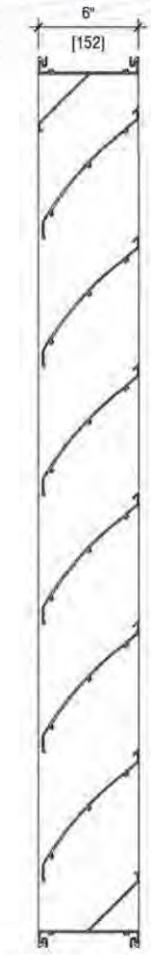
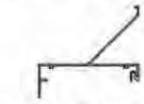
Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (955 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

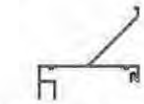
Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.



VERTICAL SECTION


FLANGE FRAME
OPTIONAL


GLAZING FRAME
OPTIONAL

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PERFORMANCE RATINGS – LOUVER MODEL S6452

FREE AREA CHART

Louver Width

Louver Height: inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.14 / 0.01	0.32 / 0.03	0.49 / 0.05	0.66 / 0.06	0.83 / 0.08
24 / 610	0.72 / 0.07	1.59 / 0.15	2.45 / 0.23	3.31 / 0.31	4.18 / 0.39
36 / 914	1.04 / 0.10	2.29 / 0.21	3.54 / 0.33	4.79 / 0.44	6.04 / 0.56
48 / 1219	1.62 / 0.15	3.56 / 0.33	5.50 / 0.51	7.44 / 0.69	9.38 / 0.87
60 / 1524	1.94 / 0.18	4.26 / 0.40	6.59 / 0.61	8.92 / 0.83	11.24 / 1.04
72 / 1829	2.52 / 0.23	5.53 / 0.51	8.55 / 0.79	11.57 / 1.08	14.59 / 1.36
84 / 2134	2.84 / 0.26	6.24 / 0.58	9.64 / 0.90	13.04 / 1.21	16.45 / 1.53
96 / 2438	3.16 / 0.29	6.94 / 0.65	10.73 / 1.00	14.52 / 1.35	18.30 / 1.70
108 / 2743	3.73 / 0.35	8.21 / 0.76	12.69 / 1.18	17.17 / 1.60	21.65 / 2.01
120 / 3048	4.05 / 0.38	8.92 / 0.83	13.78 / 1.28	18.64 / 1.73	23.51 / 2.18
132 / 3353	4.63 / 0.43	10.19 / 0.95	15.74 / 1.46	21.30 / 1.98	26.85 / 2.50
144 / 3658	4.95 / 0.46	10.89 / 1.01	16.83 / 1.56	22.77 / 2.12	28.71 / 2.67

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MODEL V4454 SIGHT PROOF BLADE

PERFORMANCE

Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	45^0

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep sight proof louver Model V4454. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2. mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.080" (2 mm) 6063-T5 aluminum alloy. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

NB:

The V4454 blade is an adaptation of the of the H4451 storm blade and the front of the blades are identical. The intention is to maintain and extend the blade lines from a louver to a vision screen in situations where they are adjacent or in proximity to each other.

VERTICAL SECTION

FLANGE FRAME
OPTIONAL

GLAZING FRAME
OPTIONAL

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PERFORMANCE RATINGS – LOUVER MODEL V4454

FREE AREA CHART

Louver Width

Louver Height: inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.16 / 0.02	0.36 / 0.03	0.55 / 0.05	0.74 / 0.07	0.94 / 0.09
24 / 610	0.43 / 0.04	0.95 / 0.09	1.46 / 0.14	1.98 / 0.18	2.49 / 0.23
36 / 914	0.76 / 0.07	1.67 / 0.16	2.59 / 0.24	3.50 / 0.33	4.41 / 0.41
48 / 1219	0.94 / 0.09	2.06 / 0.19	3.18 / 0.30	4.31 / 0.40	5.43 / 0.50
60 / 1524	1.27 / 0.12	2.79 / 0.26	4.31 / 0.40	5.83 / 0.54	7.35 / 0.68
72 / 1829	1.43 / 0.13	3.16 / 0.29	4.88 / 0.45	6.60 / 0.61	8.32 / 0.77
84 / 2134	1.75 / 0.16	3.85 / 0.36	5.95 / 0.55	8.05 / 0.75	10.15 / 0.94
96 / 2438	1.94 / 0.18	4.26 / 0.40	6.58 / 0.61	8.91 / 0.83	11.23 / 1.04
108 / 2743	2.25 / 0.21	4.95 / 0.46	7.64 / 0.71	10.34 / 0.96	13.04 / 1.21
120 / 3048	2.44 / 0.38	5.38 / 0.83	8.31 / 1.28	11.24 / 1.73	14.18 / 1.32
132 / 3353	2.83 / 0.26	6.22 / 0.58	9.61 / 0.89	13.00 / 1.21	16.39 / 1.52
144 / 3658	3.01 / 0.28	6.63 / 0.62	10.25 / 0.95	13.86 / 1.29	17.48 / 1.62

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MODEL H2451 STORM BLADE LOUVER

PERFORMANCE

Louver Type	Mullion or Continuous Line Construction
Louver Depth	2" (51 mm)
Blade Angle	45^0
Free Area – 4'x4' Unit	6.78 sq.ft. (0.639 m^2)
Percentage Free Area	43%

VERTICAL SECTION

FLANGE FRAME
OPTIONAL

GLAZING FRAME
OPTIONAL

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 2" (51 mm) deep, storm blade louver Model H2451. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a nominal thickness of 0.062" (1.57 mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.062" (1.57 mm) thick 6063-T5 aluminum alloy. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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Structural supports shall be designed and furnished by the Louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any Louver opening greater than 10' (3 m) high, will require a horizontal girt, at mid span by others.

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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FREE AREA CHART

Louver Width

Louver Height inches / mm	12 / 305	24 / 610	36 / 914	48 / 1219	60 / 1524
	Free Area - Square Feet / Square Meters				
12 / 305	0.26 / 0.02	0.56 / 0.05	0.86 / 0.08	1.15 / 0.11	1.45 / 0.13
24 / 610	0.69 / 0.06	1.46 / 0.14	2.23 / 0.21	3.00 / 0.28	3.77 / 0.35
36 / 914	1.15 / 0.11	2.44 / 0.23	3.72 / 0.35	5.00 / 0.47	6.29 / 0.58
48 / 1219	1.56 / 0.14	3.30 / 0.31	5.04 / 0.47	6.78 / 0.63	8.53 / 0.79
60 / 1524	2.01 / 0.19	4.24 / 0.39	6.48 / 0.60	8.72 / 0.81	10.96 / 1.02
72 / 1829	2.43 / 0.23	5.15 / 0.48	7.87 / 0.73	10.59 / 0.98	13.31 / 1.24
84 / 2134	2.86 / 0.27	6.06 / 0.56	9.26 / 0.86	12.46 / 1.16	15.65 / 1.45
96 / 2438	3.31 / 0.31	7.01 / 0.65	10.70 / 0.99	14.40 / 1.34	18.09 / 1.68
108 / 2743	3.74 / 0.35	7.91 / 0.74	12.08 / 1.12	16.25 / 1.51	20.43 / 1.90
120 / 3048	4.16 / 0.39	8.81 / 0.82	13.46 / 1.25	18.11 / 1.68	22.76 / 2.12
132 / 3353	4.49 / 0.42	9.50 / 0.88	14.51 / 1.35	19.52 / 1.81	24.53 / 2.28
144 / 3658	5.14 / 0.48	10.88 / 1.01	16.62 / 1.54	22.35 / 2.08	28.09 / 2.61

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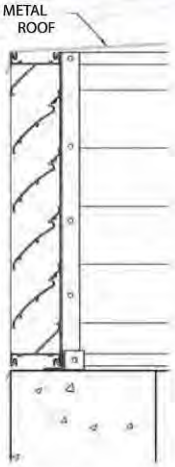
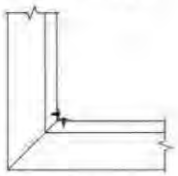
MODEL H4451 STORM BLADE LOUVERED PENTHOUSE

PERFORMANCE

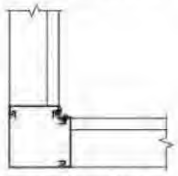
Performance Rating Standard	AMCA Standard 500L
Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	45°
Free Area – 4'x4' Unit	8.12 sq.ft. (0.755 m^2)
Percentage Free Area	51%
Free Area Velocity at Beginning Point of Water Penetration (0.01 oz / ft^2)	658 FPM (3.34 m/s)
Air Volume at Beginning Point of Water Penetration 4' x 4' Unit (test duration of 15 minutes)	5343 CFM (2.52 m^3/s)
Pressure Drop at Beginning Point of Water Penetration	.077 in. H_2O (19.18 Pa)
Notes	Tested without bird screens



Model H4451 shown.
Also available with other blade profiles.
Call us for assistance.



MITERED CORNER PLAN



BOXED CORNER PLAN

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep storm blade, louvered penthouse Model P4451. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2.0 mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.080" (2.0 mm) 6063-T5 aluminum alloy with a storm hook design. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

The louver manufacturer shall submit data, on a 4' x 4' (1.2 x1.2 m) unit, showing that the louver performs to the following criteria, based on tests & procedures performed in accordance with the AMCA Publication 511, and comply with the "Certified Ratings Program" licensed to bear the AMCA seal:

Free area = 8.12 sq. ft. (0.755 m^2)
Free area velocity at point of beginning water penetration = 658 FPM (3.34 m/s)
Intake pressure drop at beginning point of water penetration = 0.077 in. H_2O (19.18 Pa)

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

Ten Plus Architectural Products Ltd. certifies that louver model H4451 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies only to Air Performance, Water Penetration ratings.

Submittal H4451 January12, 2013
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ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install Model A6457, 6" (152 mm) deep, acoustical louver. Submit all details to consultant for approval prior to fabrication. Blades, head, sill, jambs and mullions shall have a nominal thickness of 0.080" (1.57 mm) formed aluminum sheet. All blades, head and sill cavities shall be packed with acoustical insulation.

OR

Where indicated on drawings, supply and install Model A8457, 8" (203 mm) deep, acoustical louver. Submit all details to consultant for approval prior to fabrication. Blades, head, sill, jambs and mullions shall have a nominal thickness of 0.080" (1.57 mm) formed aluminum sheet. All blades, head and sill cavities shall be packed with acoustical insulation.

OR

Where indicated on drawings, supply and install Model AF1245, 12" (305 mm) deep, acoustical louver as manufactured by Ten Plus Architectural Products Ltd. Submit all details to consultant for approval prior to fabrication. Blades, head, sill, jambs and mullions shall have a nominal thickness of 0.080" (1.57 mm) formed aluminum sheet. All blades, head and sill cavities shall be packed with acoustical insulation.

Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

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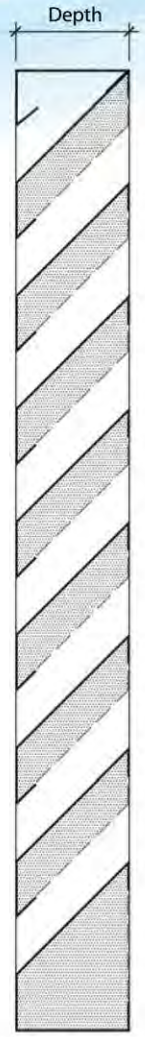
Structural supports shall be designed and furnished by the Louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any Louver opening greater than 10' (3 m) high, will require a horizontal girt, at mid span by others.

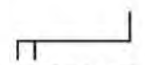
Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.



CHANNEL FRAME
STANDARD

FLANGE FRAME
OPTIONAL



GLAZING FRAME
OPTIONAL

TRANSMISSION LOSS (dB)

MODEL	DEPTH	Octave Band	1	2	3	4	5	6	7	8
		Frequency	63	125	250	500	1000	2000	4000	8000
A6457	152mm / 6"		7	7	7	8	11	15	14	14
A8457	203mm / 8"		7	7	8	10	17	18	16	16
A12457	305mm /12"		7	7	11	14	19	19	17	17

FREE FIELD NOISE REDUCTION (dB)

MODEL	DEPTH	Octave Band	1	2	3	4	5	6	7	8
		Frequency	63	125	250	500	1000	2000	4000	8000
A6457	152mm / 6"		13	13	13	14	17	21	20	20
A8457	203mm / 8"		13	13	14	16	23	24	22	22
A12457	305mm /12"		13	13	17	20	25	25	23	23

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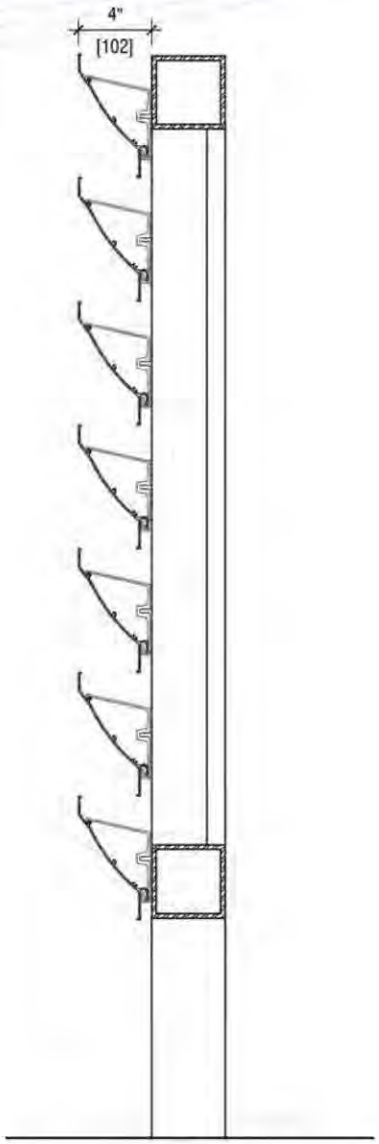
MODEL S4522 LOUVERED VISION SCREEN

DESCRIPTION

Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	52^0



VERTICAL SECTION

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep louvered vision screen Model S4522. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a nominal thickness of 0.080" (2. mm) 6063-T5 aluminum alloy.

Inverted blades shall be continuous, 0.080" (2 mm) thick 6063-T5 aluminum alloy. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

HSS framing structure to be provided by the Structural Steel trade; vertical louver supports shall be designed and furnished by the louvered screen manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louvered roof screen greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

Louvered screens shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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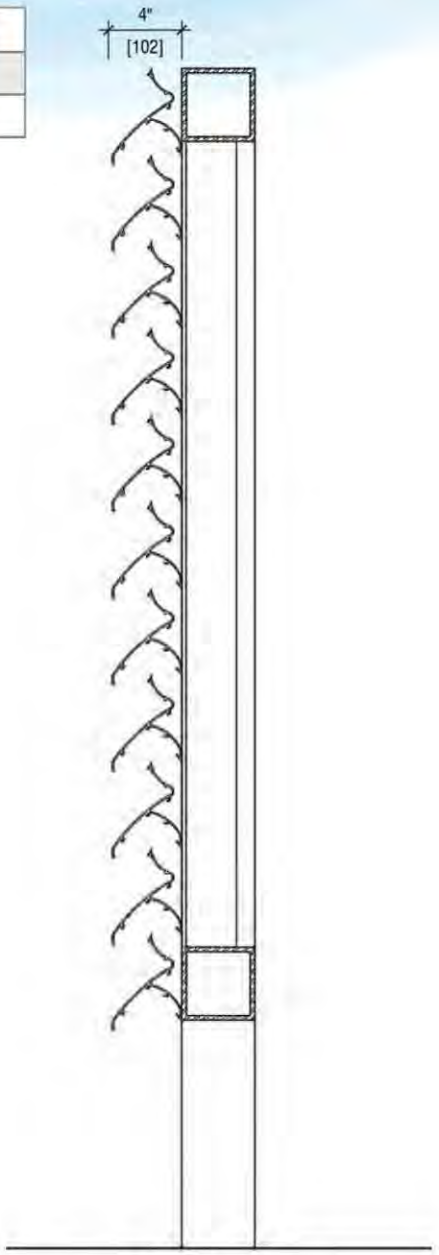
MODEL V4454 LOUVERED VISION SCREEN

PERFORMANCE

Louver Type	Mullion or Continuous Line Construction
Louver Depth	4" (102 mm)
Blade Angle	45^0



VERTICAL SECTION

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep sight proof, louvered vision screen Model S4454. Submit all details to consultant for approval prior to fabrication. Head, sill, jambs and mullions shall have a minimum thickness of 0.080" (2. mm) 6063-T5 aluminum alloy.

Blades shall be continuous, 0.080" (2 mm) 6063-T5 aluminum alloy. Louvers shall be supplied with a 1/2" (12 mm), 19 gauge (1 mm) welded and regalvanized wire mesh in a mill finish, aluminum frame. Fasteners shall be standard zinc plated steel or stainless steel.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Structural supports shall be designed and furnished by the louver manufacturer to support a wind load of 20 psf (958 Pa), unless specified otherwise. Any louver opening greater that 10' (3 m) high, will require a horizontal girt, at mid span by others.

Louvers shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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T1300 THINLINE LOUVER

The T1300, by TEN Plus Architectural, is a high free area, extruded aluminum thinline louver. This model is deal for small openings, PTAC applications or for decorative and interior applications.

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 1 1/4" (32 mm) deep Model T1300 thin line louver. Blades, head, sill and jambs shall have a minimum thickness of 0.063" (1.6mm) 6063-T5 aluminum alloy. Louver shall be supplied with standard 16 x 18 aluminum mesh insect screen.

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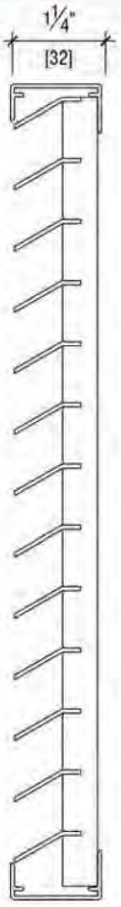
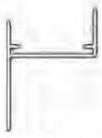
Louver shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.



Glazing Frame Optional



Flange Frame Optional

G1384 DOOR LOUVER

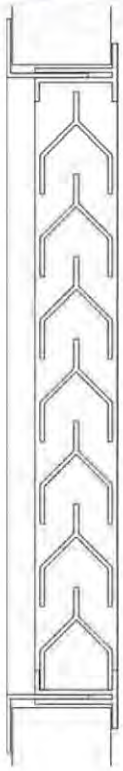
The G1384, by TEN Plus Architectural, incorporates inverted "Y" blades to maximize free are while retaining the privacy and security of a sight proof and tamper proof design. This profile provides exceptional strength and protection against vandalism.

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 1 3/8" (35 mm) deep Model D1384 door louver. Blades, head, sill and jambs shall have a minimum thickness of 0.063" (1.6mm) 6063-T5 aluminum alloy.

Materials Manufacturer: Ten Plus Architectural Products Ltd., 26 - 6535 Millcreek Drive, Mississauga, Ontario, Canada, L5N 2M2; Phone: (866) 884-0717; Email: info@tenplus-online.com; URL: www.tenplus-online.com

Louver shall be fabricated with clear anodized aluminum finish.



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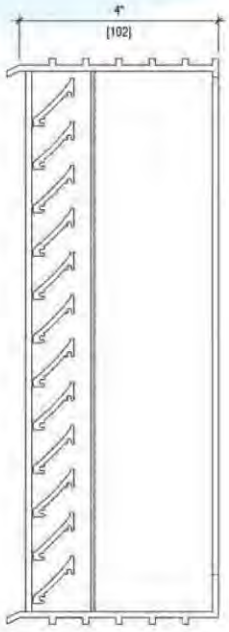
B4450 BRICK VENT

The B4450, by TEN Plus Architectural, is a heavy-duty extruded aluminum block vent. The aluminum construction makes it resistant to the corrosive environment of foundation walls and chimneys. The block vent comes with an insect screen and features both extended head and sill to provide a drip edge for water to travel around the opening. The sill has an integral water stop at the back to prevent any water flowing into the building.



VERTICAL SECTION

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install 4" (102 mm) deep Model B4450 heavy duty, extruded aluminum block vents with extended head and sill and integral water stop. Blades, head, sill and jambs shall have a minimum thickness of 0.109" (2.54mm) 6063-T5 aluminum alloy. Block vents shall be supplied with standard 16 x 18 aluminum mesh insect screen.

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Block vents shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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Ten Plus Sunshades combine form and function to enhance building esthetics, maximize economic performance and reduce the adverse impact on the environmental. By reducing direct sunlight and glare, Ten Plus sunshades increase the quality of occupant comfort while reducing the load on the building's cooling system.

From standard shapes to custom profiles consultants are granted the flexibility to change outrigger type; blade type; fascia type and method of suspension. If you don't see it, we will fabricate it according to your design. Call our office for more information and assistance.

ABBREVIATED SPECIFICATION

Where indicated on drawings, supply and install fixed sunshades, consisting of blades, outriggers, fascia and anchoring brackets, required to provide sun and glare-control around glazing areas.

Submit shop drawings showing construction and anchorage of exterior sunshades including, details of all elements of assembly and construction. Shop drawings shall bear the seal and signature of a Professional Engineer registered in the place of the Work and experienced in the design and fabrication methods used.

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Design sunshades including anchorage to accommodate, without failure, exterior stresses expected in the geographical area for this project, in accordance with the latest edition of the National Building Code - 30 year probability climatic data.

Aluminum: AA6063-T5 alloy, anodizing quality. Brackets and Reinforcements: Manufacturer's standard high strength aluminum with non-staining, nonferrous shims for aligning system components.
Fasteners, Sealants and Gaskets: Manufacturer's standard corrosion resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.

Fixed Sunshade Components:

Provide sunshades compatible with wall cladding system, structural supports, and the following components: (select from the components chart in the following order) :
Blade type; Outrigger type; Fascia type

Sunshades shall be fabricated with mill finish aluminum and the finish shall be applied after assembly. Select desired finish from the following:

For superior performance, 3 coat PVDF system including a thermal setting application of 70% fluoropolymer resin. OR High performance 2 coat, PVDF system including a thermal setting application of 70% fluoropolymer resin. OR Pigmented Organic Thermal Setting Finish 1 coat system meeting or exceeding AAMA 2603. OR (Color Anodize) Ensure aluminum finish is colour anodized in accordance with Aluminum Association Finish Designation AA-M12C22A44, Class I, minimum 0.018 mm (0.7 mils) thick finish. Color to be selected by consultant. OR (Clear Anodize) Ensure aluminum finish is clear anodized in accordance with Aluminum Association Finish Designation AA-M12C22A41, Class I, minimum 0.018 mm (0.7 mils) thick for exterior applications and AA-12C22A31, Class II, minimum 0.01 mm (0.4 mils) thick for interior applications.

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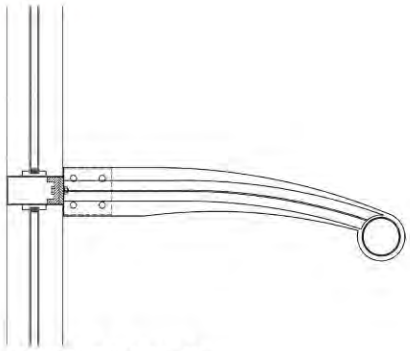
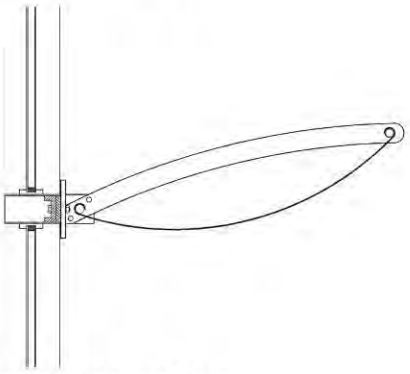
SUNSHADE COMPONENTS

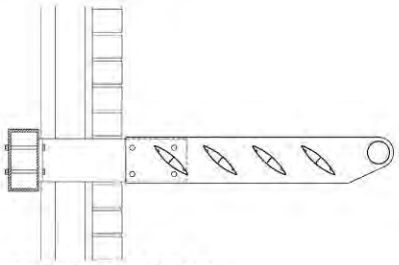
BLADES	OUTRIGGERS	FASCIA
TYPE L6 LOUVER BLADE	TYPE 100 ROUNDED FACE OUTRIGGER	TYPE 10 NO FASCIA
TYPE A4 4" [100mm] AIRFOIL BLADE	TYPE 200 STRAIGHT FACE OUTRIGGER	TYPE 20 CUSTOM FORMED FASCIA
TYPE A6 6" [150mm] AIRFOIL BLADE	TYPE 300 CHANNEL OUTRIGGER	TYPE 30 ROUND FASCIA
TYPE A8 LOUVER BLADE	TYPE 400 TAPERED OUTRIGGER	TYPE 40 RECTANGULAR FASCIA
TYPE C2 ROUND BLADE	TYPE 500 CURVED OUTRIGGER	TYPE 50 BULLNOSE FASCIA
TYPE R4 4" [100mm] RECTANGULAR BLADE	TYPE 600 BLUNT FACE OUTRIGGER	
TYPE R6 6" [150mm] RECTANGULAR BLADE	TYPE 700 CUSTOM CUT OUTRIGGER	
TYPE P1 PERFORATED BLADE / SHADE		



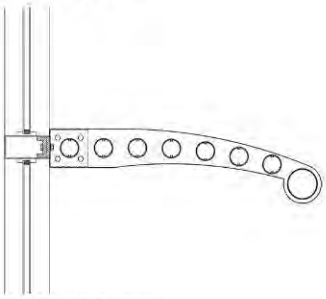
MODEL P1-500-30



MODEL P1-700-10



MODEL A6-600-30



MODEL C2-500-30

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