



**Fixed Louvre**  
Solar Control Solution



# Fixed Louvre Solar Control Solution

Technical Manual  
December 2024 | ISSUE D

**alspec**<sup>®</sup>  
EVERYTHING ALUMINIUM  
& HARDWARE



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This page is intended to record all changes to the **FIXED LOUVRE SOLAR CONTROL SOLUTION** technical manual pages.

Changes or additions to this manual will be itemised with a brief description and date when the amendments were made.

[illegible]



## 2. Technical Specifications

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### **ALUMINIUM**

Aluminium frames should be manufactured using Alspec's **FIXED LOUVRE SOLAR CONTROL SOLUTION** systems.

### **HARDWARE**

- All hardware as per Alspec Technical Manual.

### **FINISHES**

- All powder coated material shall be produced to AS3715.
- All anodised material shall be produced to AS1231.

All products are available from Alspec (A.B.N. 63 001 252 259) as detailed in the "Alspec" Catalogue or on the Internet at [www.alspec.com.au](http://www.alspec.com.au) . All such framing is to be constructed, assembled and fixed to meet the requirements of AS2047 (windows in buildings), AS1170 (loading code).

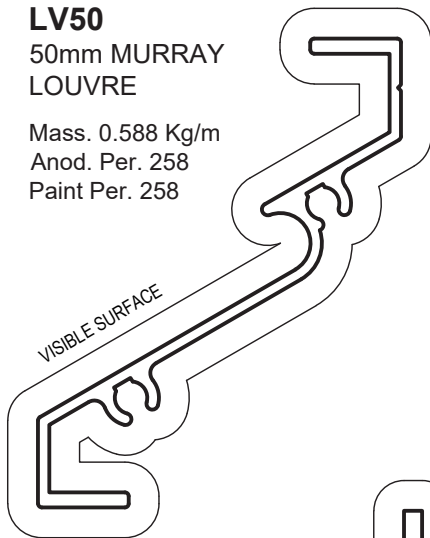
Fabricators of the **FIXED LOUVRE SOLAR CONTROL SOLUTION** systems should seek confirmation of design wind pressure and deflection criteria from the building designer.



**LV50**

50mm MURRAY  
LOUVRE

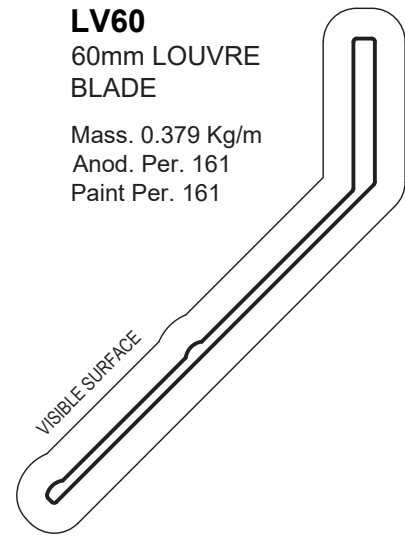
Mass. 0.588 Kg/m  
Anod. Per. 258  
Paint Per. 258



**LV60**

60mm LOUVRE  
BLADE

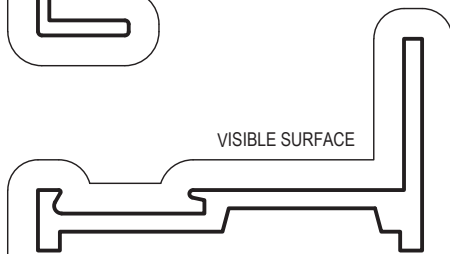
Mass. 0.379 Kg/m  
Anod. Per. 161  
Paint Per. 161



**AS831**

SASH/LOUVRE  
ADAPTOR

Mass. 0.597 Kg/m  
Anod. Per. 177  
Paint Per. 100

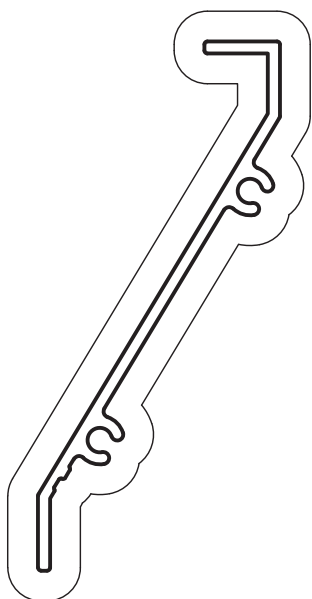


VISIBLE SURFACE

**LV70**

LOUVRE BLADE

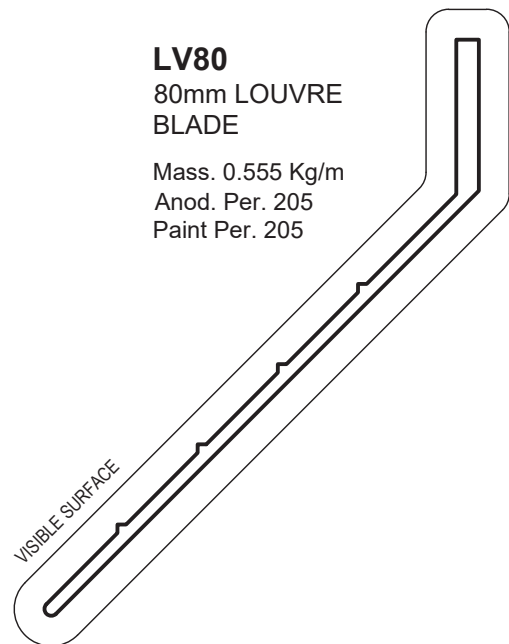
Mass. 0.451 Kg/m  
Anod. Per. 204  
Paint Per. 204



**LV80**

80mm LOUVRE  
BLADE

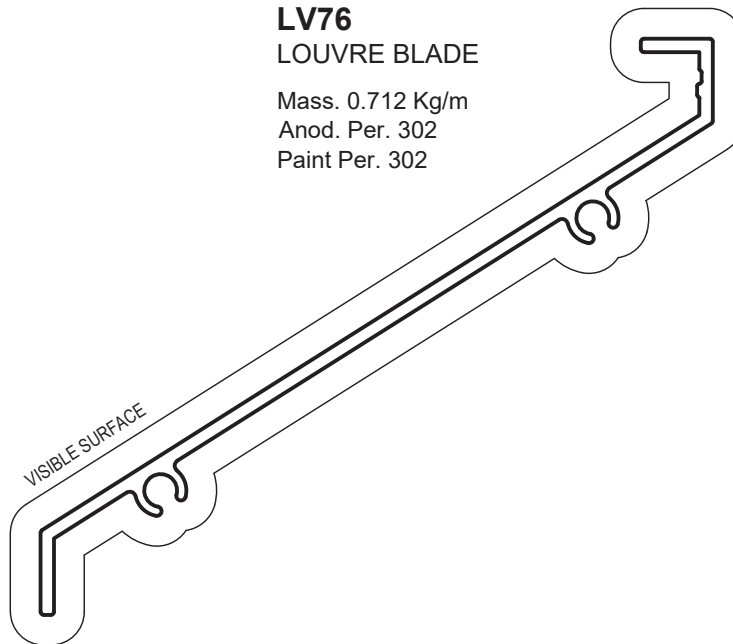
Mass. 0.555 Kg/m  
Anod. Per. 205  
Paint Per. 205



CHECK YOUR LOCAL BRANCH FOR AVAILABILITY

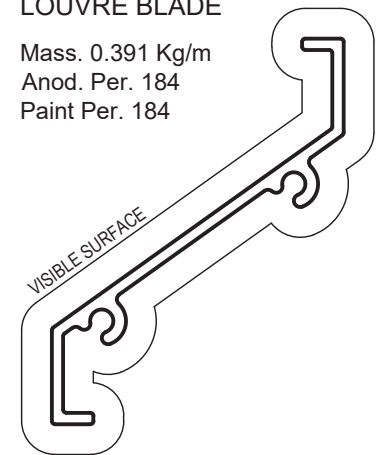
**LV76**  
LOUVRE BLADE

Mass. 0.712 Kg/m  
Anod. Per. 302  
Paint Per. 302



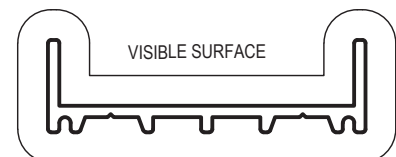
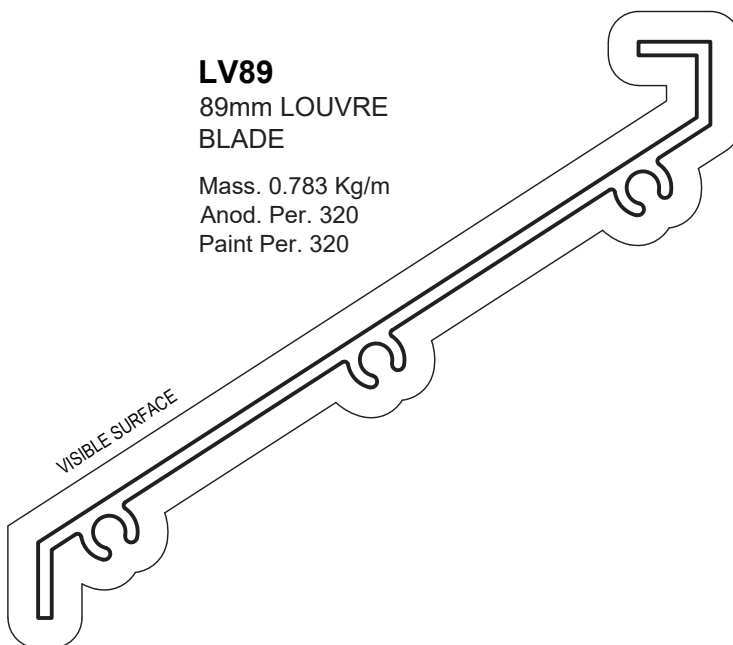
**LV121**  
LOUVRE BLADE

Mass. 0.391 Kg/m  
Anod. Per. 184  
Paint Per. 184



**LV89**  
89mm LOUVRE  
BLADE

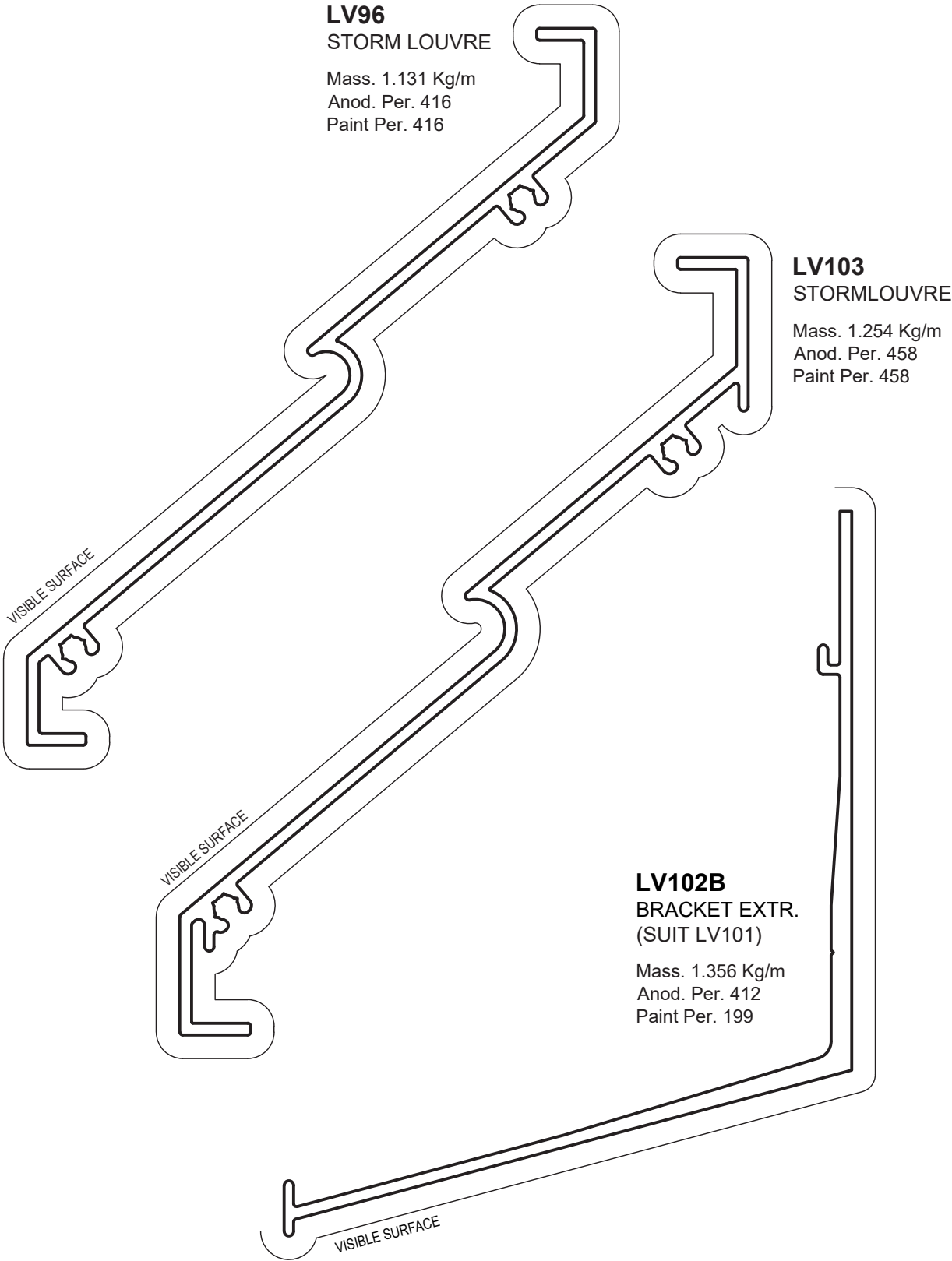
Mass. 0.783 Kg/m  
Anod. Per. 320  
Paint Per. 320



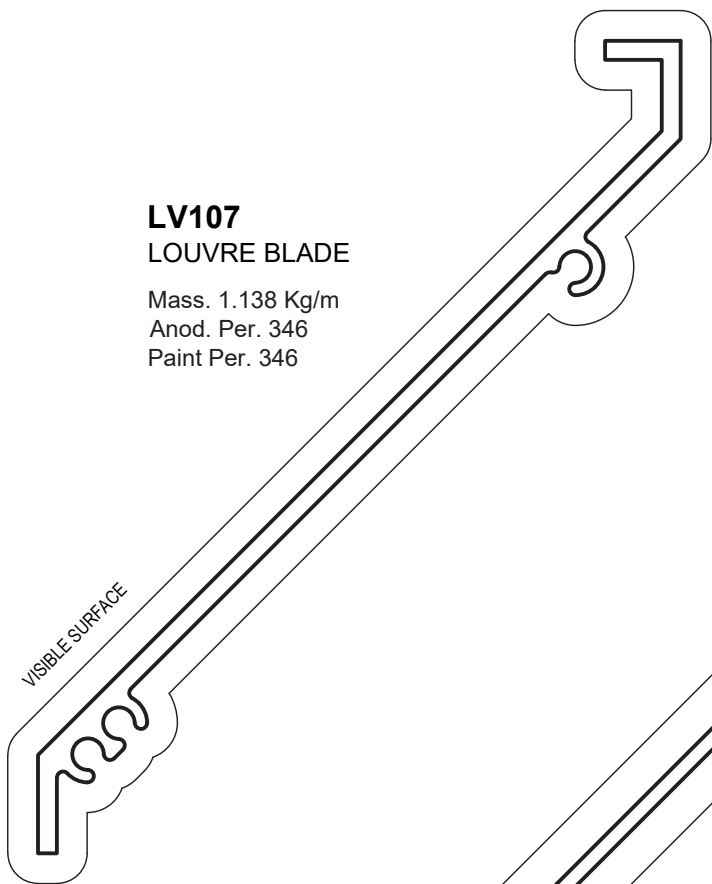
**LV122**  
LOUVRE FRAME

Mass. 0.299  
Anod. Per. 144  
Paint Per. 144

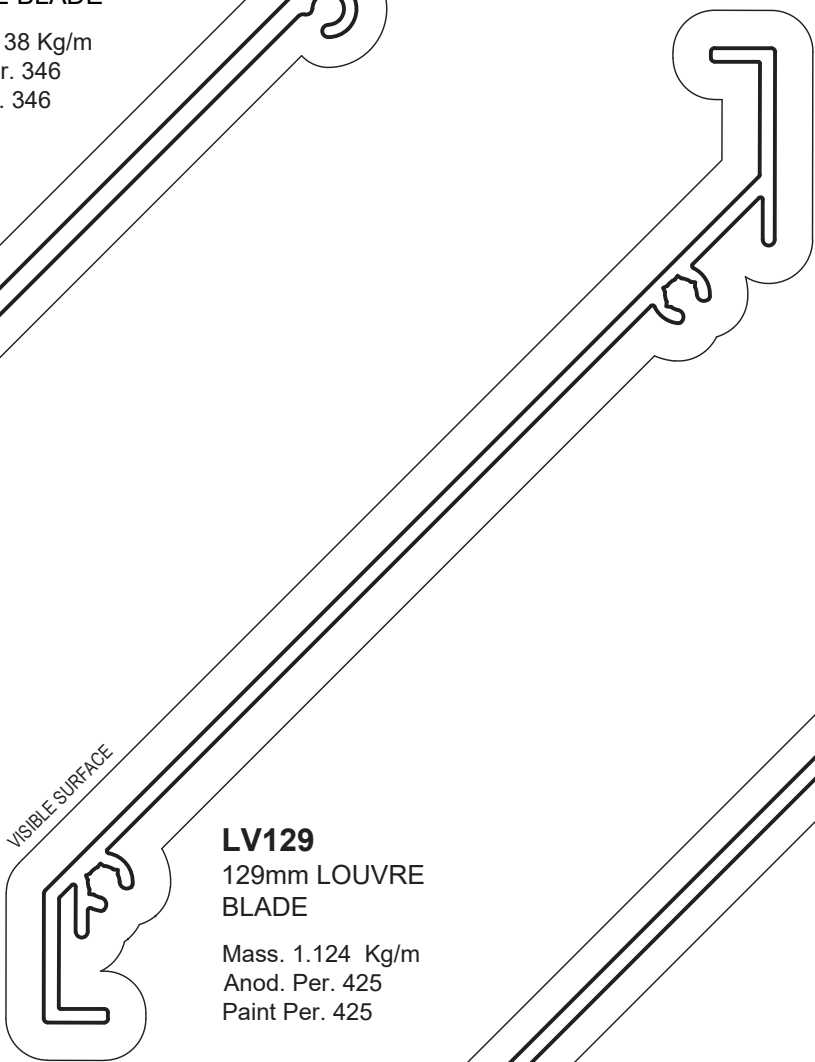
CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



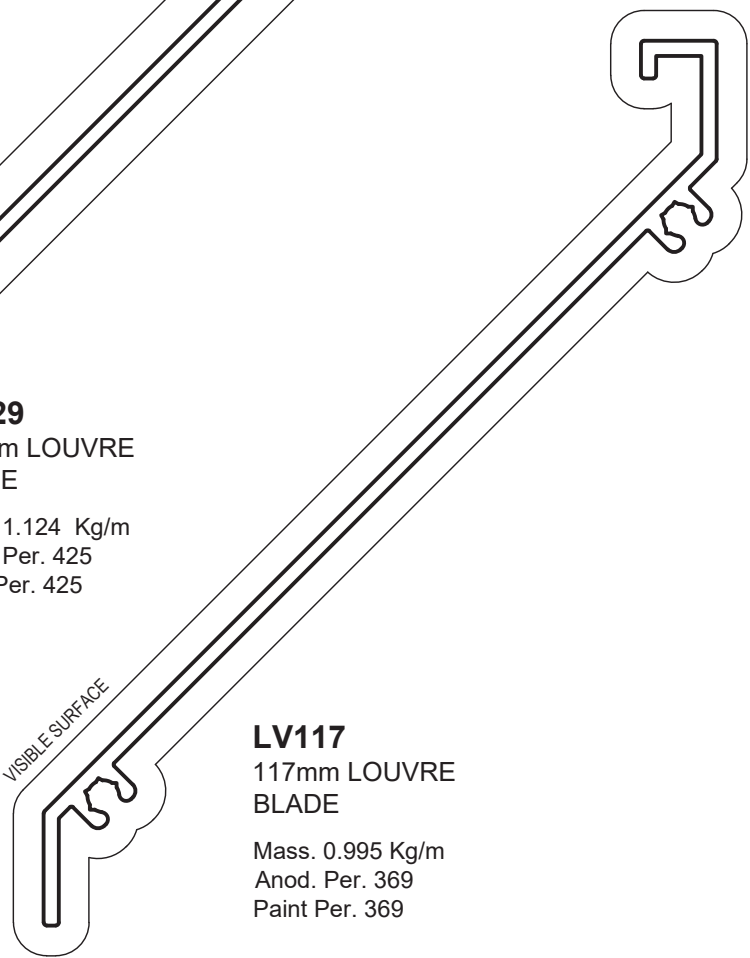
CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



**LV107**  
LOUVRE BLADE  
Mass. 1.138 Kg/m  
Anod. Per. 346  
Paint Per. 346

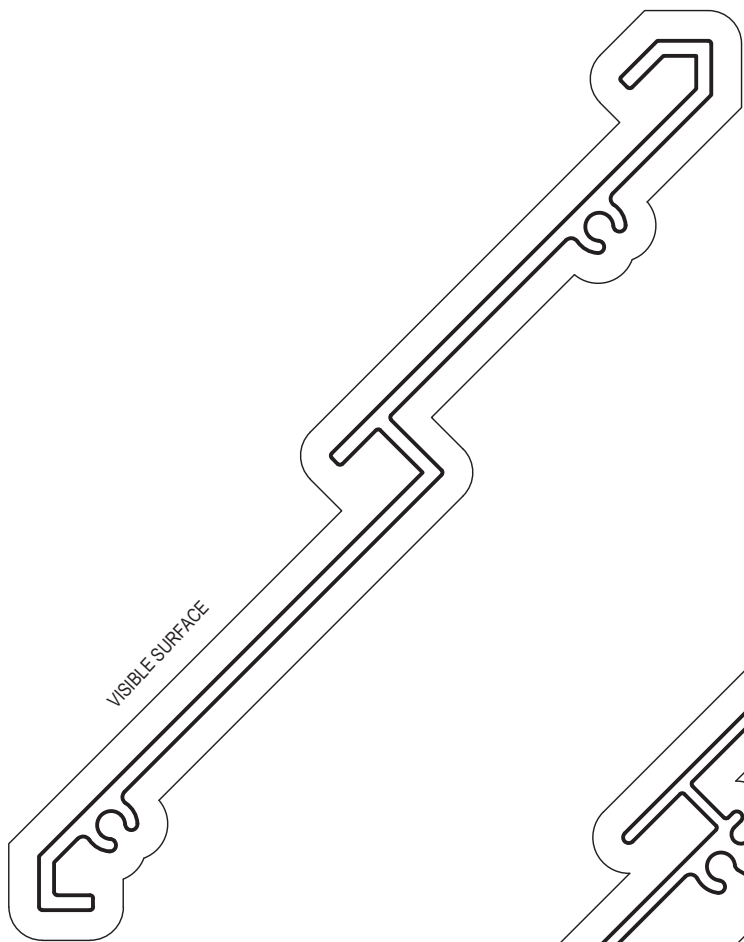


**LV129**  
129mm LOUVRE  
BLADE  
Mass. 1.124 Kg/m  
Anod. Per. 425  
Paint Per. 425



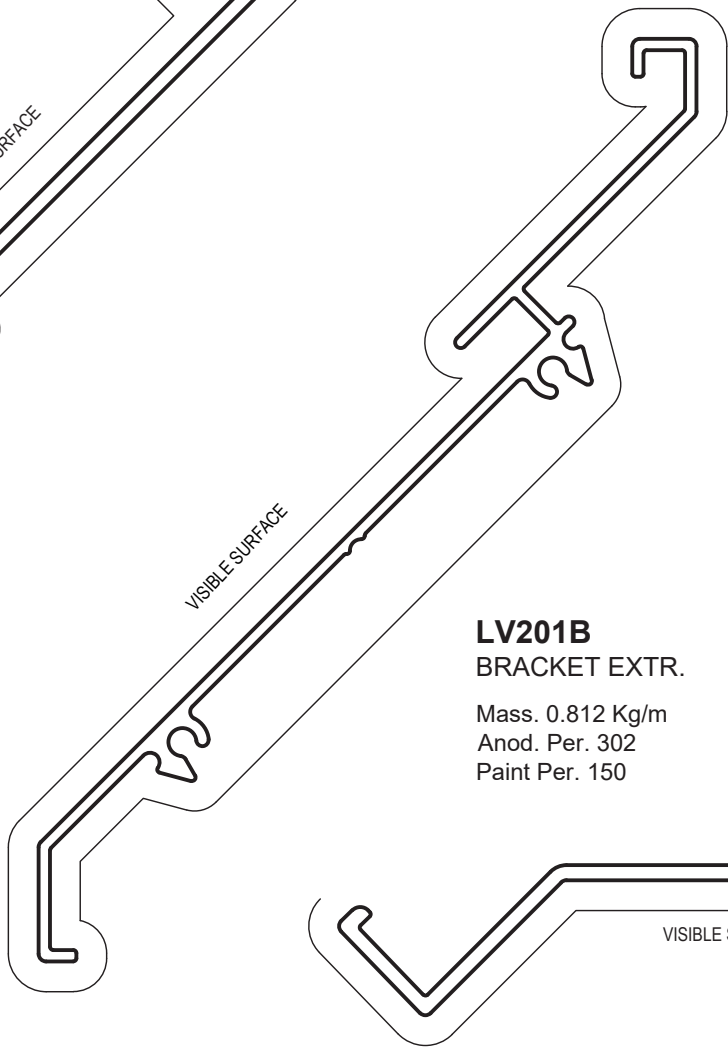
**LV117**  
117mm LOUVRE  
BLADE  
Mass. 0.995 Kg/m  
Anod. Per. 369  
Paint Per. 369

CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



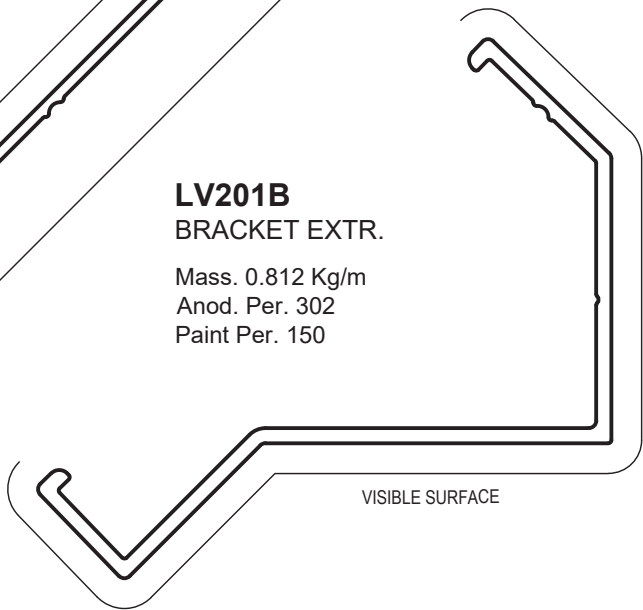
**LV202**  
LOUVRE BLADE

Mass. 1.057 Kg/m  
Anod. Per. 393  
Paint Per. 393



**LV200**  
LOUVRE BLADE

Mass. 0.911 Kg/m  
Anod. Per. 416  
Paint Per. 416



**LV201B**  
BRACKET EXTR.

Mass. 0.812 Kg/m  
Anod. Per. 302  
Paint Per. 150

CHECK YOUR LOCAL BRANCH FOR AVAILABILITY

## 5. Extrusions

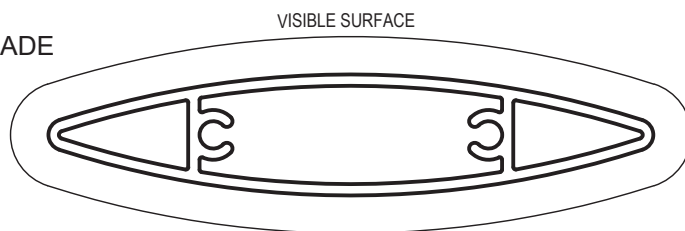
### LVE80

80mm ELLIPTICAL BLADE

Mass. 0.814 Kg/m

Anod. Per. 167

Paint Per. 167



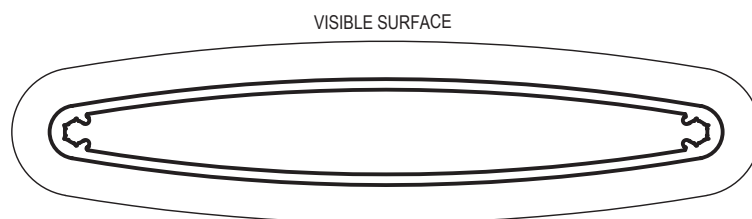
### SCS113

ELLIPTICAL 89mm  
LOUVRE BLADE

Mass. 0.726 Kg/m

Anod. Per 187

Paint Per. 87



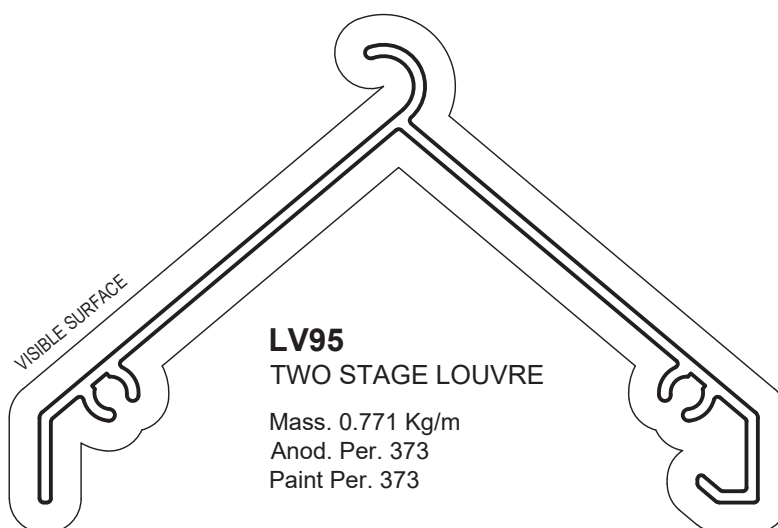
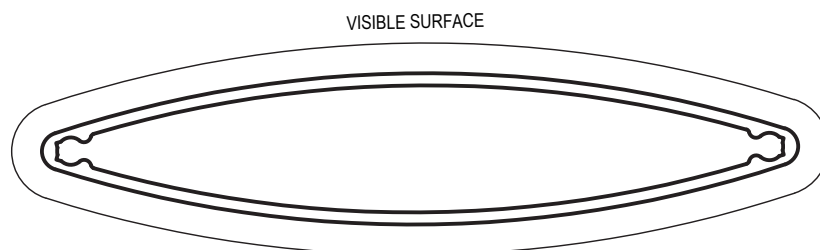
### LVE100

100mm ELLIPTICAL  
LOUVRE

Mass. 0.883 Kg/m

Anod. Per. 209

Paint Per. 209



### LV95

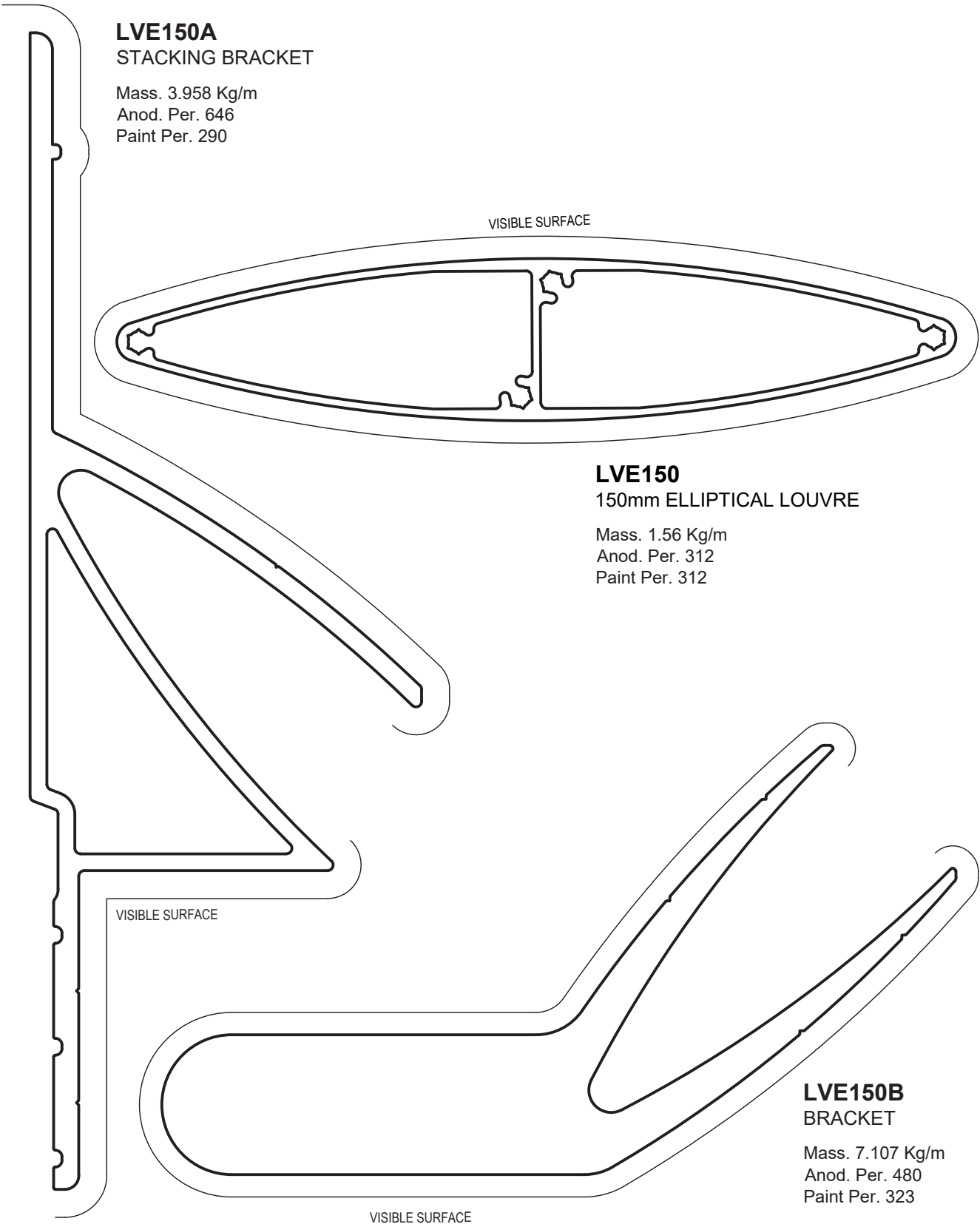
TWO STAGE LOUVRE

Mass. 0.771 Kg/m

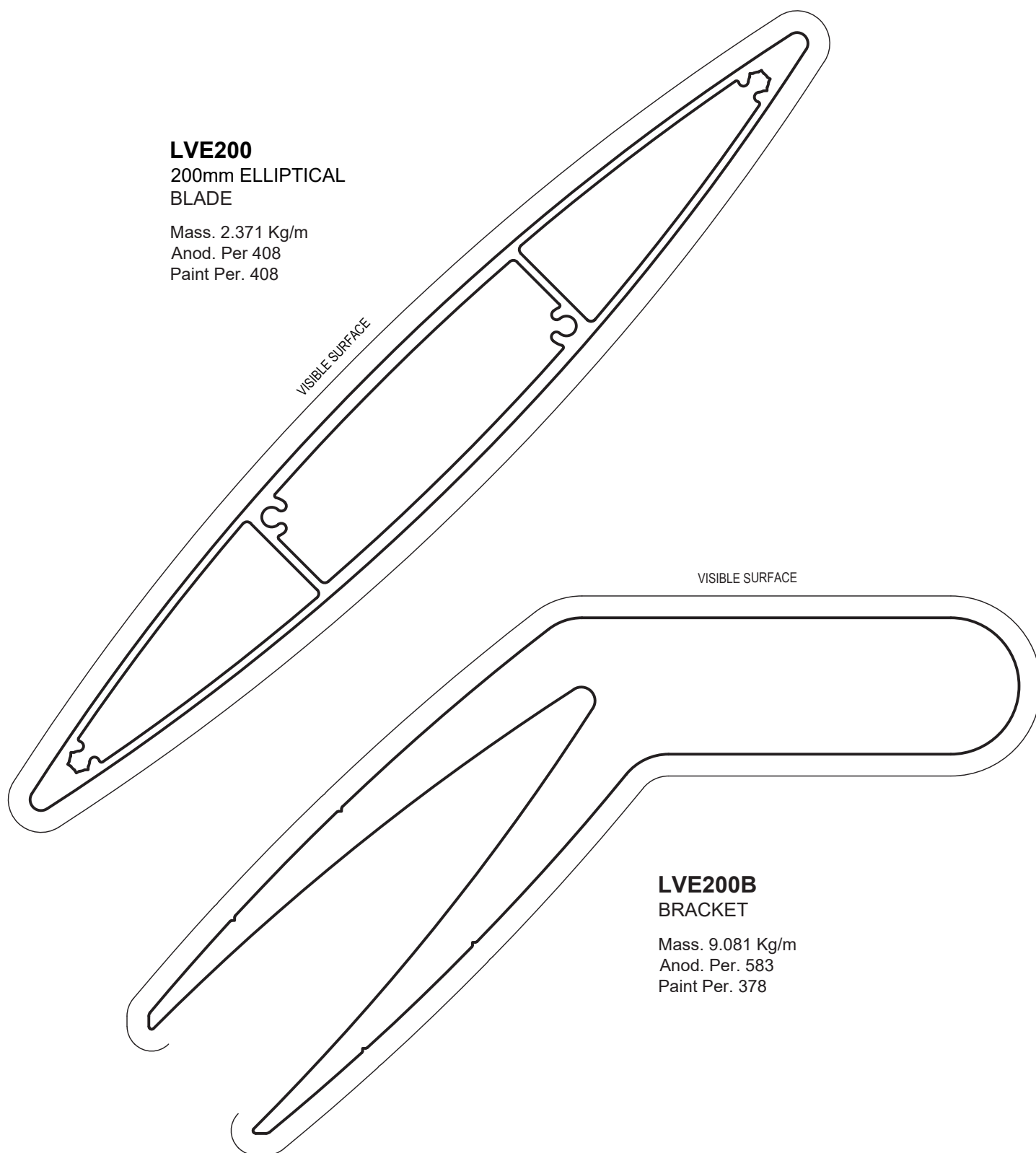
Anod. Per. 373

Paint Per. 373

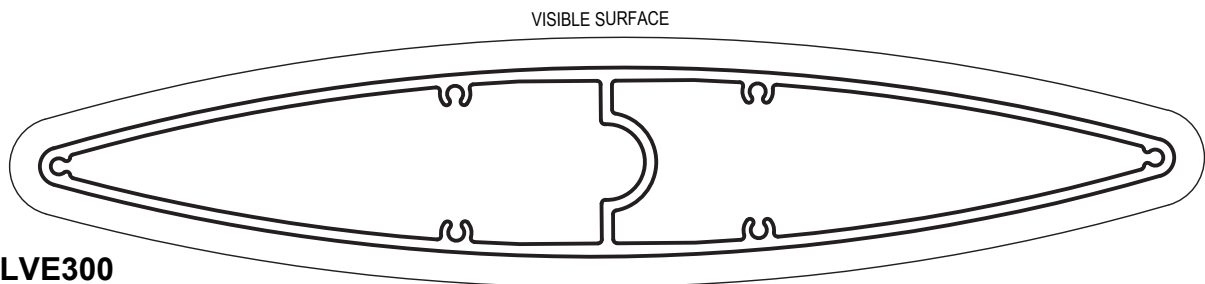
CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



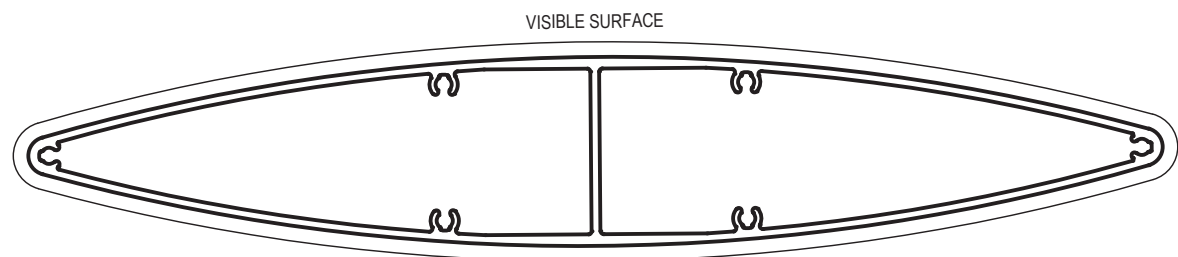
**LVE300**

300mm ELLIPTICAL BLADE

Mass. 5.75 Kg/m

Anod. Per. 619

Paint Per. 619



**LVE300F**

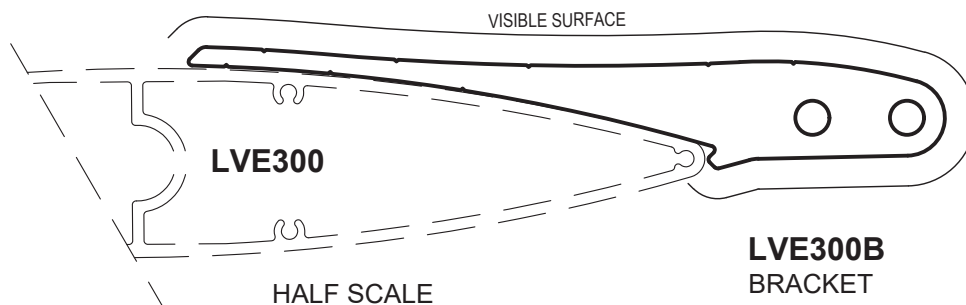
300 x 50mm ELLIPTICAL  
LOUVRE BLADE

Mass. 4.570 Kg/m

Anod. Per. 619

Paint Per. 619

HALF SCALE



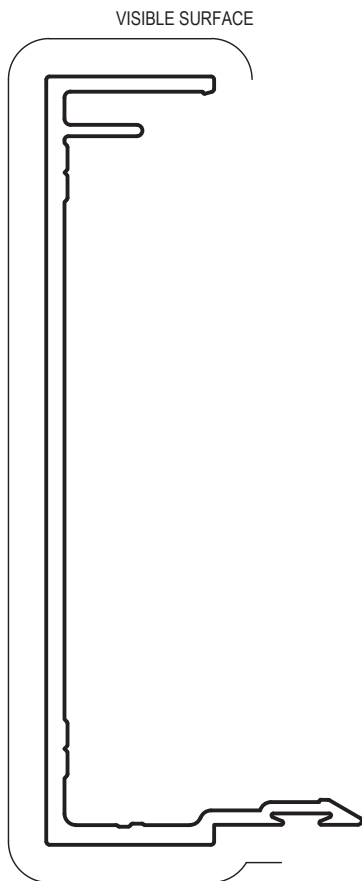
**LVE300B**  
BRACKET

Mass. 6.947 Kg/m

Anod. Per. 427

Paint Per. 427

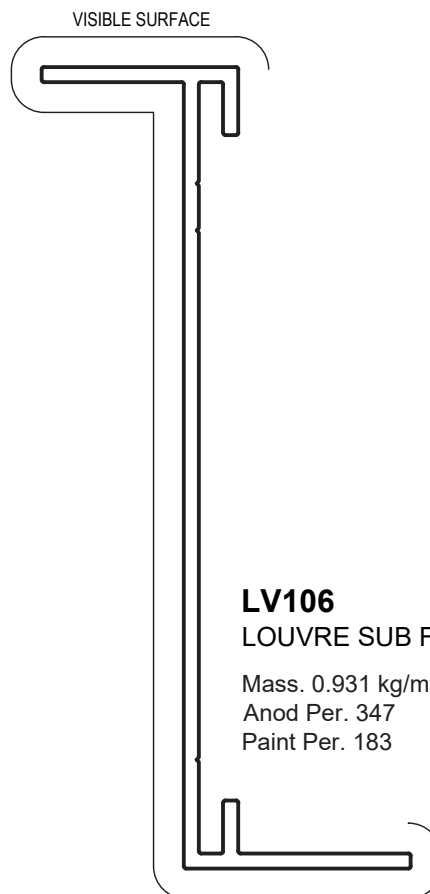
CHECK YOUR LOCAL BRANCH FOR AVAILABILITY



**LV24**

101.6mm SELF MATING PLAIN  
MULLION

Mass. 1.079 Kg/m  
Anod. Per. 356  
Paint Per. 157



**LV106**

LOUVRE SUB FRAME

Mass. 0.931 kg/m  
Anod Per. 347  
Paint Per. 183

CHECK YOUR LOCAL BRANCH FOR AVAILABILITY

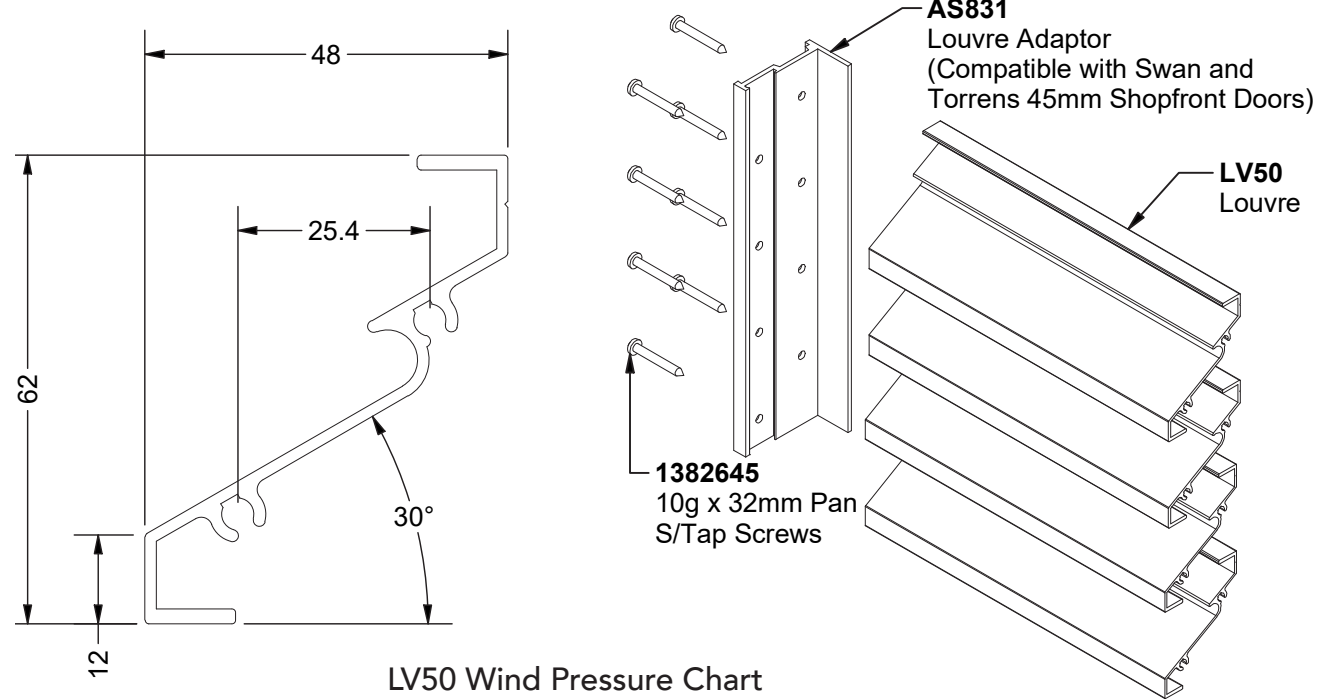
Fasteners

| SCREWS  |             |                                                       |                                                                  |
|---------|-------------|-------------------------------------------------------|------------------------------------------------------------------|
| PART #  | HEAD        | DESCRIPTION                                           | LOCATION                                                         |
| 1382645 | SQUARE #2   | 10g x 1 1/4 (32mm) 304SS SQ #2 PAN S/TAP SCREW x 1000 | LV50, LV76, LV89, LV95,<br>LV96, LV103, LV107, LV117<br>& LVE300 |
| 1382056 | PHILLIPS #2 | 10g x 1 1/4 (32mm) SS PHILLIPS PAN SELF TAPPING x 500 |                                                                  |
| 1382639 | SQUARE #2   | 8g x 1 1/4 (32mm) 304SS SQ #2 PAN S/TAP SCREW x 1000  | LV129, LV202, LVE80,<br>LVE100, LVE150 & LVE200                  |
| 1382048 | PHILLIPS #2 | 8g x 1 1/4 (32mm) SS PHILLIPS PAN S/TAP x 500         |                                                                  |
| 1382633 | SQUARE #2   | 6g x 1 (25mm) 304SS SQ #1 PAN S/TAP SCREW x 1000      | LV70, LV121 & SCS113                                             |
| 1382036 | PHILLIPS #2 | 6g x 1 (25mm) SS PHILLIPS PAN SELF TAPPING x 1000     |                                                                  |

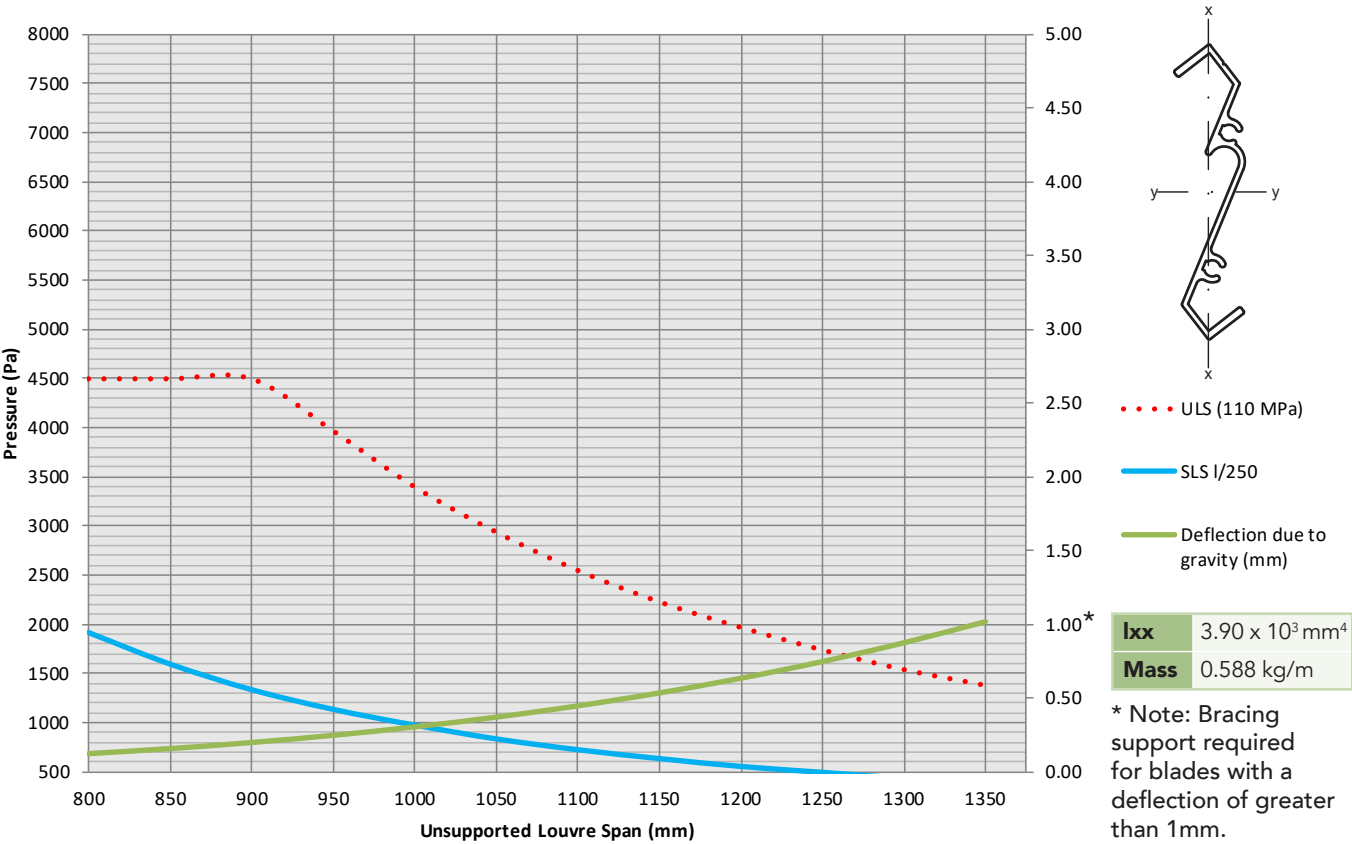


PLEASE REFER TO THE FOLLOWING  
PAGES FOR A BREAKDOWN OF  
ALSPEC'S FIXED LOUVRES.

Louvre Details - LV50



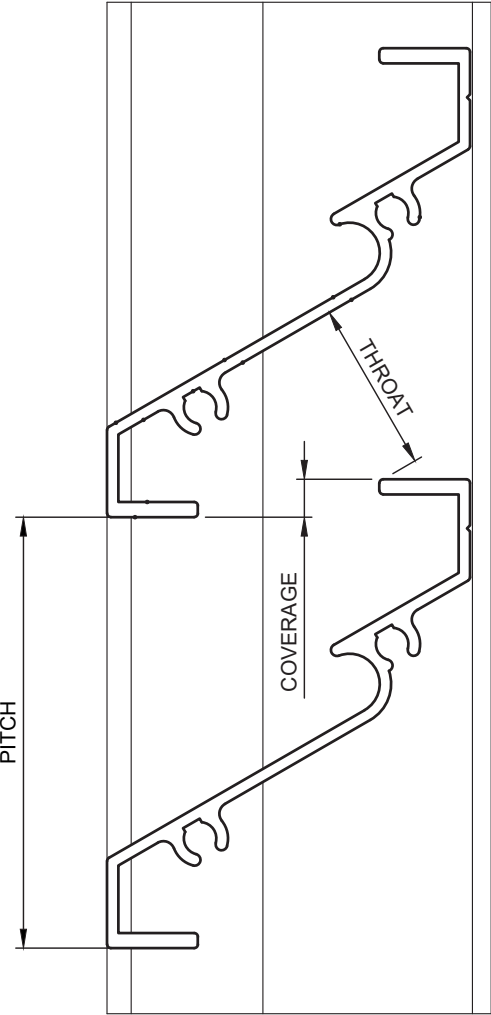
LV50 Wind Pressure Chart



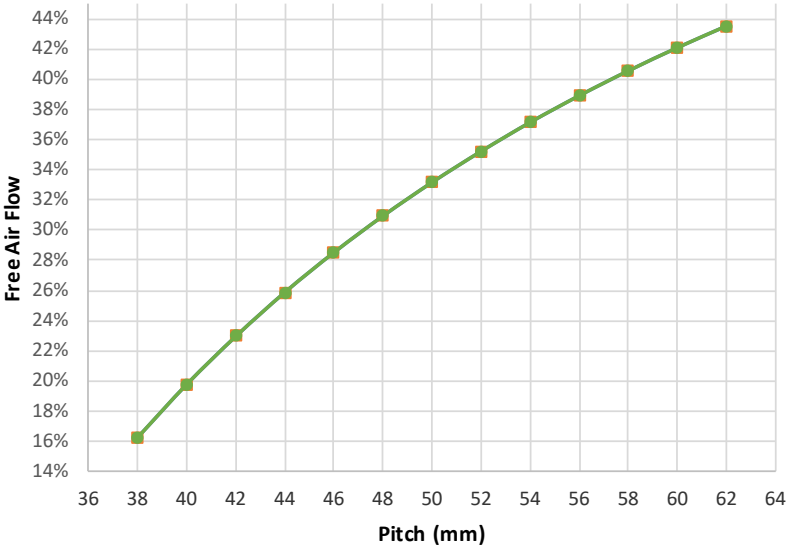
| SLS L/250                      | 1920 | 1600 | 1340 | 1140 | 980  | 840  | 730  | 640  | 560  | 500  | 440  |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 3970 | 3400 | 2940 | 2550 | 2230 | 1970 | 1740 | 1540 | 1380 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.13 | 0.16 | 0.20 | 0.25 | 0.31 | 0.37 | 0.45 | 0.53 | 0.63 | 0.75 | 0.87 | 1.02 |
| LENGTH                         | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 |

Data is based on theoretical section properties

Louvre Details - LV50



LV50 Louvre Free Air %

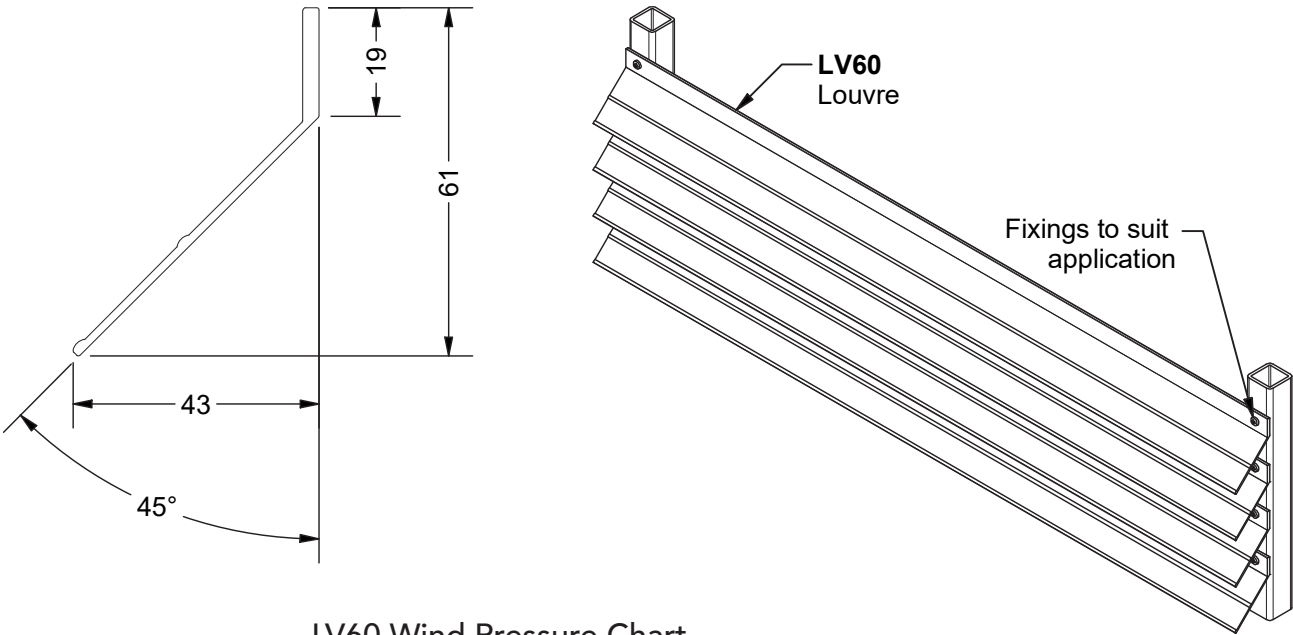


Free Air Flow % - Minimum Throat / Pitch x 100

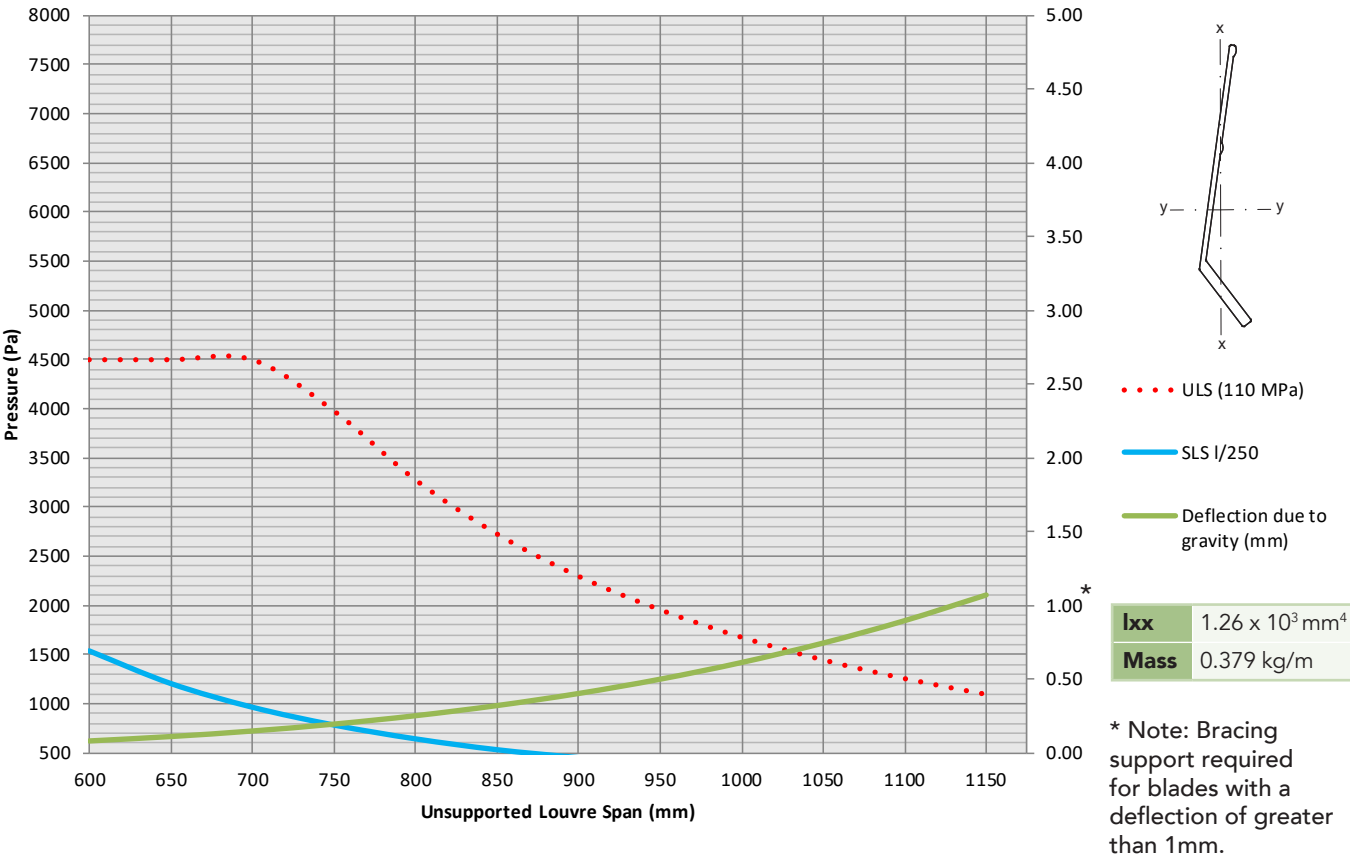
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 38    | 24       | 6.19   | 16%           |
| 40    | 22       | 7.92   | 20%           |
| 42    | 20       | 9.65   | 23%           |
| 44    | 18       | 11.39  | 26%           |
| 46    | 16       | 13.12  | 29%           |
| 48    | 14       | 14.85  | 31%           |
| 50    | 12       | 16.58  | 33%           |
| 52    | 10       | 18.31  | 35%           |
| 54    | 8        | 20.05  | 37%           |
| 56    | 6        | 21.78  | 39%           |
| 58    | 4        | 23.51  | 41%           |
| 60    | 2        | 25.24  | 42%           |
| 62    | 0        | 26.97  | 44%           |

Data is based on theoretical section properties

Louvre Details - LV60



LV60 Wind Pressure Chart

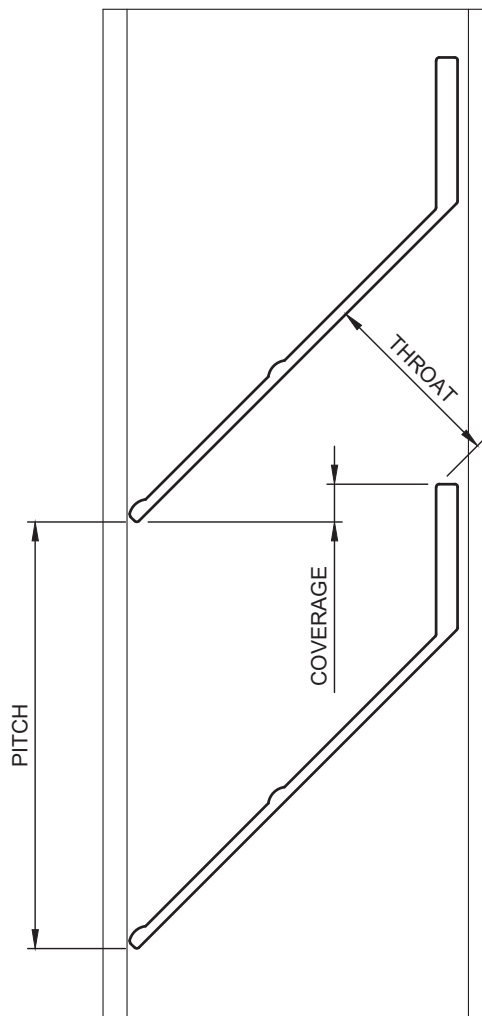
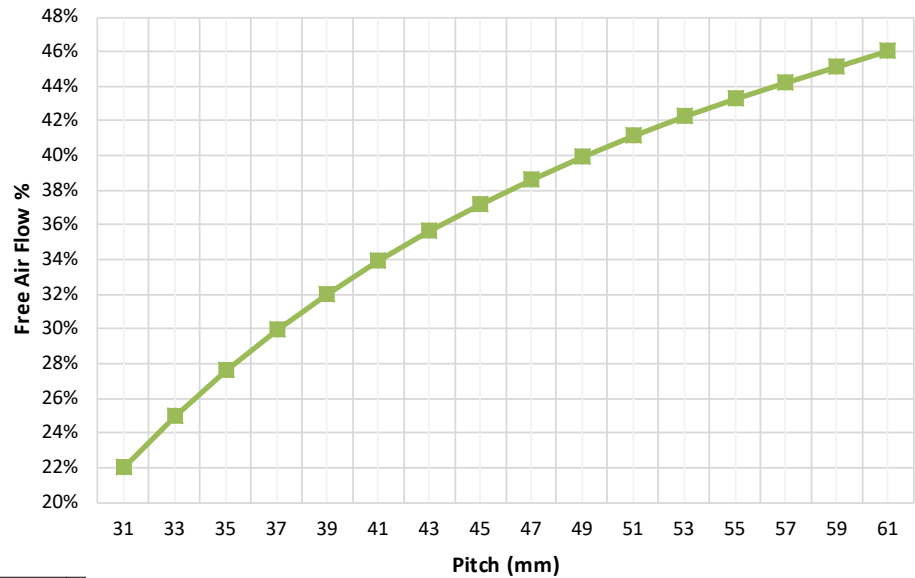


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 1530 | 1200 | 960  | 780  | 640  | 530  | 450  |      |      |      |      |      |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 3980 | 3280 | 2730 | 2300 | 1960 | 1680 | 1450 | 1260 | 1100 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.08 | 0.11 | 0.15 | 0.19 | 0.25 | 0.32 | 0.40 | 0.50 | 0.61 | 0.74 | 0.89 | 1.07 |
| LENGTH                         | 600  | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 |

Data is based on theoretical section properties

Louvre Details - LV60

LV60 Louvre Free Air %

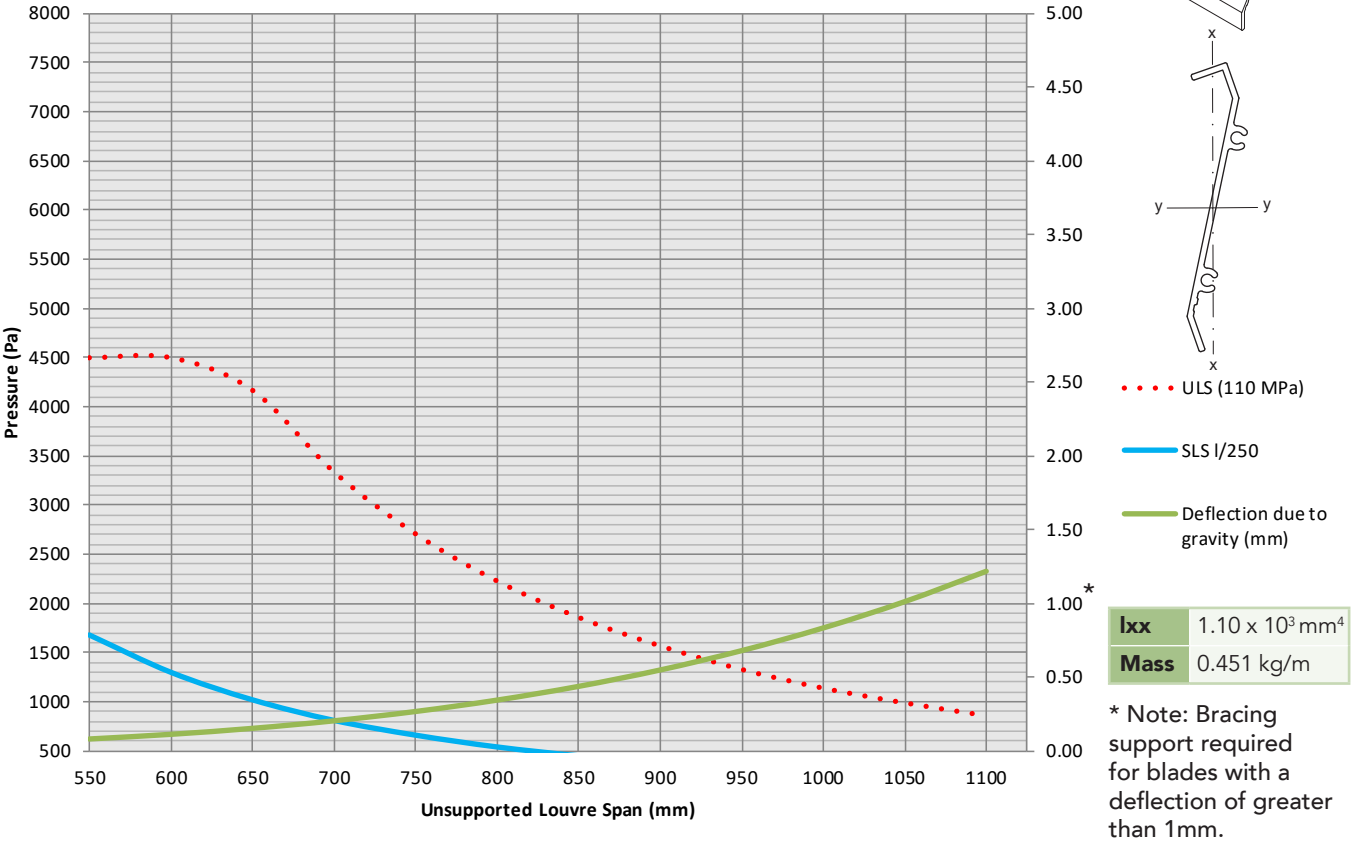
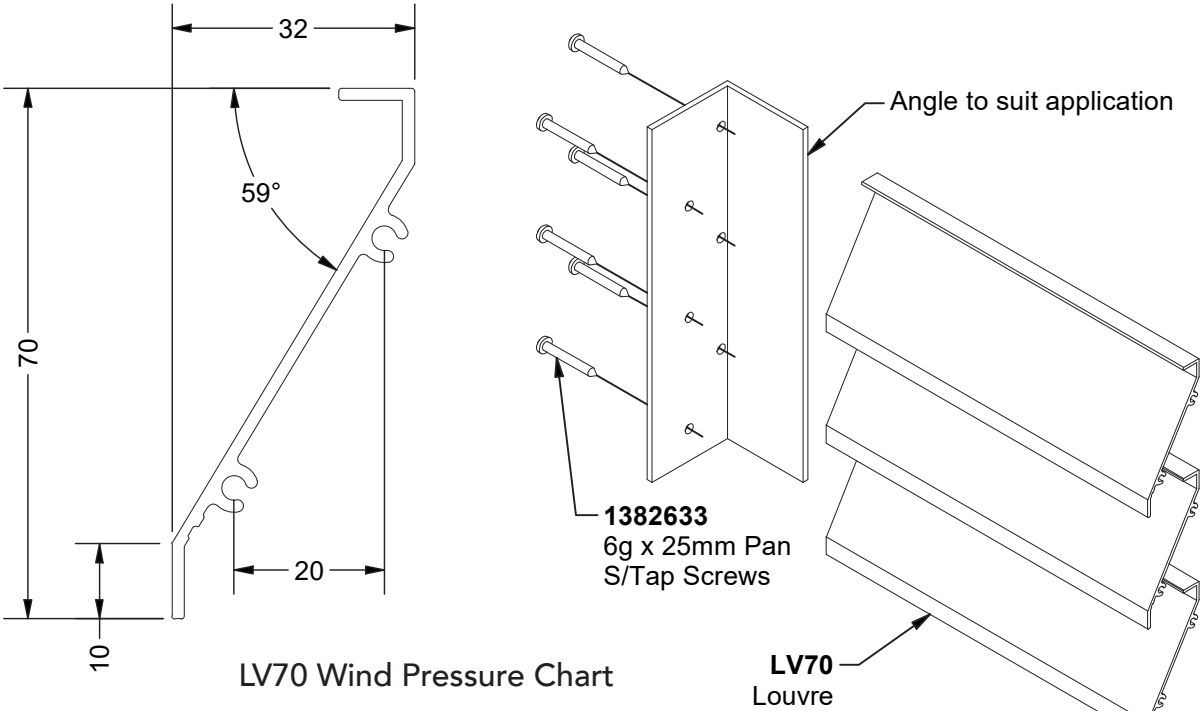


Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 31    | 30       | 6.82   | 22%           |
| 33    | 28       | 8.24   | 25%           |
| 35    | 26       | 9.65   | 28%           |
| 37    | 24       | 11.07  | 30%           |
| 39    | 22       | 12.48  | 32%           |
| 41    | 20       | 13.89  | 34%           |
| 43    | 18       | 15.31  | 36%           |
| 45    | 16       | 16.72  | 37%           |
| 47    | 14       | 18.14  | 39%           |
| 49    | 12       | 19.55  | 40%           |
| 51    | 10       | 20.97  | 41%           |
| 53    | 8        | 22.38  | 42%           |
| 55    | 6        | 23.79  | 43%           |
| 57    | 4        | 25.21  | 44%           |
| 59    | 2        | 26.62  | 45%           |
| 61    | 0        | 28.04  | 46%           |

Data is based on theoretical section properties

Louvre Details - LV70

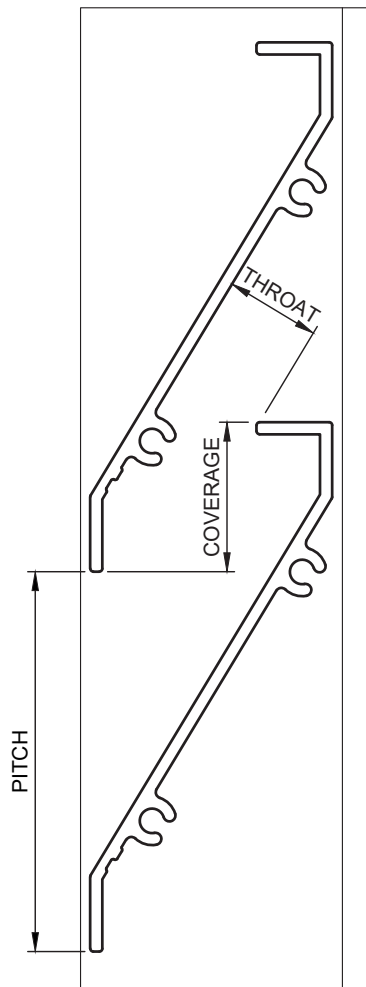
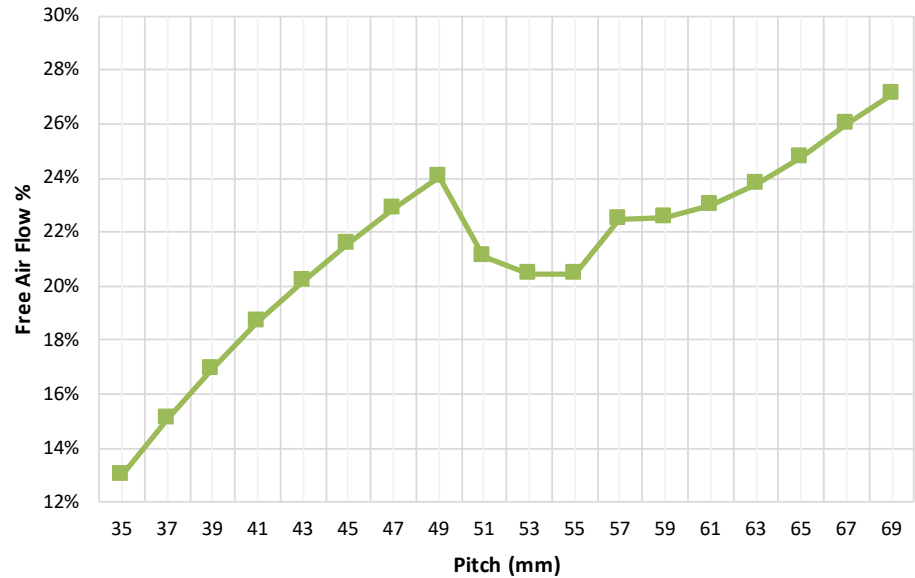


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 1680 | 1300 | 1020 | 810  | 660  | 540  | 450  |      |      |      |      |      |
| ULS (110 MPa)                  | 4500 | 4500 | 4170 | 3340 | 2710 | 2230 | 1860 | 1570 | 1330 | 1140 | 990  | 860  |
| DEFLECTION DUE TO GRAVITY (mm) | 0.08 | 0.11 | 0.15 | 0.20 | 0.26 | 0.34 | 0.43 | 0.55 | 0.68 | 0.83 | 1.01 | 1.22 |
| LENGTH                         | 550  | 600  | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 |

Data is based on theoretical section properties

Louvre Details - LV70

LV70 Louvre Free Air %

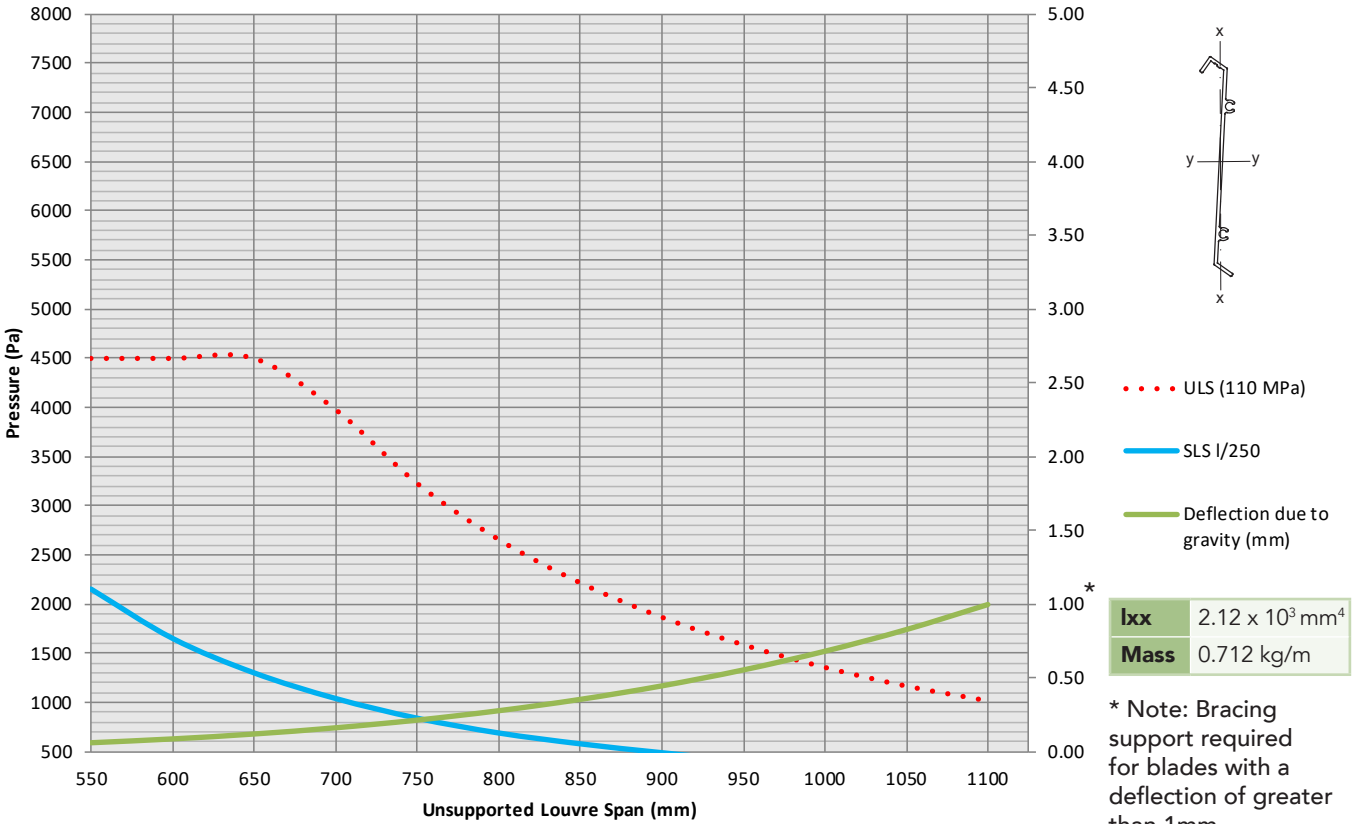
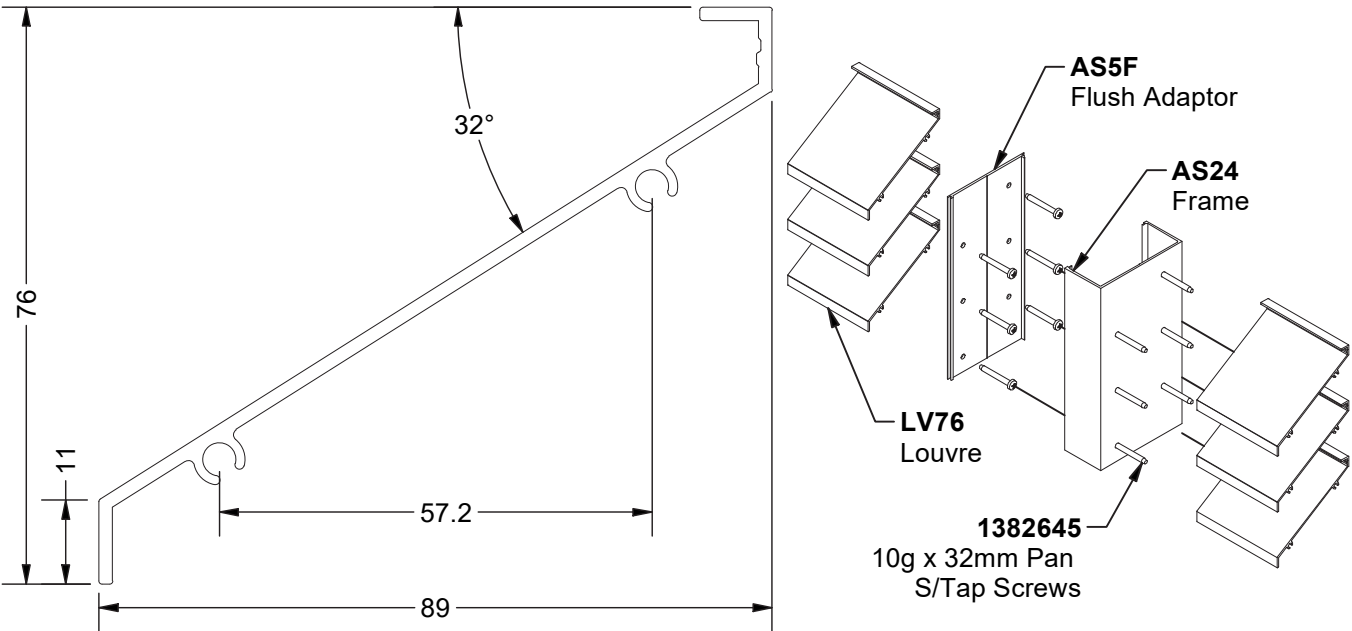


Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 35    | 35       | 4.55   | 13%           |
| 37    | 33       | 5.58   | 15%           |
| 39    | 31       | 6.61   | 17%           |
| 41    | 29       | 7.65   | 19%           |
| 43    | 27       | 8.68   | 20%           |
| 45    | 25       | 9.71   | 22%           |
| 47    | 23       | 10.74  | 23%           |
| 49    | 21       | 11.77  | 24%           |
| 51    | 19       | 10.75  | 21%           |
| 53    | 17       | 10.82  | 20%           |
| 55    | 15       | 11.23  | 20%           |
| 57    | 13       | 12.81  | 22%           |
| 59    | 11       | 13.28  | 23%           |
| 61    | 9        | 14.02  | 23%           |
| 63    | 7        | 14.97  | 24%           |
| 65    | 5        | 16.11  | 25%           |
| 67    | 3        | 17.4   | 26%           |
| 69    | 1        | 18.69  | 27%           |

Data is based on theoretical section properties

Louvre Details - LV76

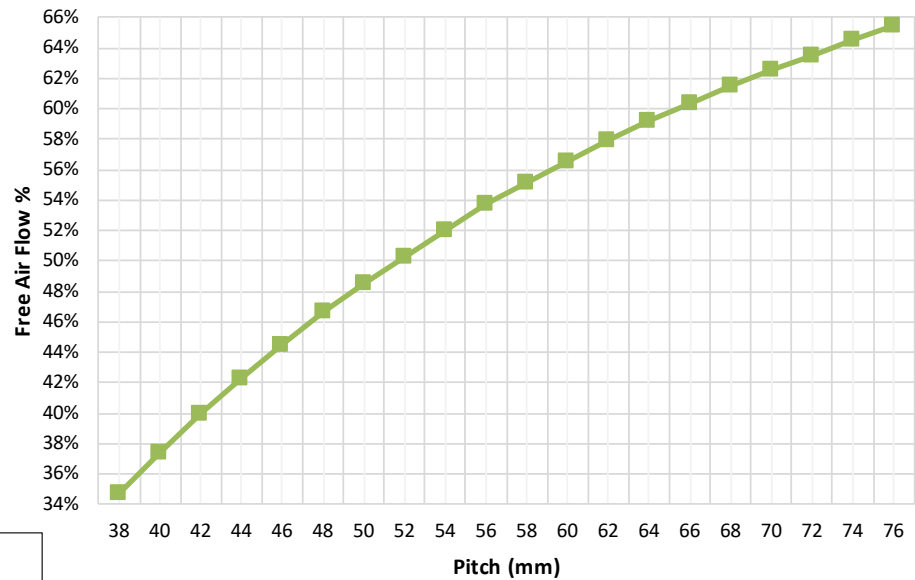


| SLS L/250                      | 2150 | 1650 | 1300 | 1040 | 840  | 690  | 580  | 490  | 410  |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 3980 | 3230 | 2660 | 2220 | 1870 | 1590 | 1360 | 1170 | 1020 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.06 | 0.09 | 0.12 | 0.16 | 0.22 | 0.28 | 0.36 | 0.45 | 0.55 | 0.68 | 0.83 | 1.00 |
| LENGTH                         | 550  | 600  | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 |

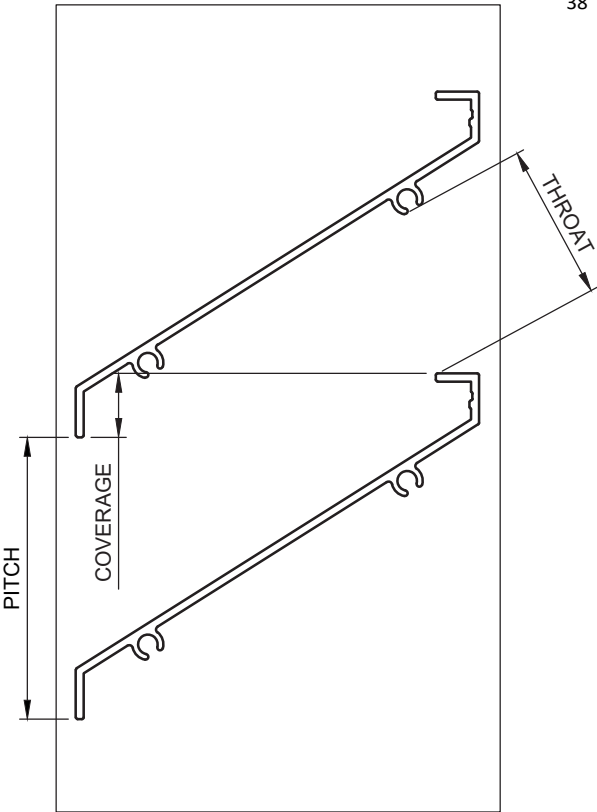
Data is based on theoretical section properties

Louvre Details - LV76

LV76 Louvre Free Air %



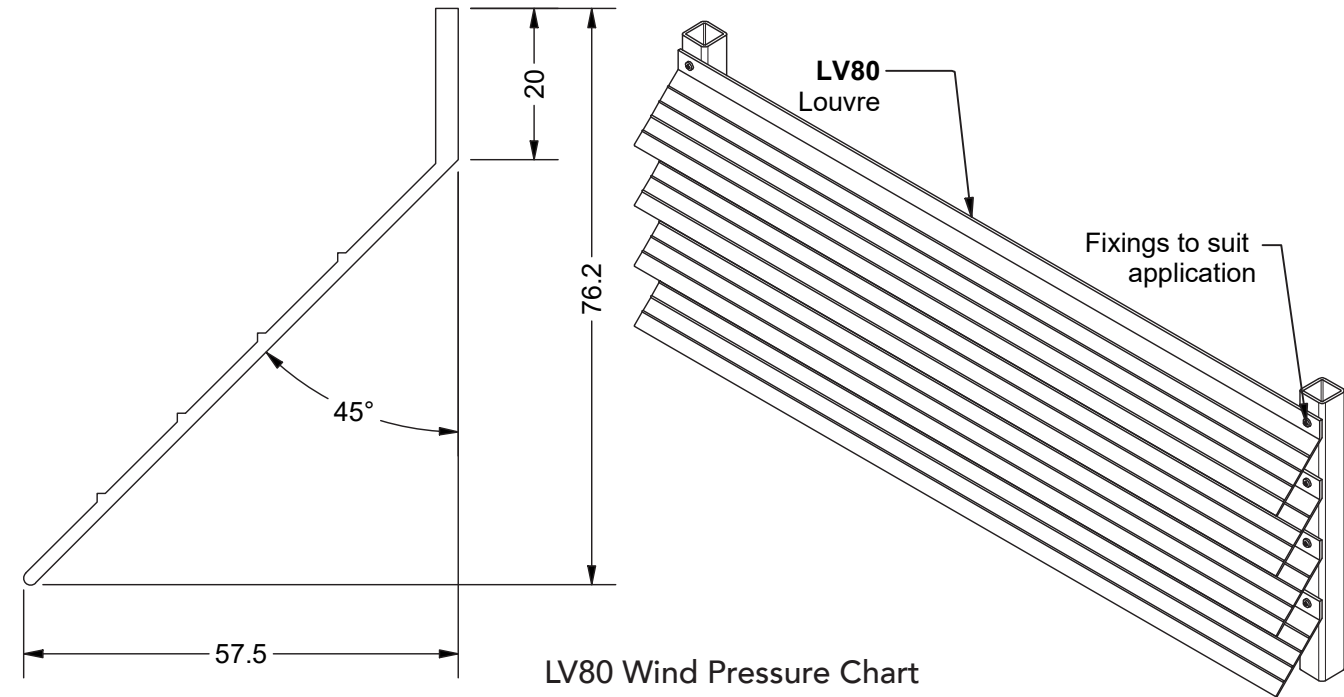
Free Air Flow % - Minimum Throat / Pitch x 100



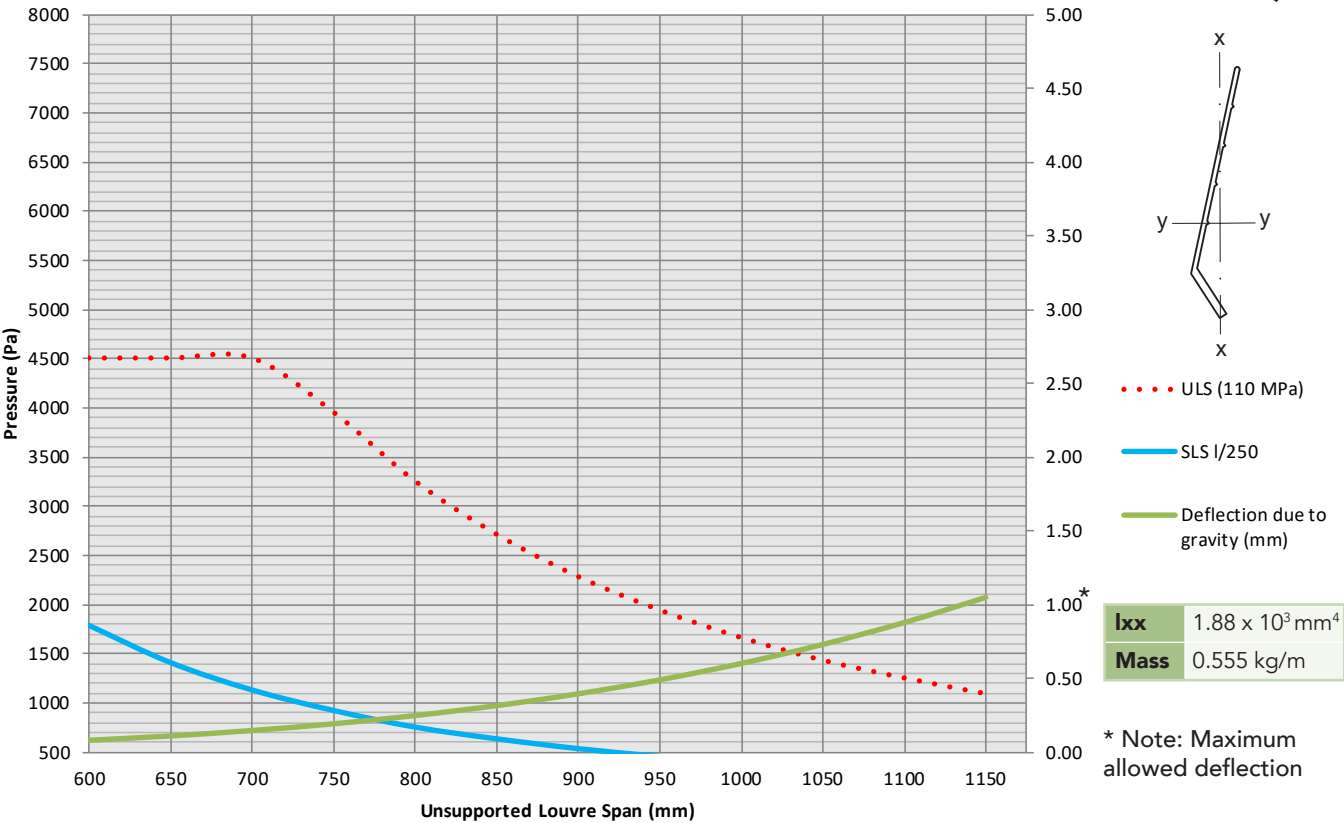
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 38    | 38       | 13.22  | 35%           |
| 40    | 36       | 14.96  | 37%           |
| 42    | 34       | 16.76  | 40%           |
| 44    | 32       | 18.59  | 42%           |
| 46    | 30       | 20.46  | 44%           |
| 48    | 28       | 22.38  | 47%           |
| 50    | 26       | 24.25  | 49%           |
| 52    | 24       | 26.17  | 50%           |
| 54    | 22       | 28.1   | 52%           |
| 56    | 20       | 30.1   | 54%           |
| 58    | 18       | 31.99  | 55%           |
| 60    | 16       | 33.94  | 57%           |
| 62    | 14       | 35.9   | 58%           |
| 64    | 12       | 37.86  | 59%           |
| 66    | 10       | 39.87  | 60%           |
| 68    | 8        | 41.8   | 61%           |
| 70    | 6        | 43.77  | 63%           |
| 72    | 4        | 45.74  | 64%           |
| 74    | 2        | 47.72  | 64%           |
| 76    | 0        | 49.73  | 65%           |

Data is based on theoretical section properties

Louvre Details - LV80



LV80 Wind Pressure Chart

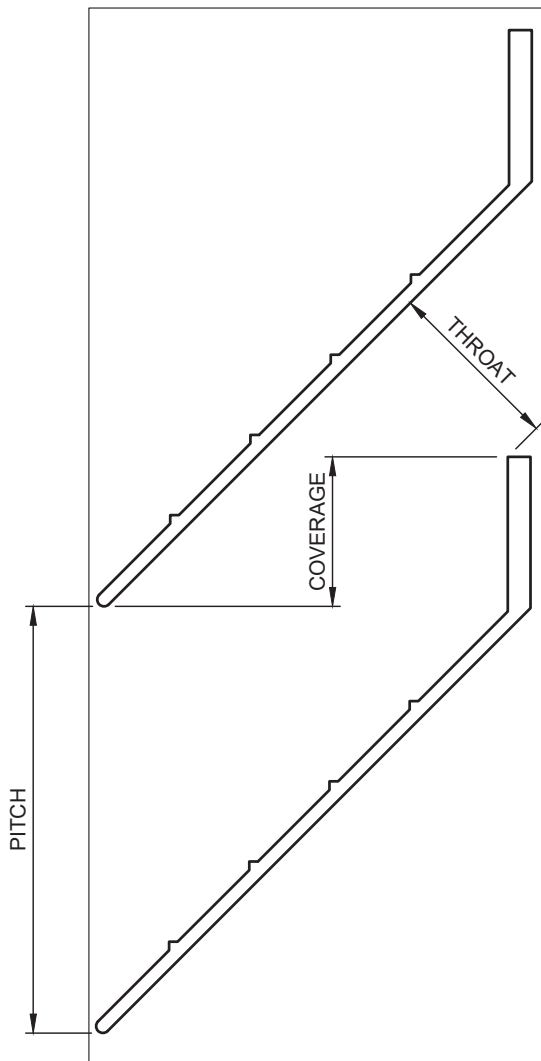
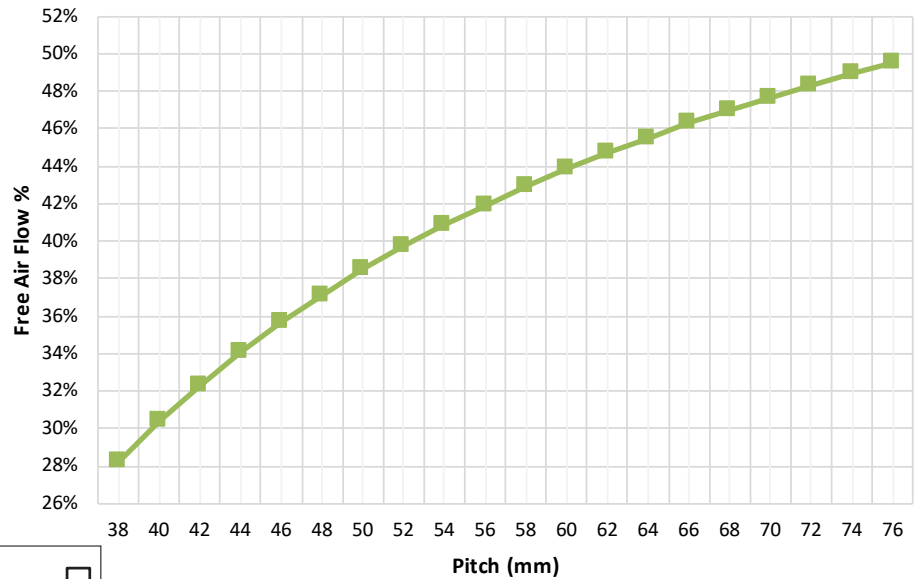


|                                       |            |            |            |            |            |            |            |            |             |             |             |             |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|
| <b>SLS L/250</b>                      | 1790       | 1410       | 1130       | 920        | 750        | 630        | 530        | 450        |             |             |             |             |
| <b>ULS (110 MPa)</b>                  | 4500       | 4500       | 4500       | 3950       | 3250       | 2710       | 2280       | 1940       | 1660        | 1430        | 1250        | 1090        |
| <b>DEFLECTION DUE TO GRAVITY (mm)</b> | 0.08       | 0.11       | 0.14       | 0.19       | 0.25       | 0.31       | 0.39       | 0.49       | 0.60        | 0.73        | 0.88        | 1.05        |
| <b>LENGTH</b>                         | <b>600</b> | <b>650</b> | <b>700</b> | <b>750</b> | <b>800</b> | <b>850</b> | <b>900</b> | <b>950</b> | <b>1000</b> | <b>1050</b> | <b>1100</b> | <b>1150</b> |

Data is based on theoretical section properties

Louvre Details - LV80

LV80 Louvre Free Air %

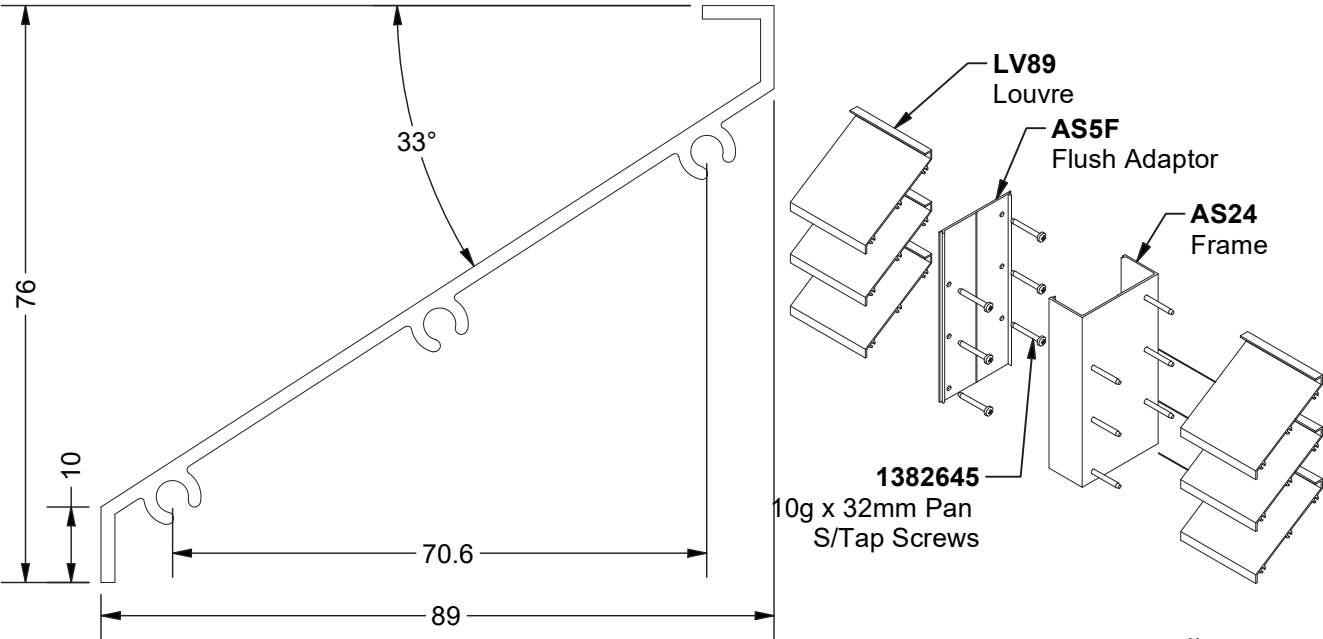


Free Air Flow % - Minimum Throat / Pitch x 100

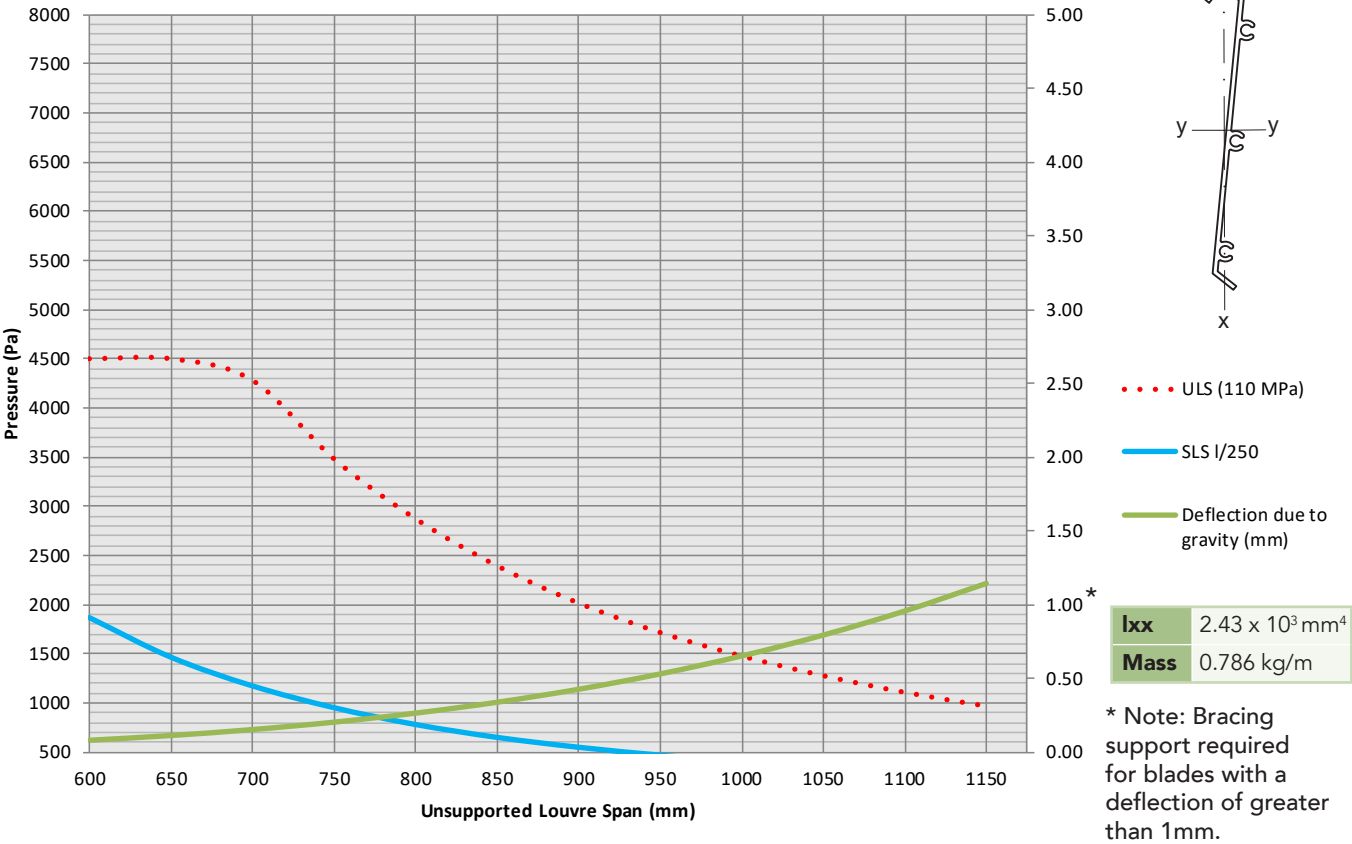
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 38    | 38       | 10.75  | 28%           |
| 40    | 36       | 12.16  | 30%           |
| 42    | 34       | 13.58  | 32%           |
| 44    | 32       | 14.99  | 34%           |
| 46    | 30       | 16.41  | 36%           |
| 48    | 28       | 17.82  | 37%           |
| 50    | 26       | 19.24  | 38%           |
| 52    | 24       | 20.65  | 40%           |
| 54    | 22       | 22.06  | 41%           |
| 56    | 20       | 23.48  | 42%           |
| 58    | 18       | 24.89  | 43%           |
| 60    | 16       | 26.31  | 44%           |
| 62    | 14       | 27.72  | 45%           |
| 64    | 12       | 29.13  | 46%           |
| 66    | 10       | 30.55  | 46%           |
| 68    | 8        | 31.96  | 47%           |
| 70    | 6        | 33.38  | 48%           |
| 72    | 4        | 34.79  | 48%           |
| 74    | 2        | 36.21  | 49%           |
| 76    | 0        | 37.62  | 50%           |

Data is based on theoretical section properties

Louvre Details - LV89



LV89 Wind Pressure Chart

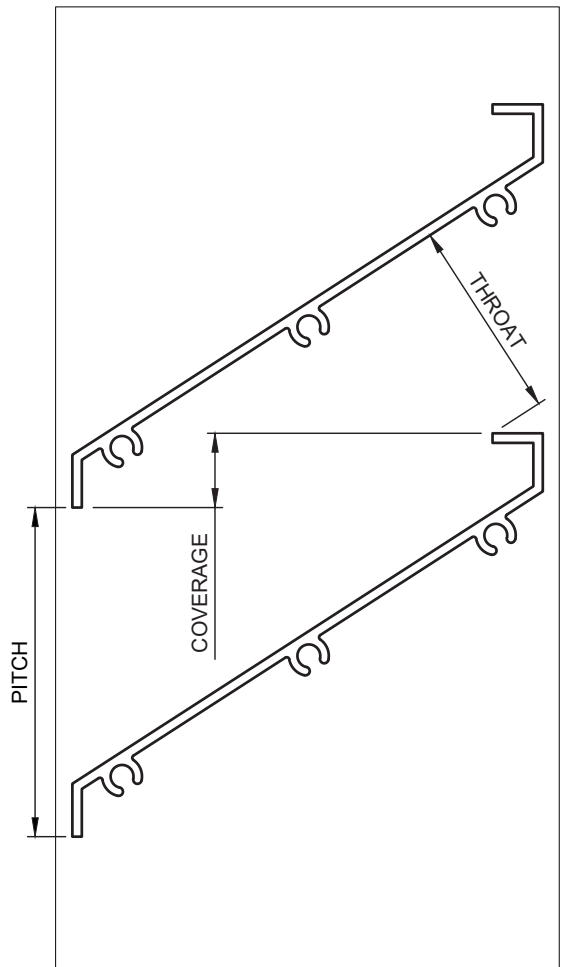
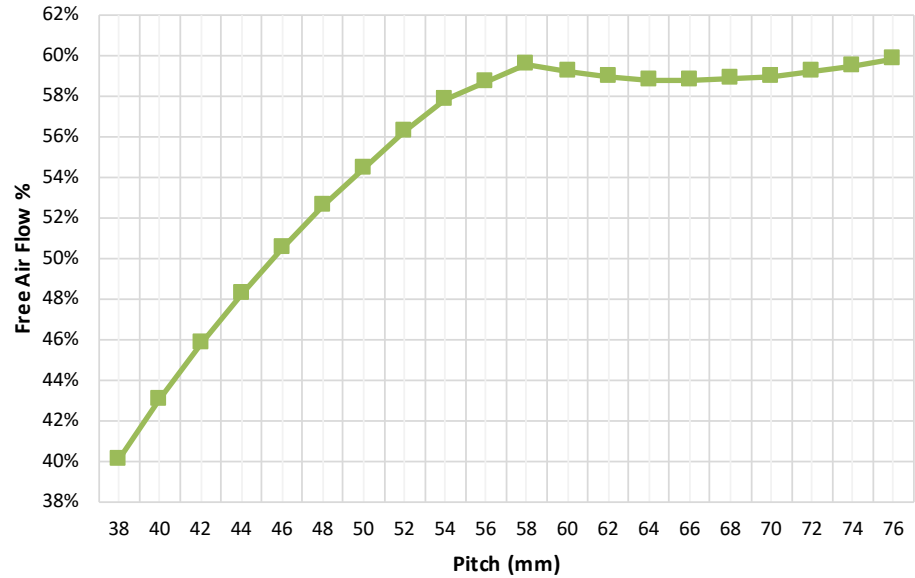


| SLS L/250                      | 1860 | 1460 | 1170 | 950  | 780  | 650  | 550  | 470  | 400  |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 4280 | 3480 | 2870 | 2390 | 2010 | 1710 | 1470 | 1270 | 1100 | 960  |
| DEFLECTION DUE TO GRAVITY (mm) | 0.09 | 0.12 | 0.16 | 0.21 | 0.27 | 0.34 | 0.43 | 0.53 | 0.66 | 0.80 | 0.96 | 1.15 |
| LENGTH                         | 600  | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 |

Data is based on theoretical section properties

Louvre Details - LV89

LV89 Louvre Free Air %

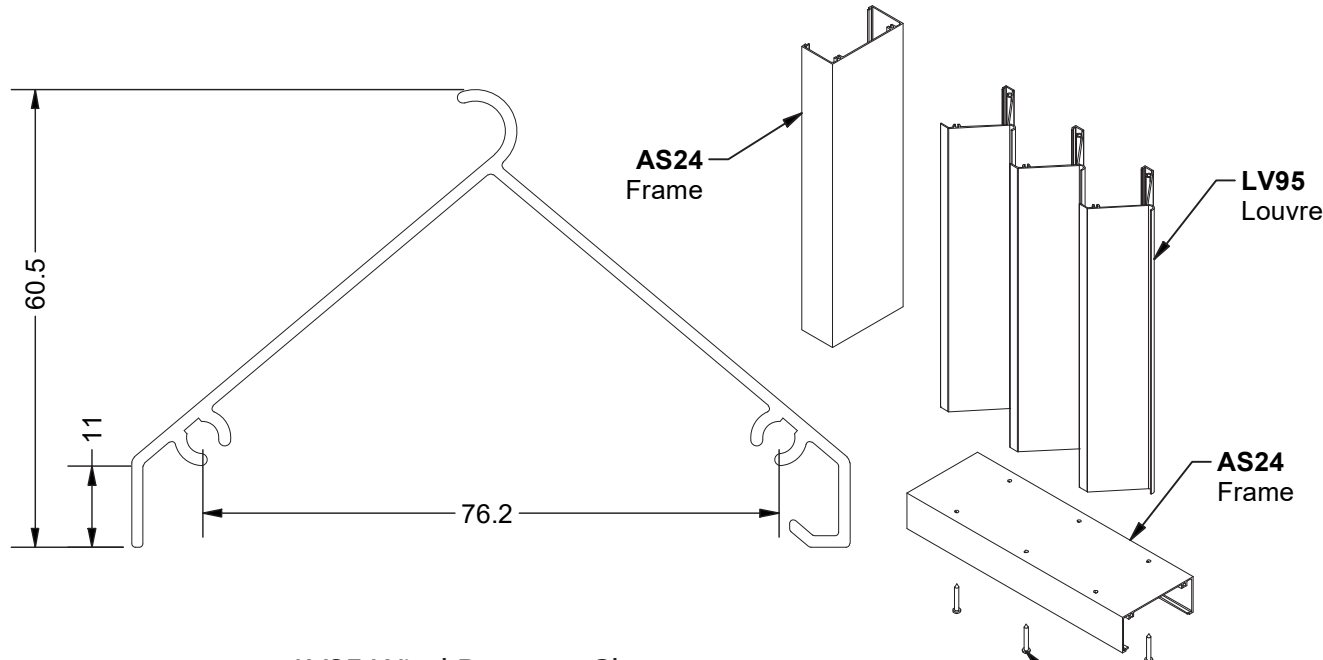


Free Air Flow % - Minimum Throat / Pitch x 100

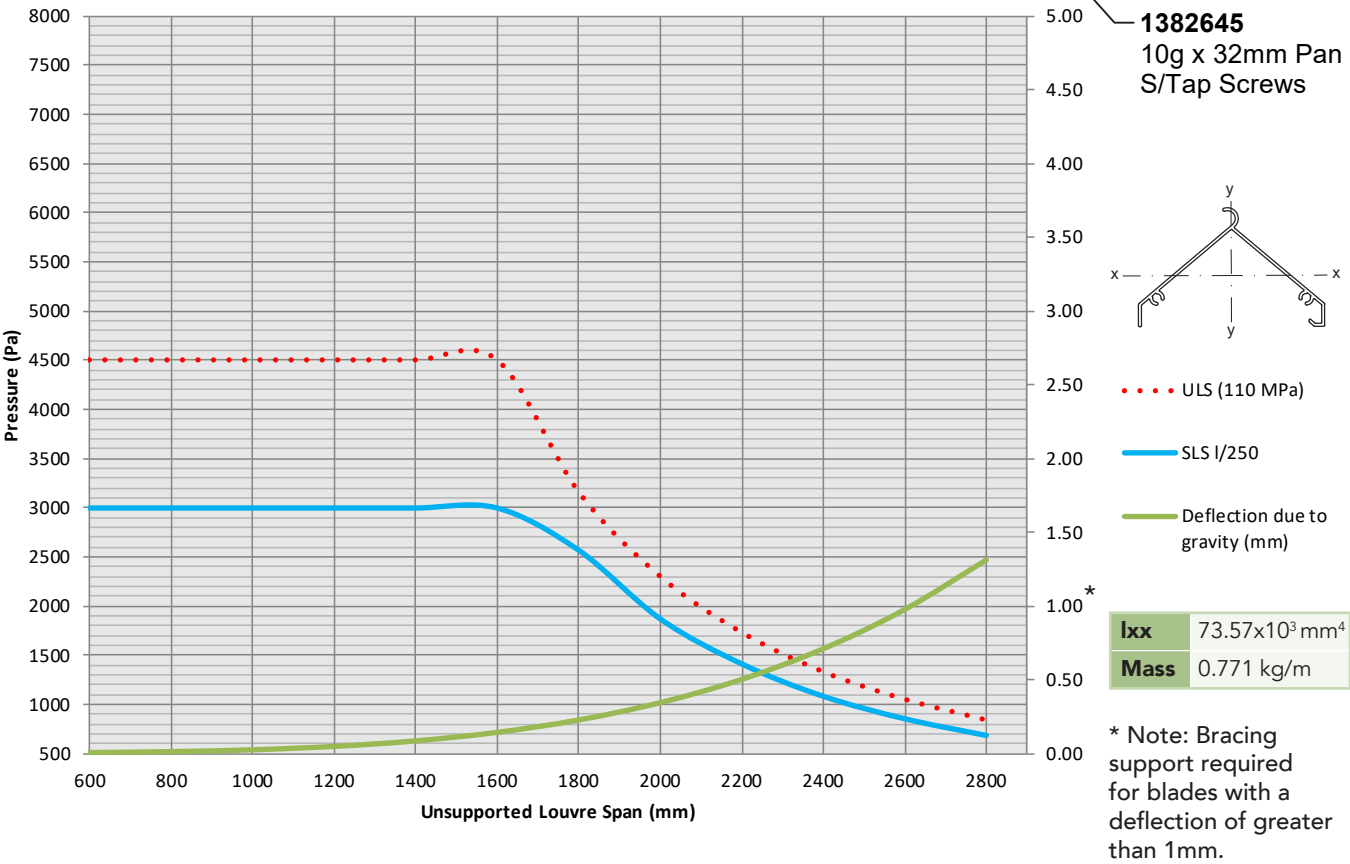
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 38    | 38       | 15.23  | 40%           |
| 40    | 36       | 17.23  | 43%           |
| 42    | 34       | 19.23  | 46%           |
| 44    | 32       | 21.23  | 48%           |
| 46    | 30       | 23.23  | 51%           |
| 48    | 28       | 25.23  | 53%           |
| 50    | 26       | 27.23  | 54%           |
| 52    | 24       | 29.23  | 56%           |
| 54    | 22       | 31.21  | 58%           |
| 56    | 20       | 32.85  | 59%           |
| 58    | 18       | 34.53  | 60%           |
| 60    | 16       | 35.54  | 59%           |
| 62    | 14       | 36.54  | 59%           |
| 64    | 12       | 37.63  | 59%           |
| 66    | 10       | 38.78  | 59%           |
| 68    | 8        | 40.01  | 59%           |
| 70    | 6        | 41.29  | 59%           |
| 72    | 4        | 42.62  | 59%           |
| 74    | 2        | 44.01  | 59%           |
| 76    | 0        | 45.44  | 60%           |

Data is based on theoretical section properties

Louvre Details - LV95



LV95 Wind Pressure Chart

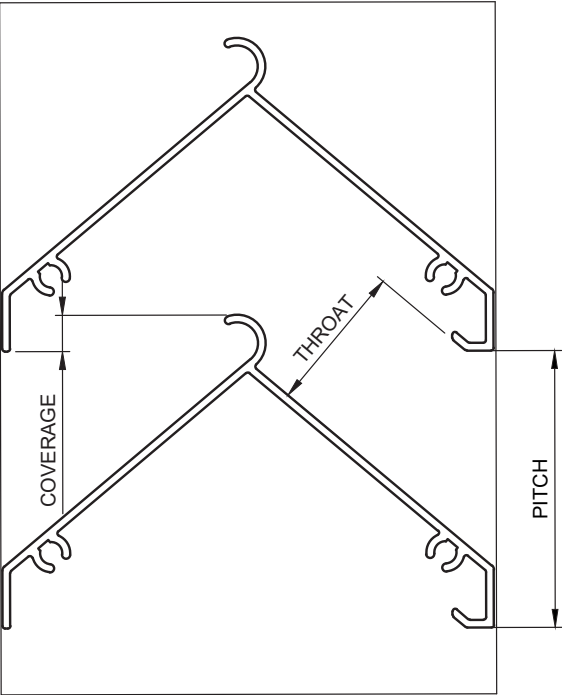
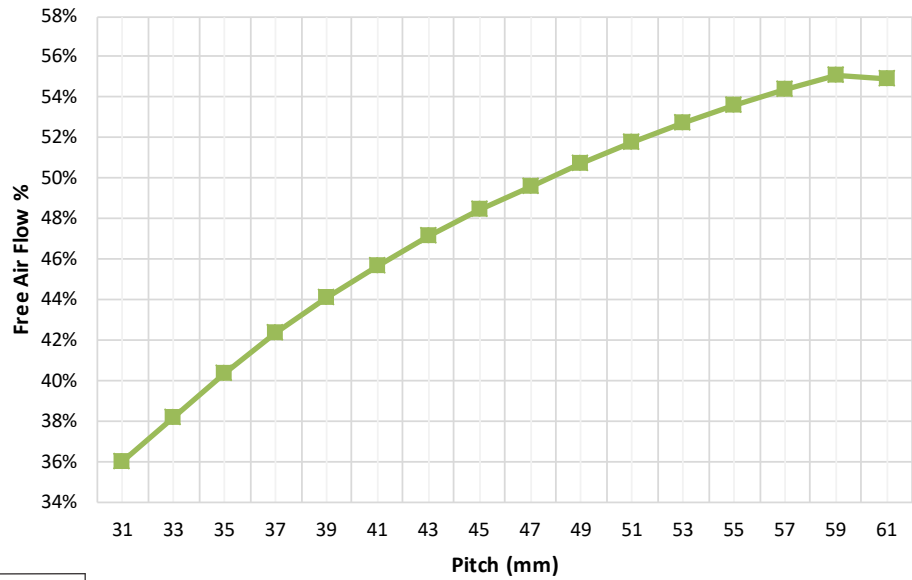


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 2570 | 1870 | 1410 | 1080 | 850  | 680  |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 3160 | 2300 | 1730 | 1330 | 1050 | 840  |
| DEFLECTION DUE TO GRAVITY (mm) | 0.00 | 0.01 | 0.02 | 0.04 | 0.08 | 0.14 | 0.22 | 0.34 | 0.50 | 0.71 | 0.97 | 1.31 |
| LENGTH                         | 600  | 800  | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 |

Data is based on theoretical section properties

Louvre Details - LV95

LV95 Louvre Free Air %



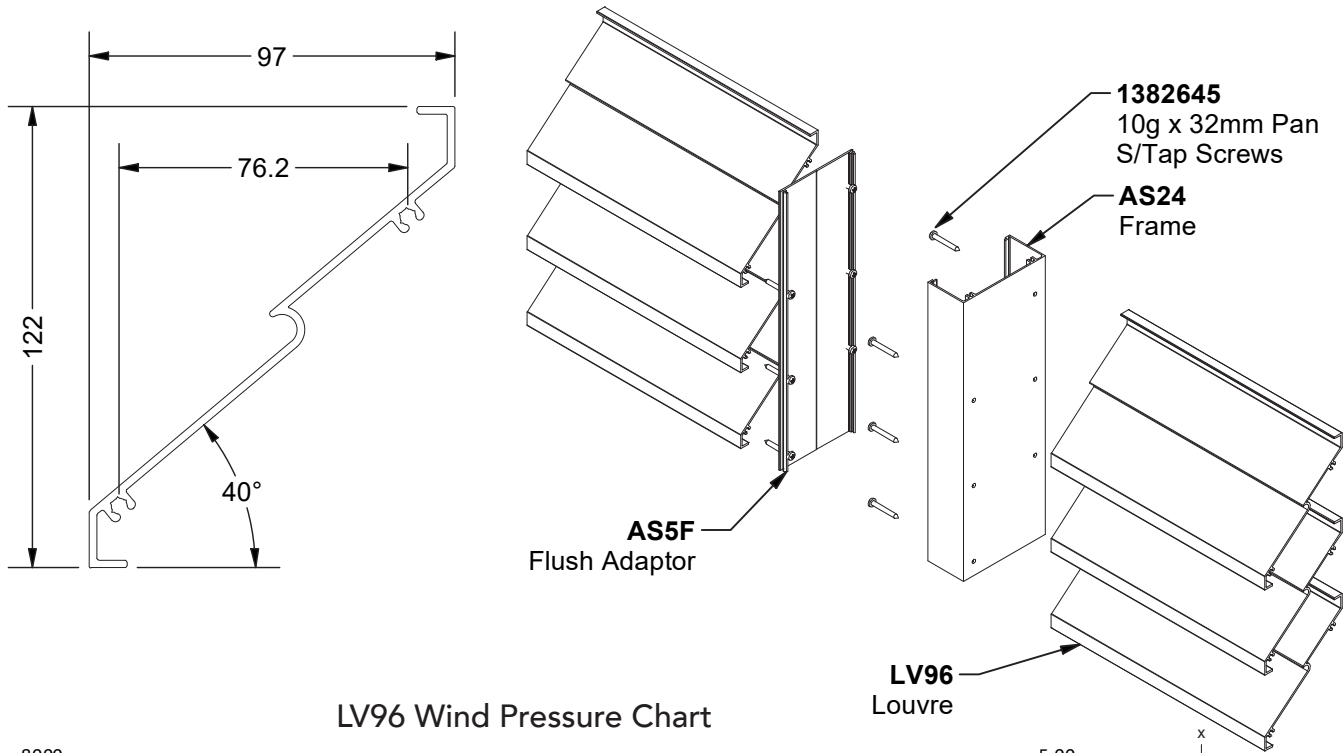
HORIZONTAL VIEW

Free Air Flow % - Minimum Throat / Pitch x 100

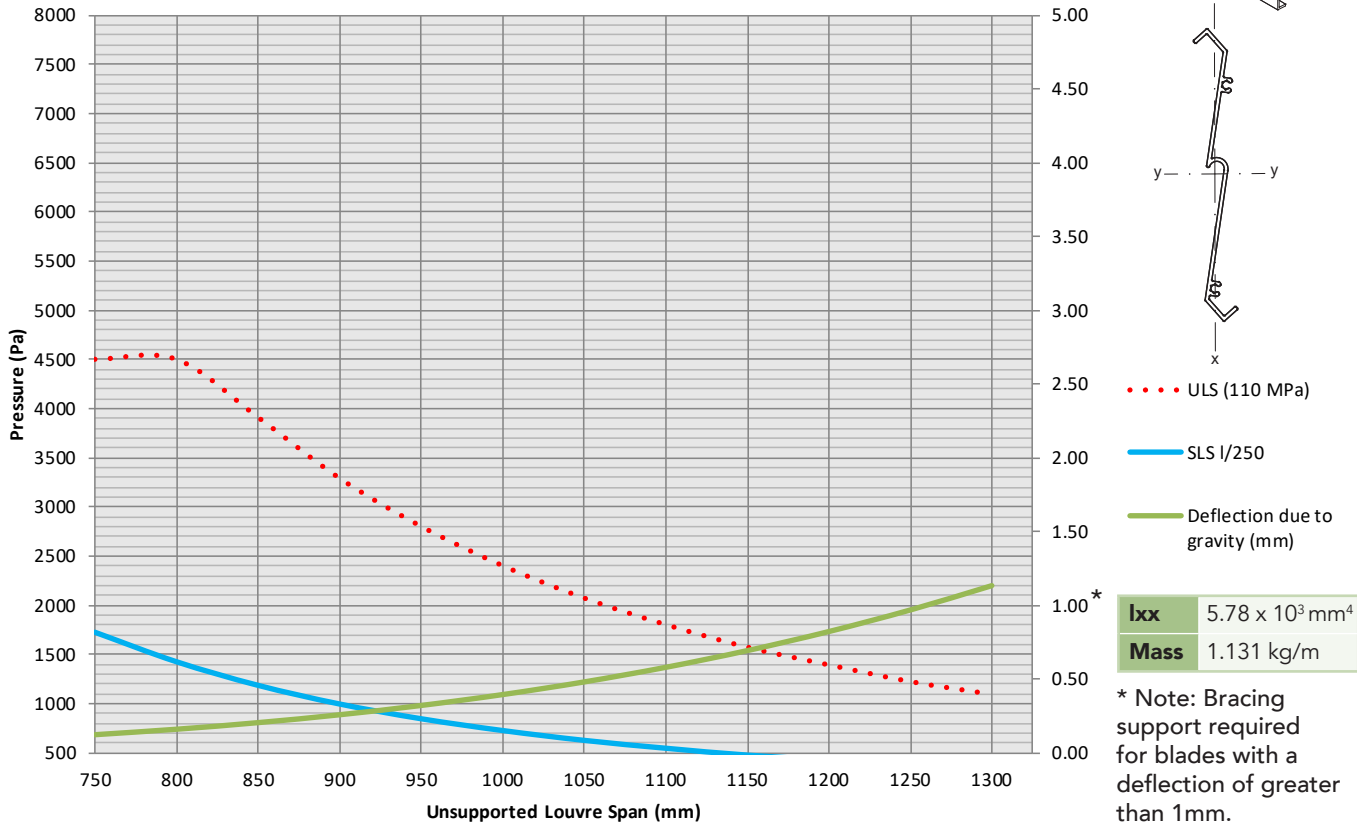
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 31    | 30       | 11.16  | 36%           |
| 33    | 28       | 12.61  | 38%           |
| 35    | 26       | 14.14  | 40%           |
| 37    | 24       | 15.67  | 42%           |
| 39    | 22       | 17.2   | 44%           |
| 41    | 20       | 18.74  | 46%           |
| 43    | 18       | 20.27  | 47%           |
| 45    | 16       | 21.8   | 48%           |
| 47    | 14       | 23.33  | 50%           |
| 49    | 12       | 24.86  | 51%           |
| 51    | 10       | 26.4   | 52%           |
| 53    | 8        | 27.93  | 53%           |
| 55    | 6        | 29.46  | 54%           |
| 57    | 4        | 30.99  | 54%           |
| 59    | 2        | 32.52  | 55%           |
| 61    | 0        | 33.5   | 55%           |

Data is based on theoretical section properties

Louvre Details - LV96



LV96 Wind Pressure Chart

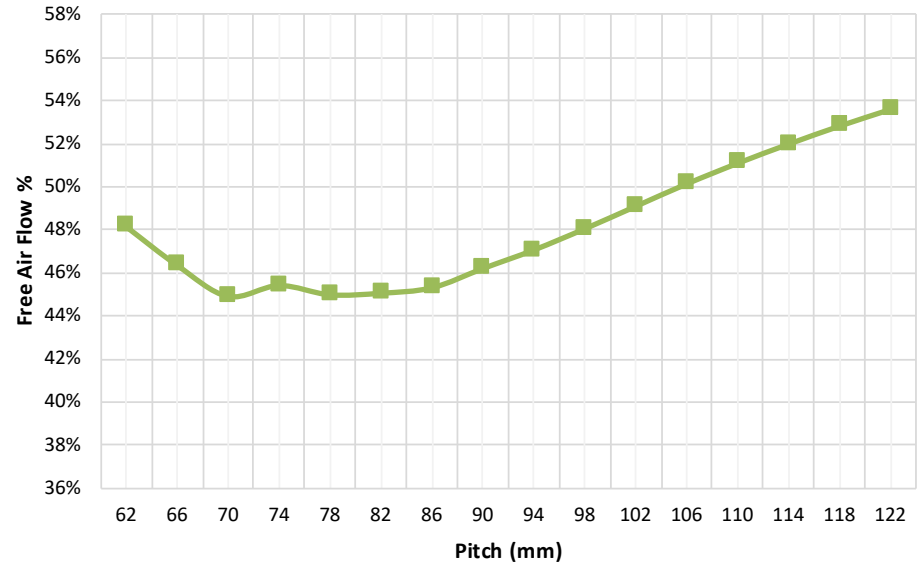


| SLS L/250                      | 1720 | 1420 | 1180 | 990  | 840  | 720  | 620  | 540  | 470  | 420  |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 3910 | 3290 | 2800 | 2400 | 2070 | 1800 | 1570 | 1390 | 1220 | 1090 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.13 | 0.16 | 0.21 | 0.26 | 0.32 | 0.40 | 0.48 | 0.58 | 0.69 | 0.82 | 0.97 | 1.13 |
| LENGTH                         | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

Data is based on theoretical section properties

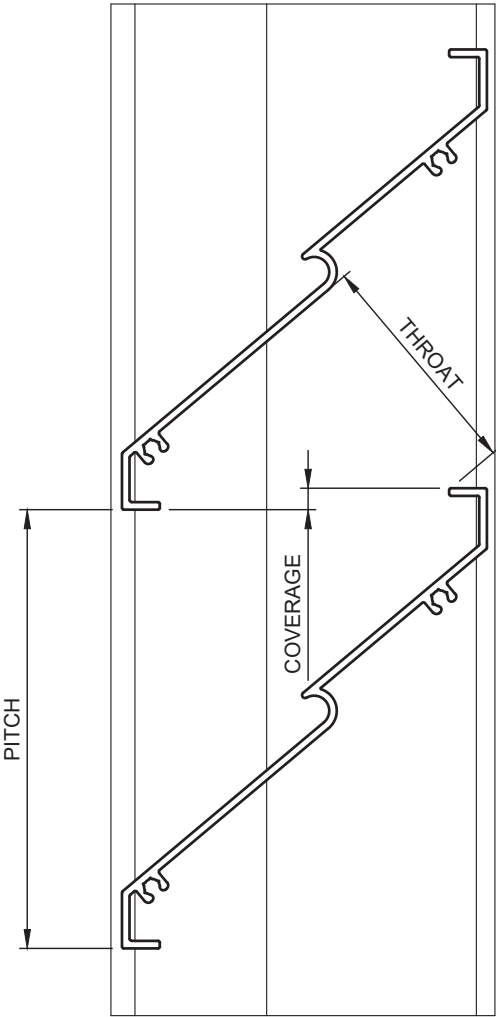
Louvre Details - LV96

LV96 Louvre Free Air %



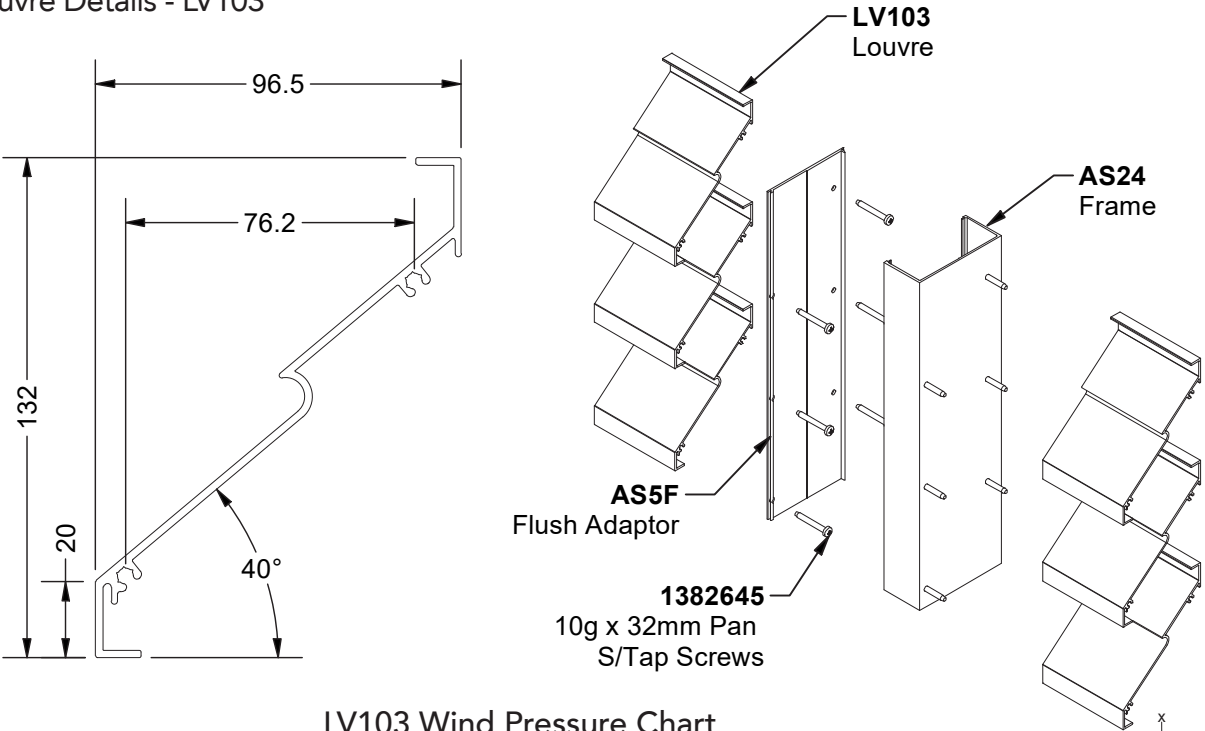
Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 62    | 60       | 29.86  | 48%           |
| 66    | 56       | 30.6   | 46%           |
| 70    | 52       | 31.44  | 45%           |
| 74    | 48       | 33.61  | 45%           |
| 78    | 44       | 35.09  | 45%           |
| 82    | 40       | 36.95  | 45%           |
| 86    | 36       | 38.97  | 45%           |
| 90    | 32       | 41.59  | 46%           |
| 94    | 28       | 44.25  | 47%           |
| 98    | 24       | 47.1   | 48%           |
| 102   | 20       | 50.09  | 49%           |
| 106   | 16       | 53.16  | 50%           |
| 110   | 12       | 56.22  | 51%           |
| 114   | 8        | 59.28  | 52%           |
| 118   | 4        | 62.35  | 53%           |
| 122   | 0        | 65.41  | 54%           |

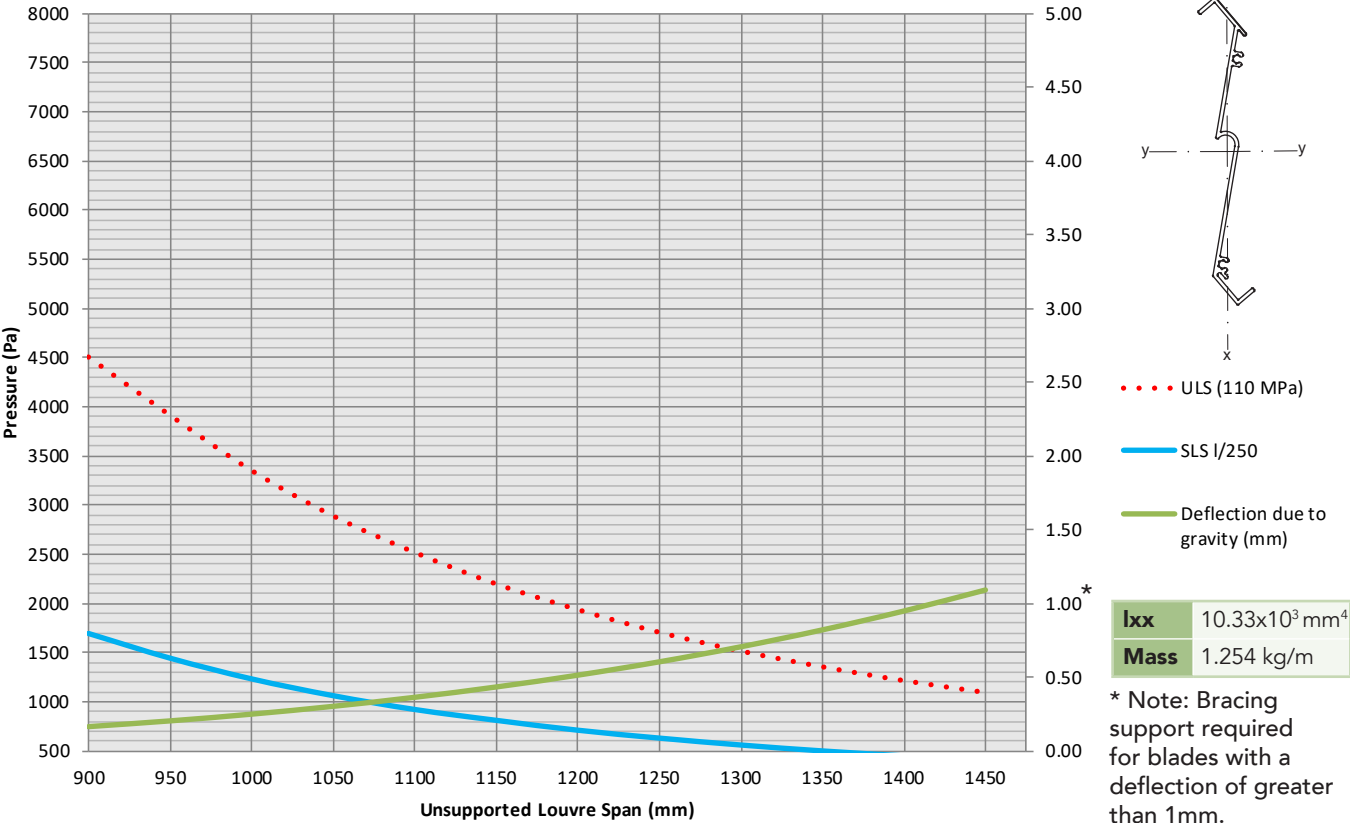


Data is based on theoretical section properties

Louvre Details - LV103



LV103 Wind Pressure Chart

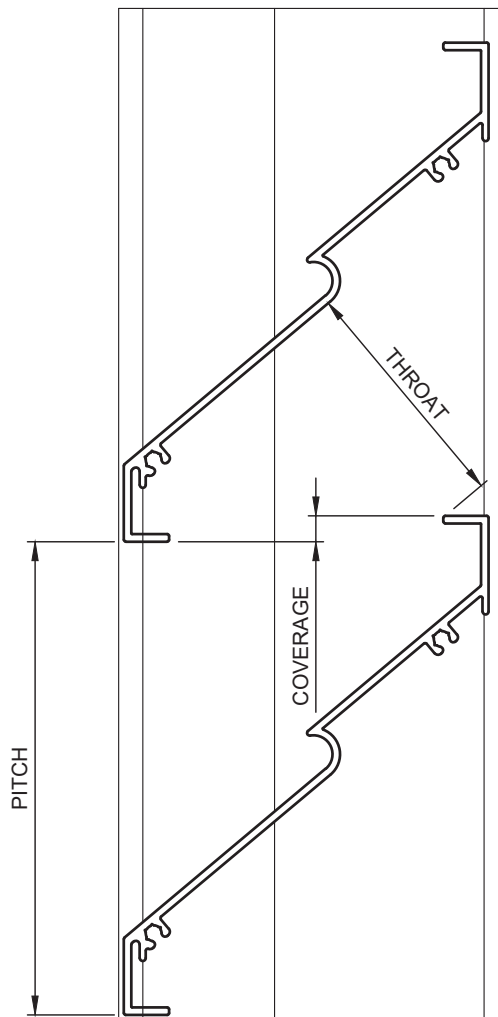
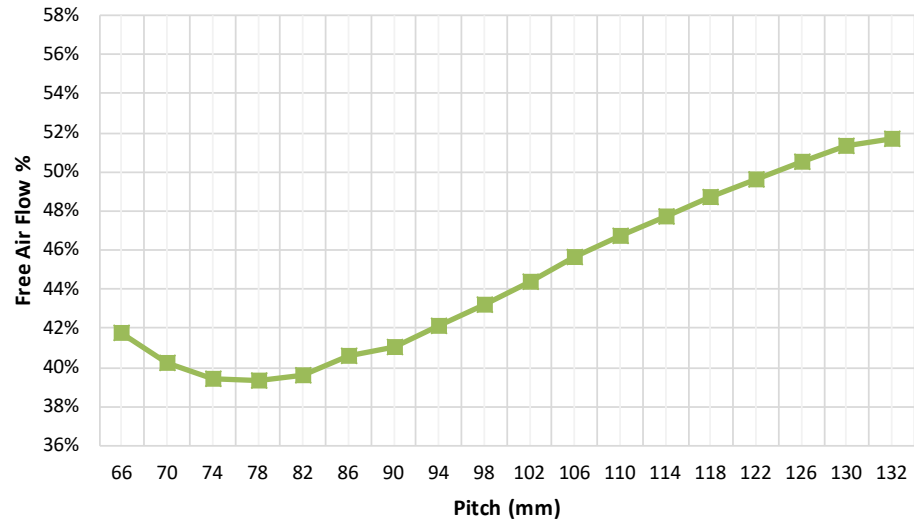


|                                       |            |            |             |             |             |             |             |             |             |             |             |             |
|---------------------------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>SLS L/250</b>                      | 1690       | 1440       | 1230        | 1060        | 920         | 810         | 710         | 630         | 560         | 500         | 450         | 400         |
| <b>ULS (110 MPa)</b>                  | 4500       | 3910       | 3350        | 2890        | 2520        | 2200        | 1940        | 1710        | 1520        | 1360        | 1220        | 1100        |
| <b>DEFLECTION DUE TO GRAVITY (mm)</b> | 0.16       | 0.20       | 0.25        | 0.30        | 0.36        | 0.43        | 0.51        | 0.60        | 0.71        | 0.82        | 0.95        | 1.09        |
| <b>LENGTH</b>                         | <b>900</b> | <b>950</b> | <b>1000</b> | <b>1050</b> | <b>1100</b> | <b>1150</b> | <b>1200</b> | <b>1250</b> | <b>1300</b> | <b>1350</b> | <b>1400</b> | <b>1450</b> |

Data is based on theoretical section properties

Louvre Details - LV103

LV103 Louvre Free Air %

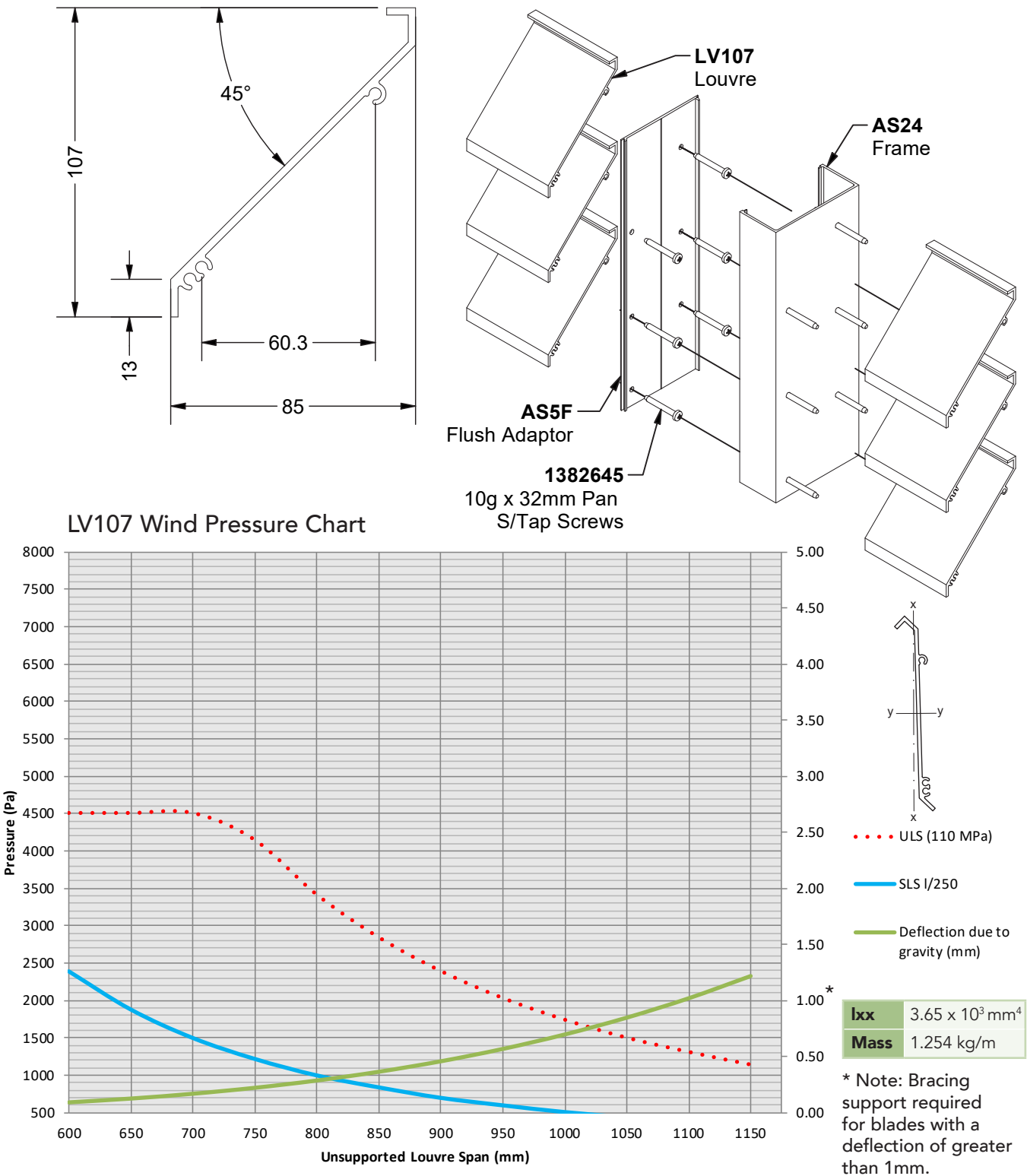


Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 66    | 66       | 27.56  | 42%           |
| 70    | 62       | 28.14  | 40%           |
| 74    | 58       | 29.2   | 39%           |
| 78    | 54       | 30.66  | 39%           |
| 82    | 50       | 32.47  | 40%           |
| 86    | 46       | 34.89  | 41%           |
| 90    | 42       | 36.96  | 41%           |
| 94    | 38       | 39.56  | 42%           |
| 98    | 34       | 42.35  | 43%           |
| 102   | 30       | 45.3   | 44%           |
| 106   | 26       | 48.35  | 46%           |
| 110   | 22       | 51.36  | 47%           |
| 114   | 18       | 54.42  | 48%           |
| 118   | 14       | 57.49  | 49%           |
| 122   | 10       | 60.55  | 50%           |
| 126   | 6        | 63.61  | 50%           |
| 130   | 2        | 66.68  | 51%           |
| 132   | 0        | 68.21  | 52%           |

Data is based on theoretical section properties

Louvre Details - LV107

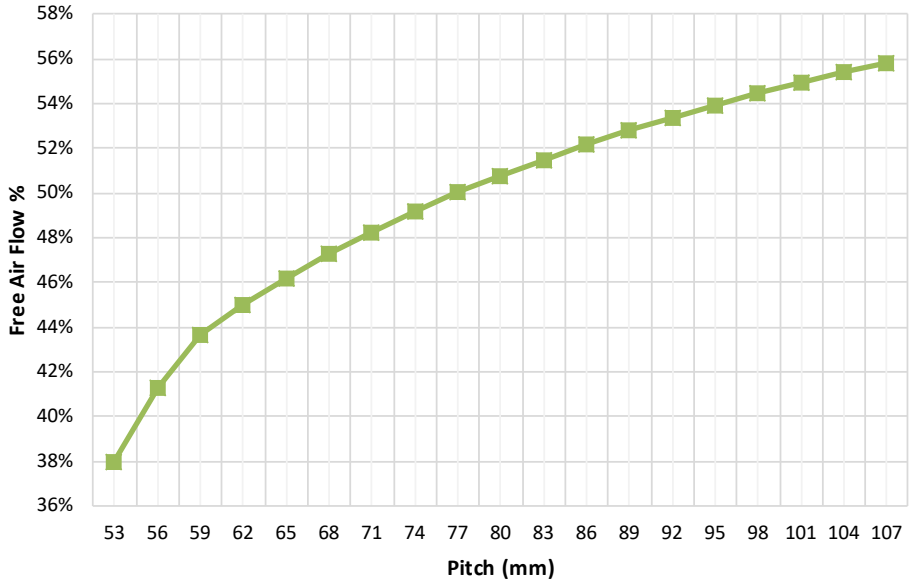


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 2390 | 1880 | 1500 | 1220 | 1000 | 840  | 700  | 600  | 510  | 440  |      |      |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4140 | 3410 | 2840 | 2390 | 2030 | 1740 | 1500 | 1310 | 1140 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.09 | 0.12 | 0.17 | 0.22 | 0.29 | 0.36 | 0.46 | 0.57 | 0.70 | 0.85 | 1.02 | 1.22 |
| LENGTH                         | 600  | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 |

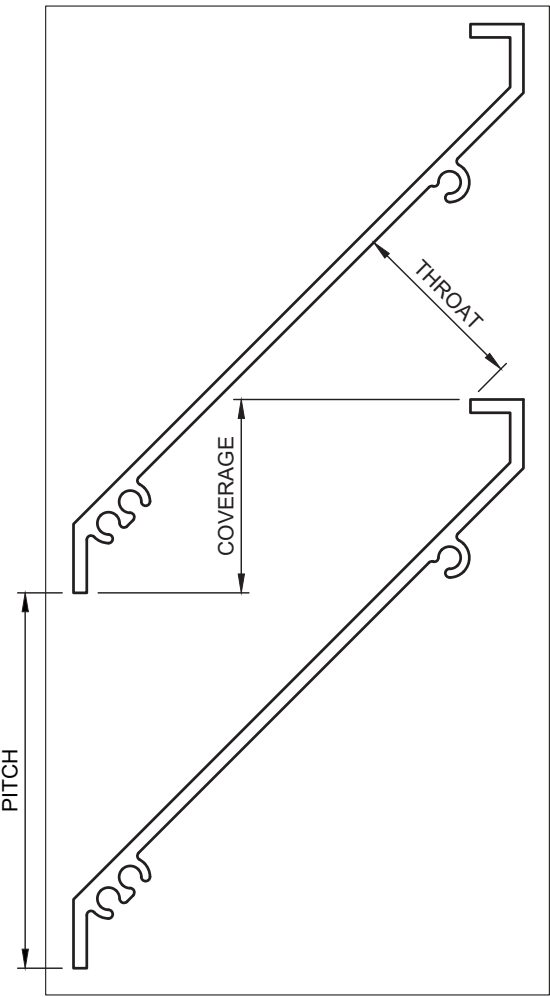
Data is based on theoretical section properties

Louvre Details - LV107

LV107 Louvre Free Air %



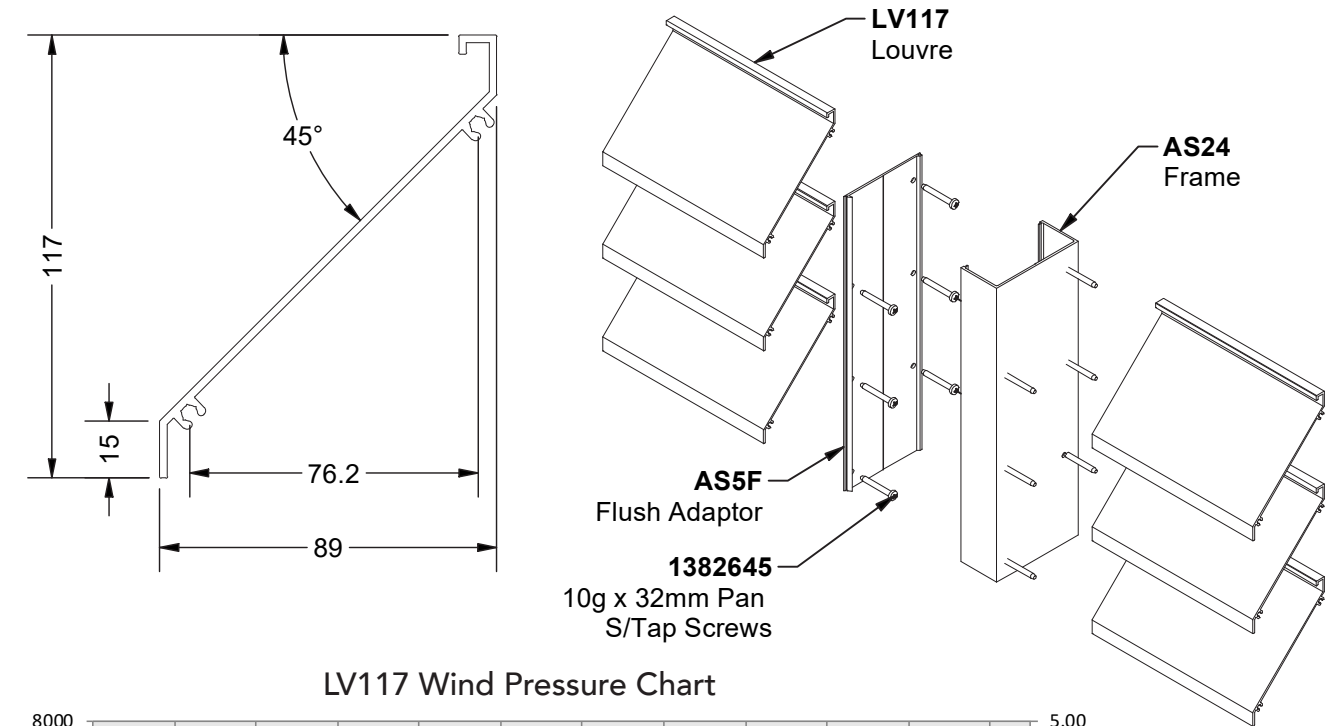
Free Air Flow % - Minimum Throat / Pitch x 100



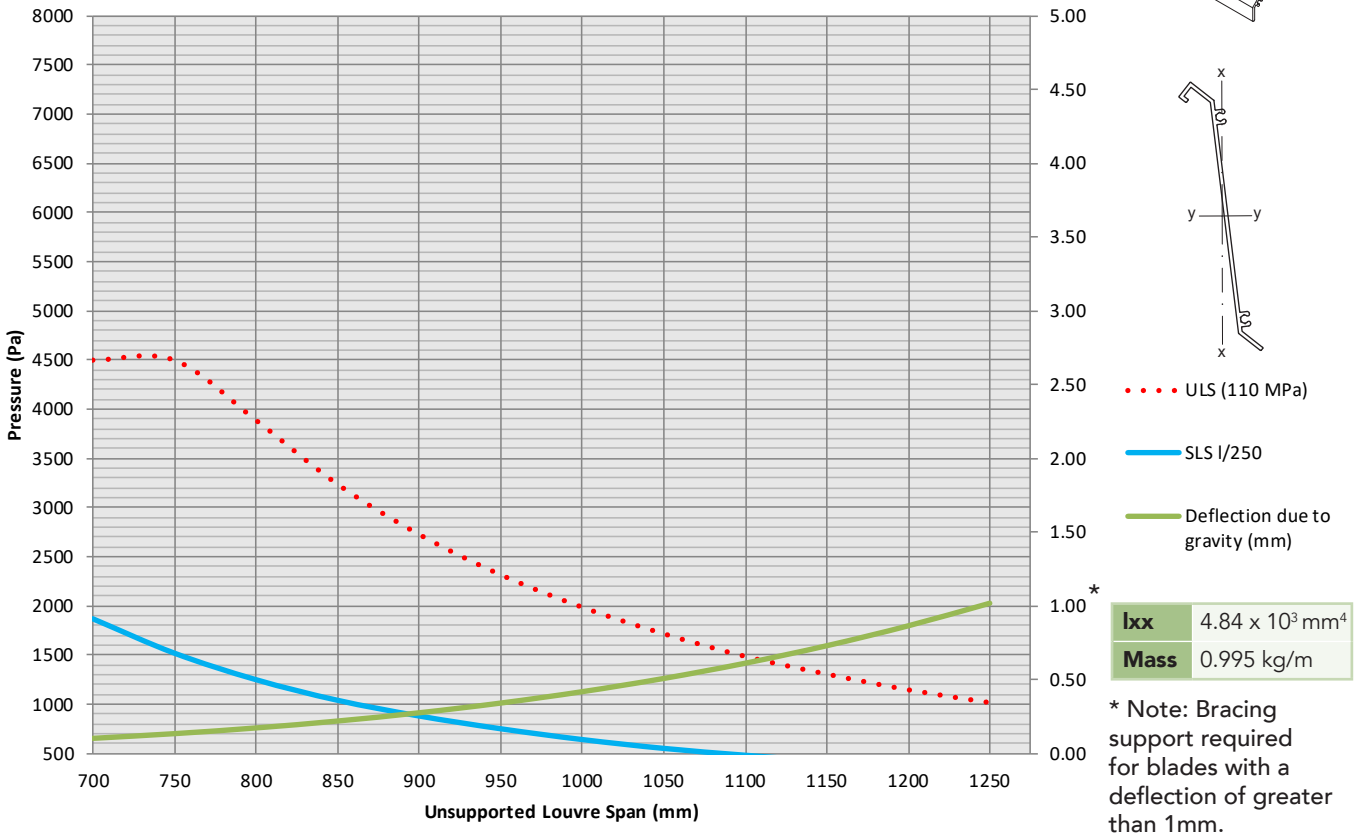
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 53    | 54       | 20.13  | 38%           |
| 56    | 51       | 23.14  | 41%           |
| 59    | 48       | 25.78  | 44%           |
| 62    | 45       | 27.91  | 45%           |
| 65    | 42       | 30.03  | 46%           |
| 68    | 39       | 32.15  | 47%           |
| 71    | 36       | 34.27  | 48%           |
| 74    | 33       | 36.39  | 49%           |
| 77    | 30       | 38.51  | 50%           |
| 80    | 27       | 40.63  | 51%           |
| 83    | 24       | 42.75  | 52%           |
| 86    | 21       | 44.88  | 52%           |
| 89    | 18       | 47     | 53%           |
| 92    | 15       | 49.12  | 53%           |
| 95    | 12       | 51.24  | 54%           |
| 98    | 9        | 53.36  | 54%           |
| 101   | 6        | 55.48  | 55%           |
| 104   | 3        | 57.6   | 55%           |
| 107   | 0        | 59.73  | 56%           |

Data is based on theoretical section properties

Louvre Details - LV117



LV117 Wind Pressure Chart

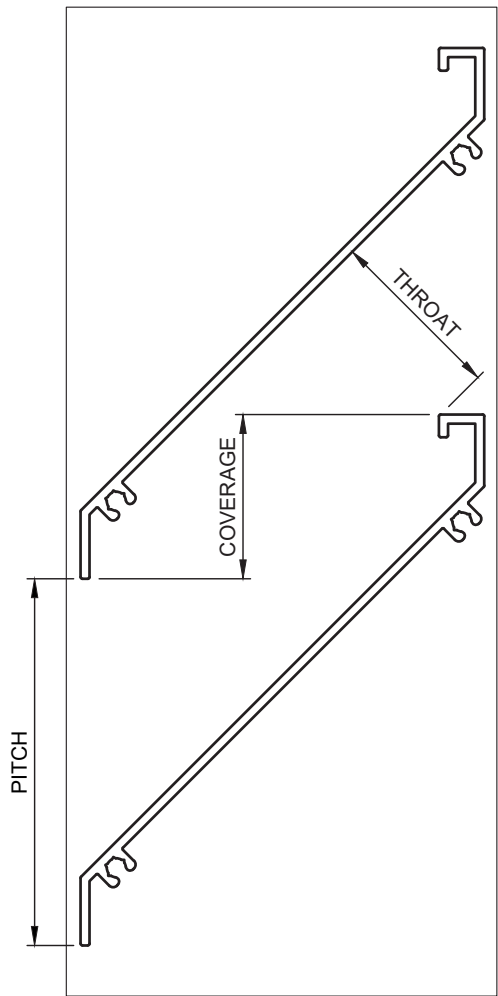
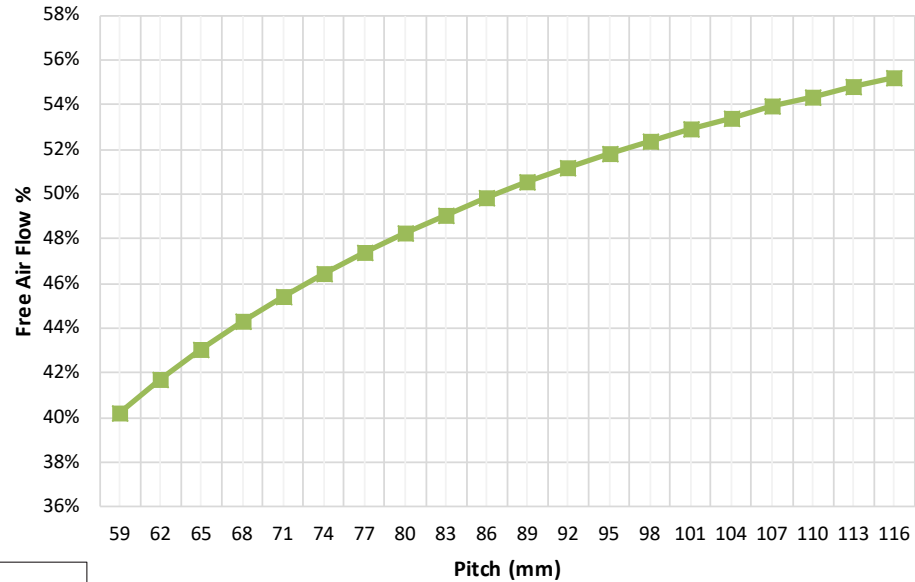


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 1870 | 1520 | 1250 | 1040 | 880  | 750  | 640  | 550  | 480  | 420  |      |      |
| ULS (110 MPa)                  | 4500 | 4500 | 3890 | 3240 | 2730 | 2320 | 1990 | 1720 | 1490 | 1310 | 1150 | 1020 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.10 | 0.13 | 0.17 | 0.22 | 0.27 | 0.34 | 0.42 | 0.51 | 0.61 | 0.73 | 0.86 | 1.02 |
| LENGTH                         | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 |

Data is based on theoretical section properties

Louvre Details - LV117

LV107 Louvre Free Air %

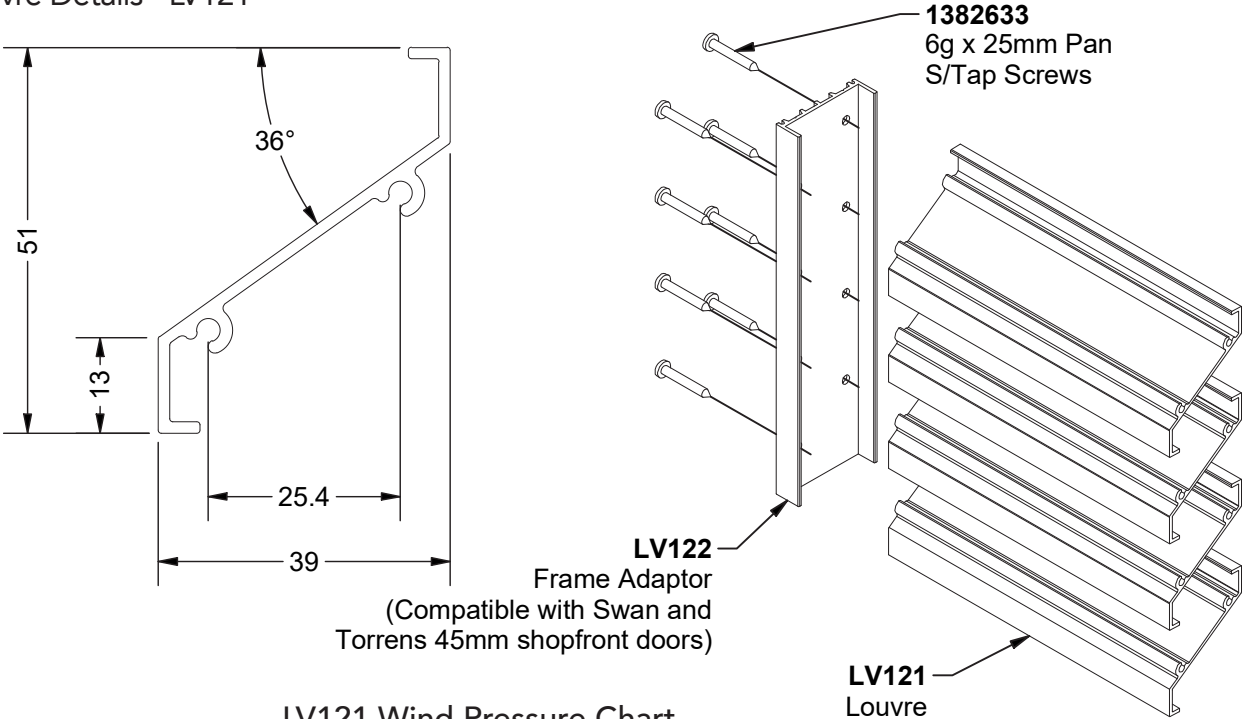


Free Air Flow % - Minimum Throat / Pitch x 100

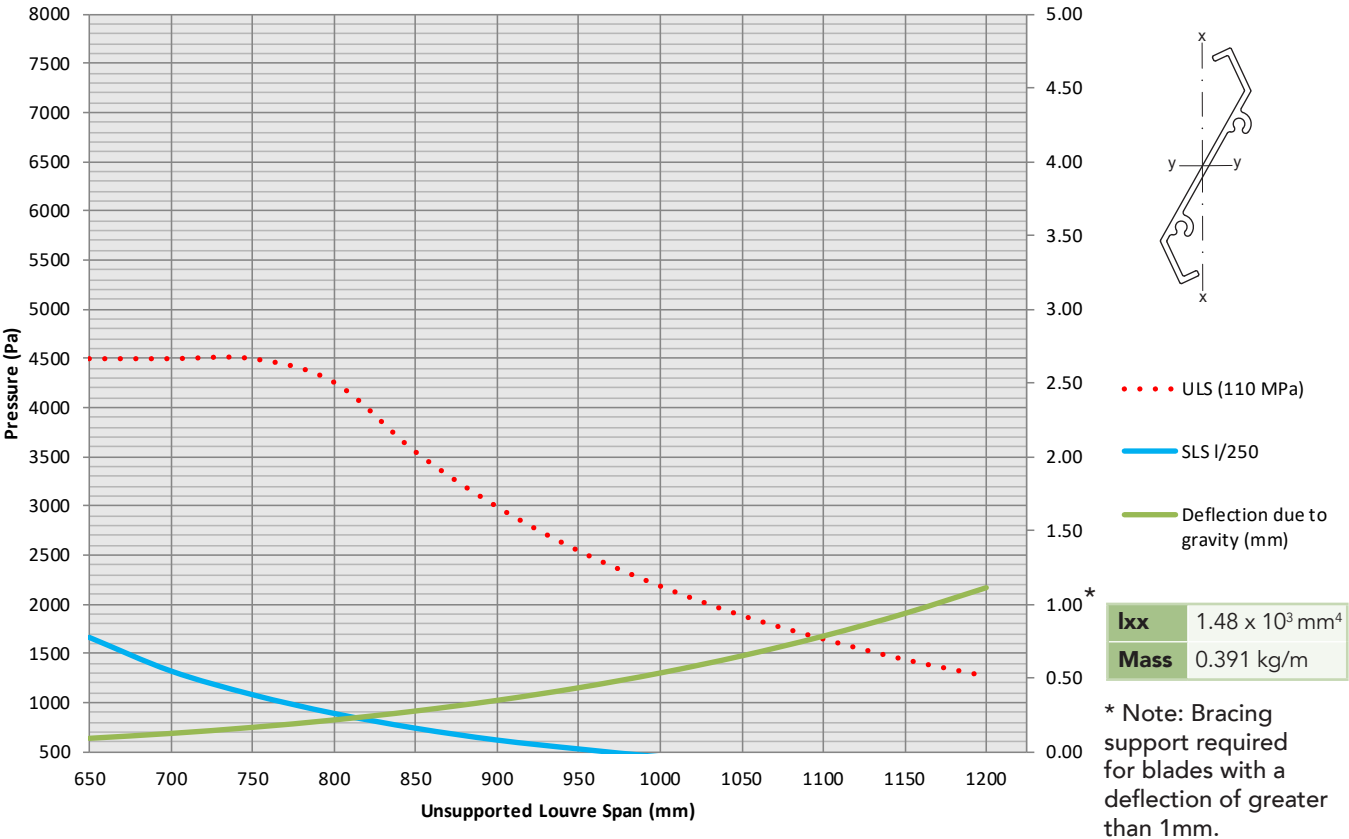
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 53    | 54       | 20.13  | 38%           |
| 56    | 51       | 23.14  | 41%           |
| 59    | 48       | 25.78  | 44%           |
| 62    | 45       | 27.91  | 45%           |
| 65    | 42       | 30.03  | 46%           |
| 68    | 39       | 32.15  | 47%           |
| 71    | 36       | 34.27  | 48%           |
| 74    | 33       | 36.39  | 49%           |
| 77    | 30       | 38.51  | 50%           |
| 80    | 27       | 40.63  | 51%           |
| 83    | 24       | 42.75  | 52%           |
| 86    | 21       | 44.88  | 52%           |
| 89    | 18       | 47     | 53%           |
| 92    | 15       | 49.12  | 53%           |
| 95    | 12       | 51.24  | 54%           |
| 98    | 9        | 53.36  | 54%           |
| 101   | 6        | 55.48  | 55%           |
| 104   | 3        | 57.6   | 55%           |
| 107   | 0        | 59.73  | 56%           |

Data is based on theoretical section properties

Louvre Details - LV121



LV121 Wind Pressure Chart

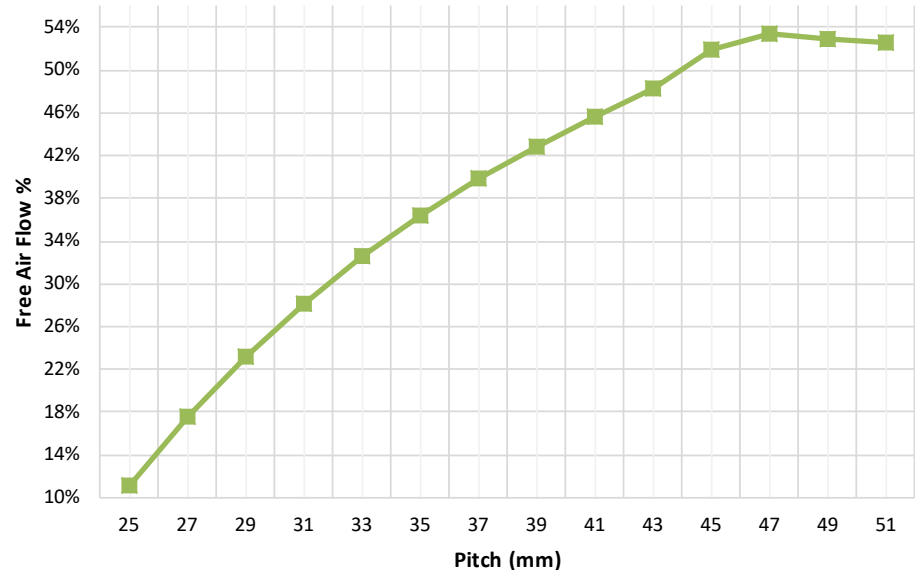


| SLS L/250                      | 1660 | 1320 | 1080 | 890  | 740  | 620  | 530  | 450  |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4260 | 3550 | 2990 | 2540 | 2180 | 1880 | 1640 | 1430 | 1260 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.10 | 0.13 | 0.17 | 0.22 | 0.28 | 0.35 | 0.44 | 0.54 | 0.65 | 0.78 | 0.94 | 1.11 |
| LENGTH                         | 650  | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 |

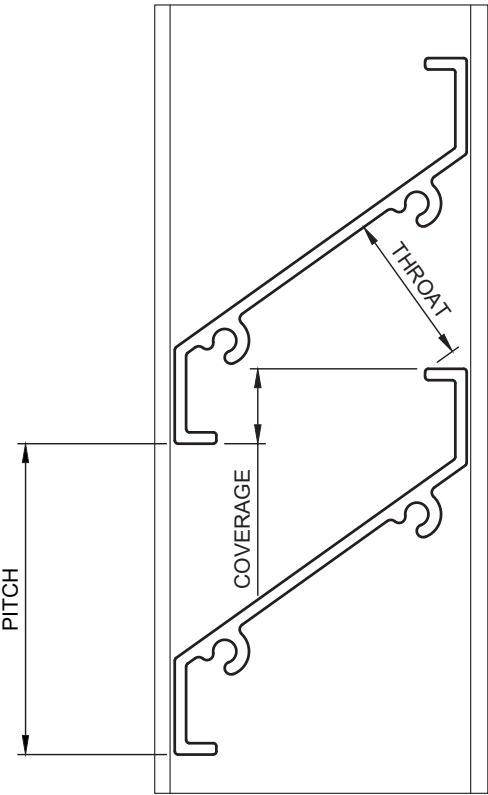
Data is based on theoretical section properties

Louvre Details - LV121

LV121 Louvre Free Air %



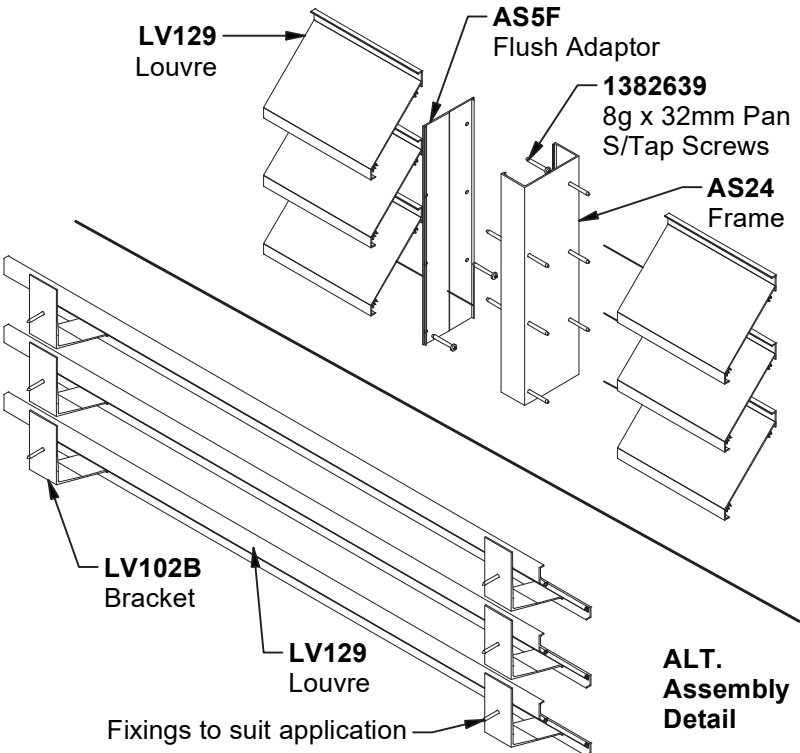
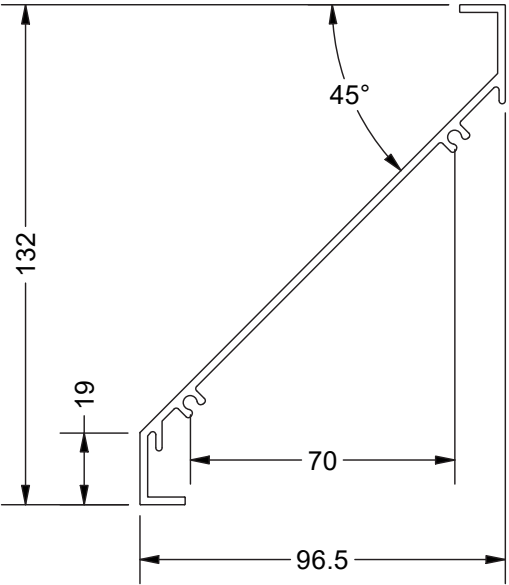
Free Air Flow % - Minimum Throat / Pitch x 100



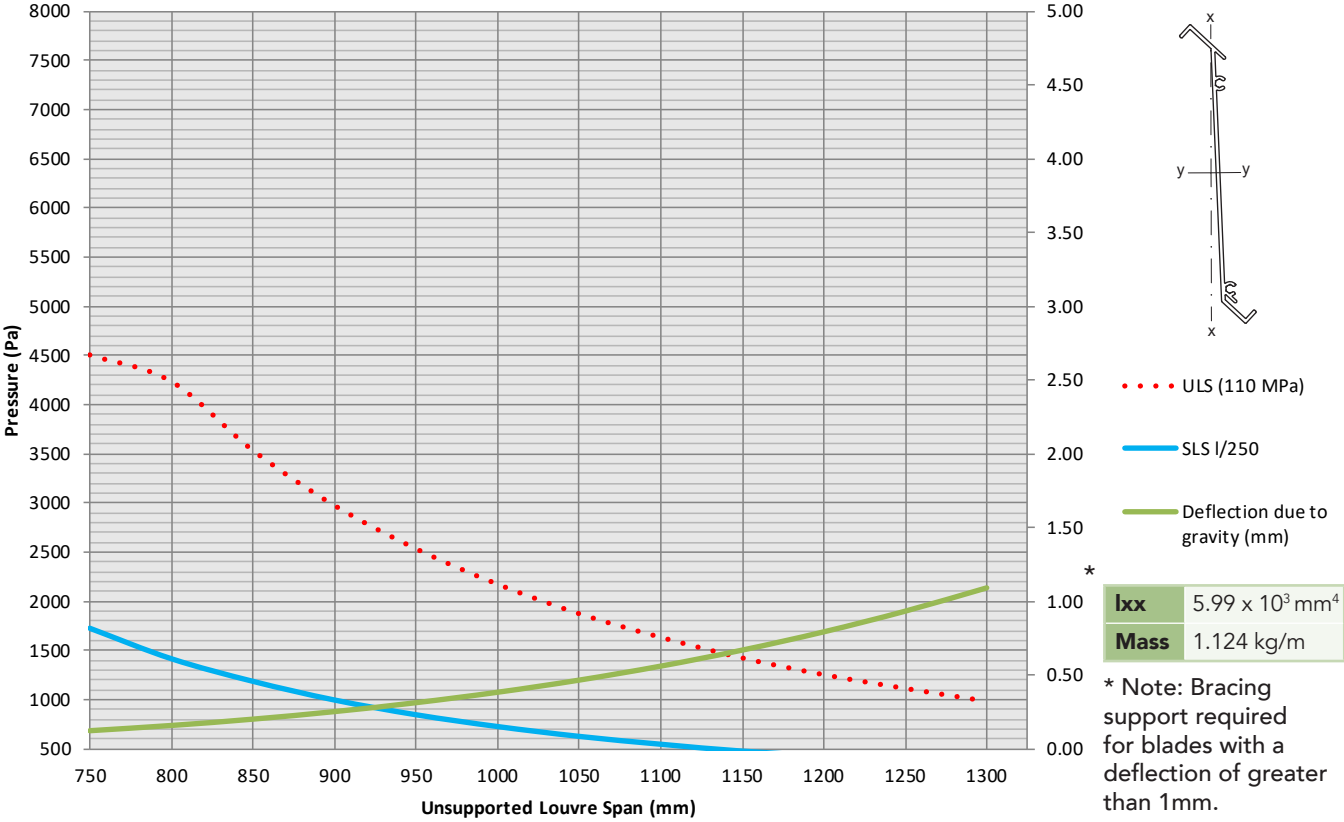
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 25    | 26       | 2.78   | 11%           |
| 27    | 24       | 4.76   | 18%           |
| 29    | 22       | 6.75   | 23%           |
| 31    | 20       | 8.74   | 28%           |
| 33    | 18       | 10.74  | 33%           |
| 35    | 16       | 12.74  | 36%           |
| 37    | 14       | 14.73  | 40%           |
| 39    | 12       | 16.73  | 43%           |
| 41    | 10       | 18.73  | 46%           |
| 43    | 8        | 20.73  | 48%           |
| 45    | 6        | 23.37  | 52%           |
| 47    | 4        | 25.09  | 53%           |
| 49    | 2        | 25.9   | 53%           |
| 51    | 0        | 26.79  | 53%           |

Data is based on theoretical section properties

Louvre Details - LV129



LV129 Wind Pressure Chart

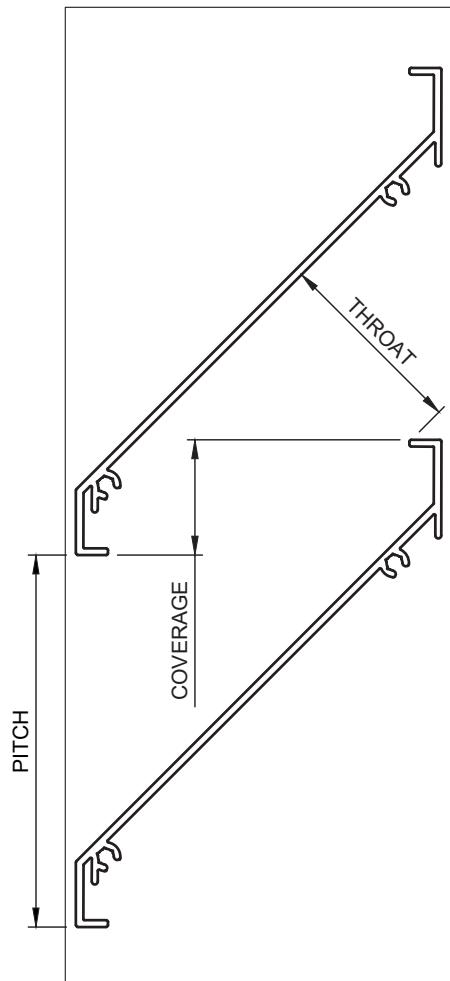
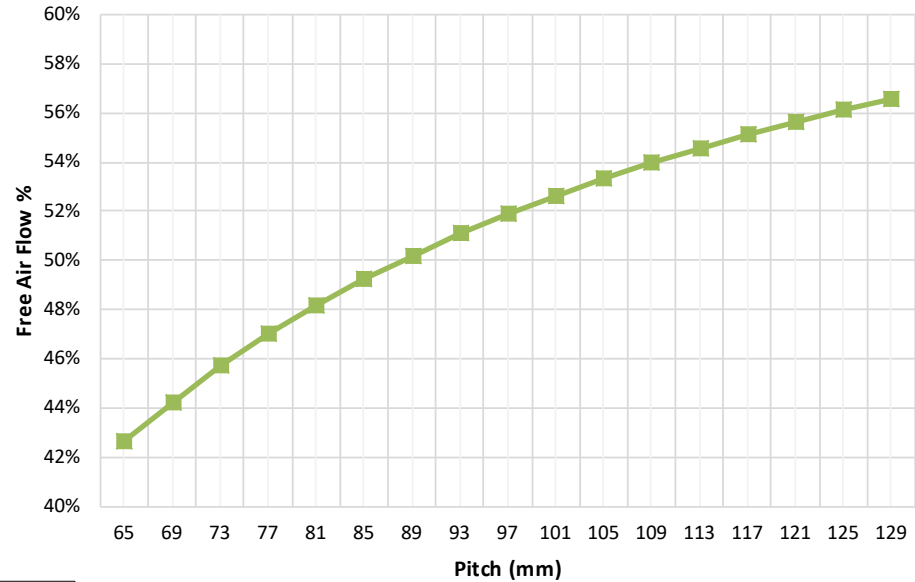


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 1720 | 1410 | 1180 | 990  | 840  | 720  | 620  | 540  | 470  | 420  |      |      |
| ULS (110 MPa)                  | 4500 | 4230 | 3530 | 2970 | 2530 | 2170 | 1870 | 1630 | 1420 | 1250 | 1110 | 980  |
| DEFLECTION DUE TO GRAVITY (mm) | 0.12 | 0.16 | 0.20 | 0.25 | 0.31 | 0.38 | 0.46 | 0.56 | 0.67 | 0.79 | 0.93 | 1.09 |
| LENGTH                         | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

Data is based on theoretical section properties

Louvre Details - LV129

LV129 Louvre Free Air %

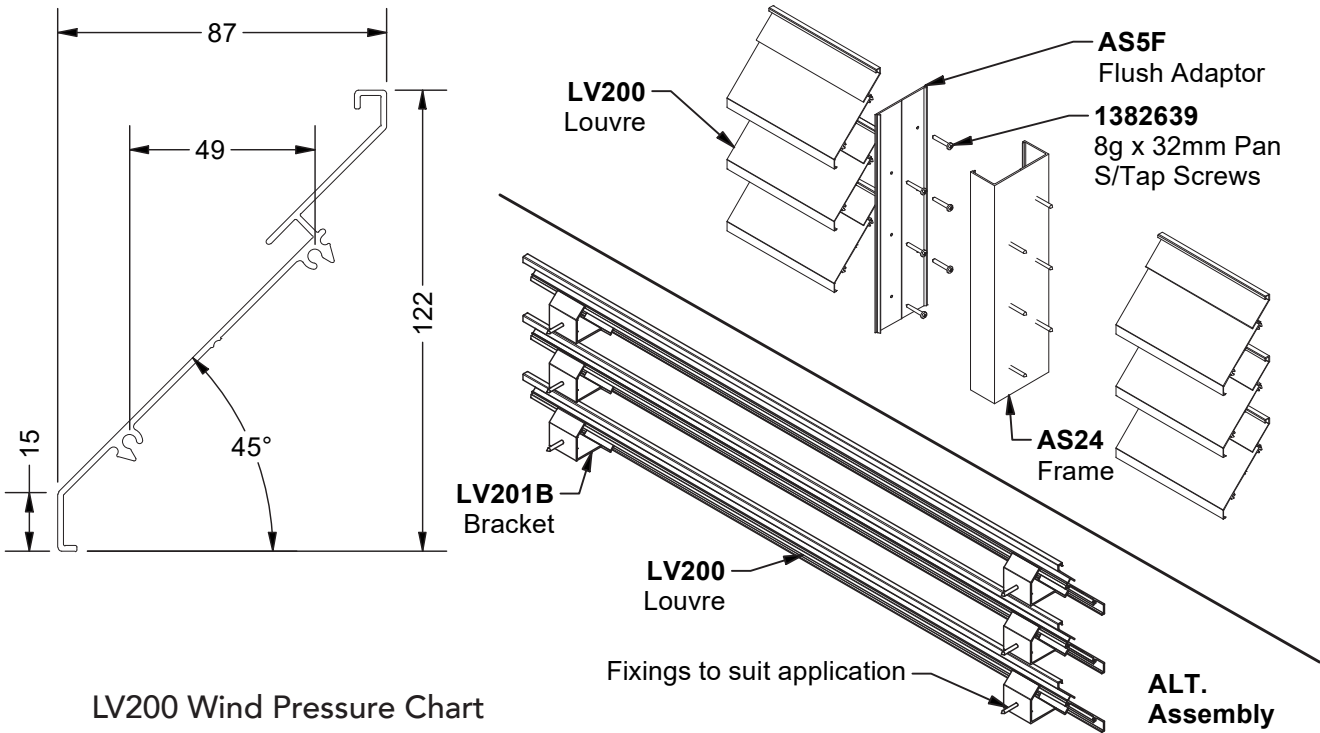


Free Air Flow % - Minimum Throat / Pitch x 100

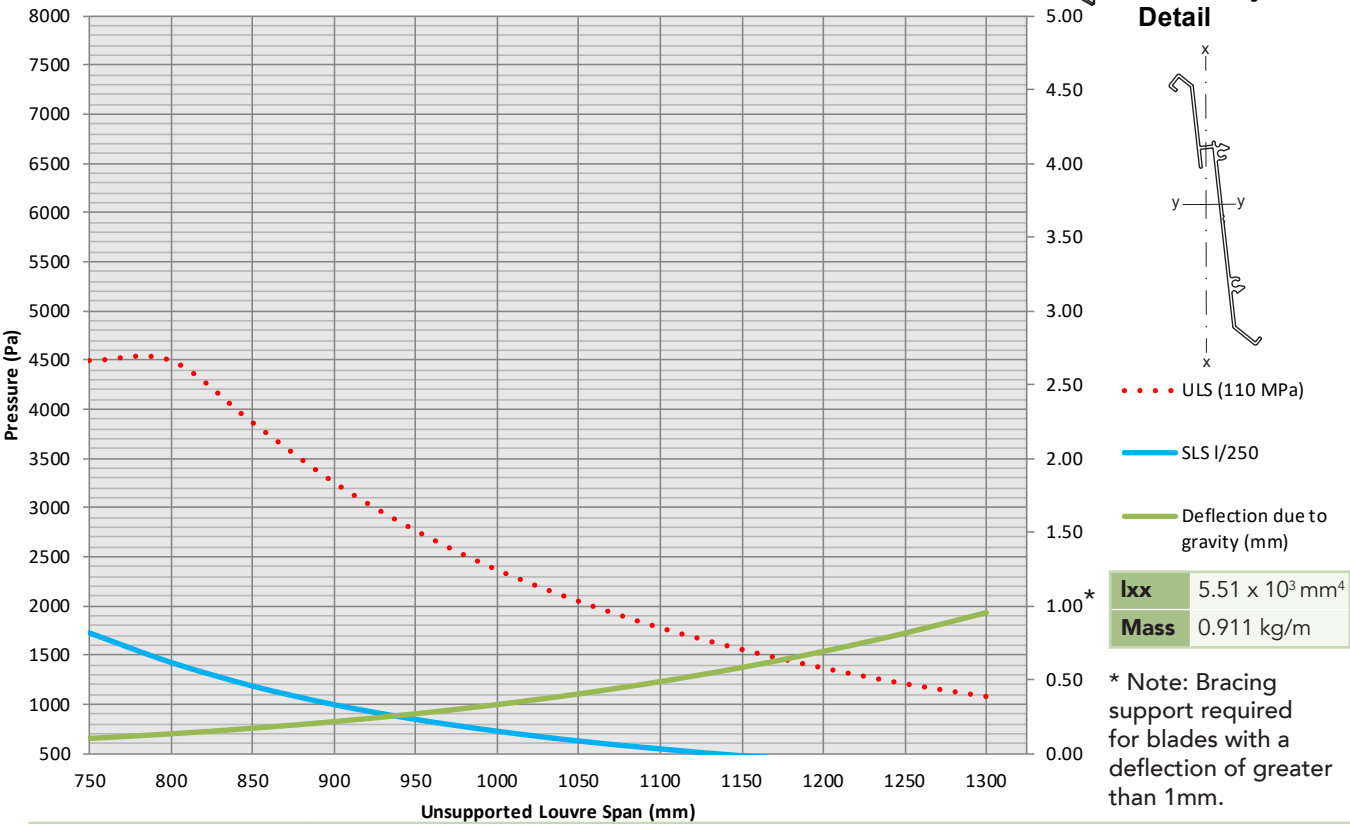
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 65    | 64       | 27.7   | 43%           |
| 69    | 60       | 30.53  | 44%           |
| 73    | 56       | 33.35  | 46%           |
| 77    | 52       | 36.18  | 47%           |
| 81    | 48       | 39.01  | 48%           |
| 85    | 44       | 41.84  | 49%           |
| 89    | 40       | 44.67  | 50%           |
| 93    | 36       | 47.5   | 51%           |
| 97    | 32       | 50.32  | 52%           |
| 101   | 28       | 53.15  | 53%           |
| 105   | 24       | 55.98  | 53%           |
| 109   | 20       | 58.81  | 54%           |
| 113   | 16       | 61.65  | 55%           |
| 117   | 12       | 64.47  | 55%           |
| 121   | 8        | 67.3   | 56%           |
| 125   | 4        | 70.12  | 56%           |
| 129   | 0        | 72.95  | 57%           |

Data is based on theoretical section properties

Louvre Details - LV200



LV200 Wind Pressure Chart

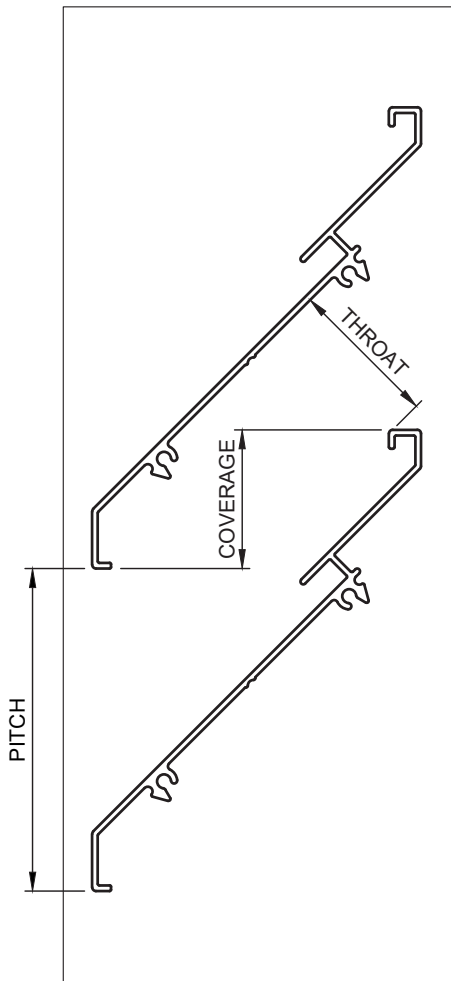
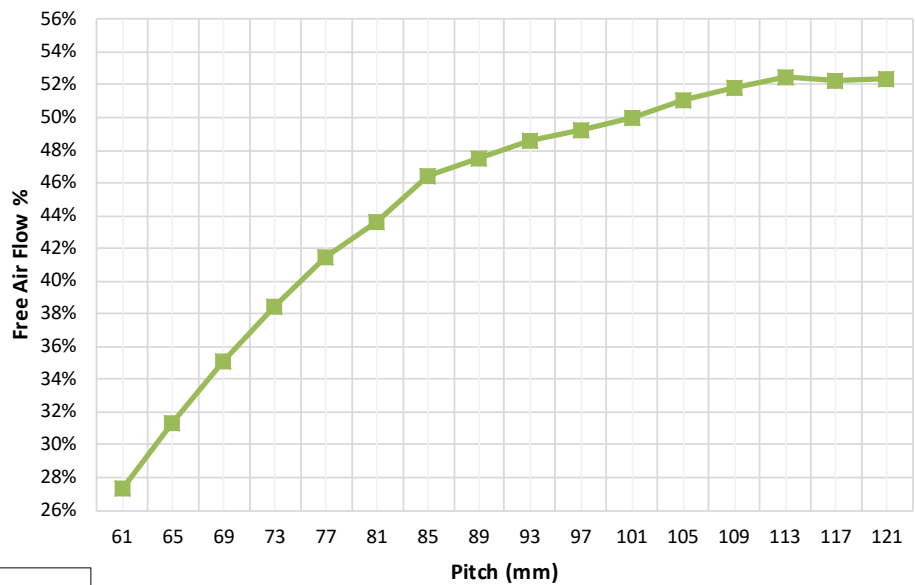


|                                | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Unsupported Louvre Span (mm)   |      |      |      |      |      |      |      |      |      |      |      |      |
| SLS L/250                      | 1720 | 1420 | 1180 | 990  | 840  | 720  | 620  | 540  | 470  | 420  |      |      |
| ULS (110 MPa)                  | 4500 | 4500 | 3870 | 3260 | 2770 | 2370 | 2050 | 1780 | 1560 | 1370 | 1210 | 1080 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.11 | 0.14 | 0.18 | 0.22 | 0.27 | 0.34 | 0.41 | 0.49 | 0.59 | 0.70 | 0.82 | 0.96 |
| LENGTH                         | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

Data is based on theoretical section properties

Louvre Details - LV200

LV200 Louvre Free Air %

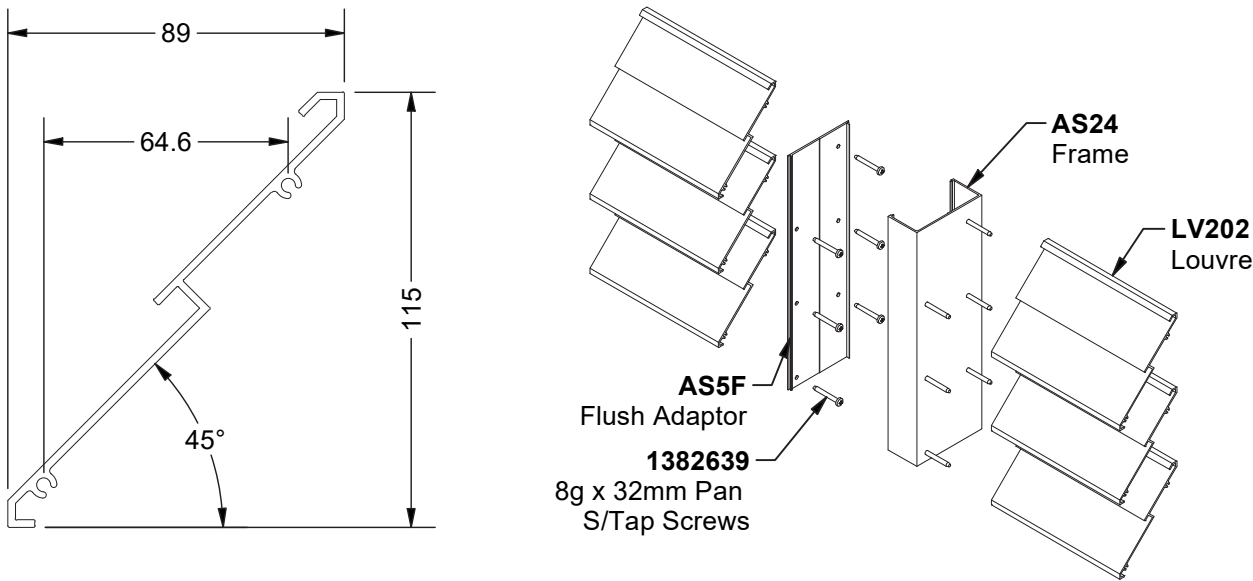


Free Air Flow % - Minimum Throat / Pitch x 100

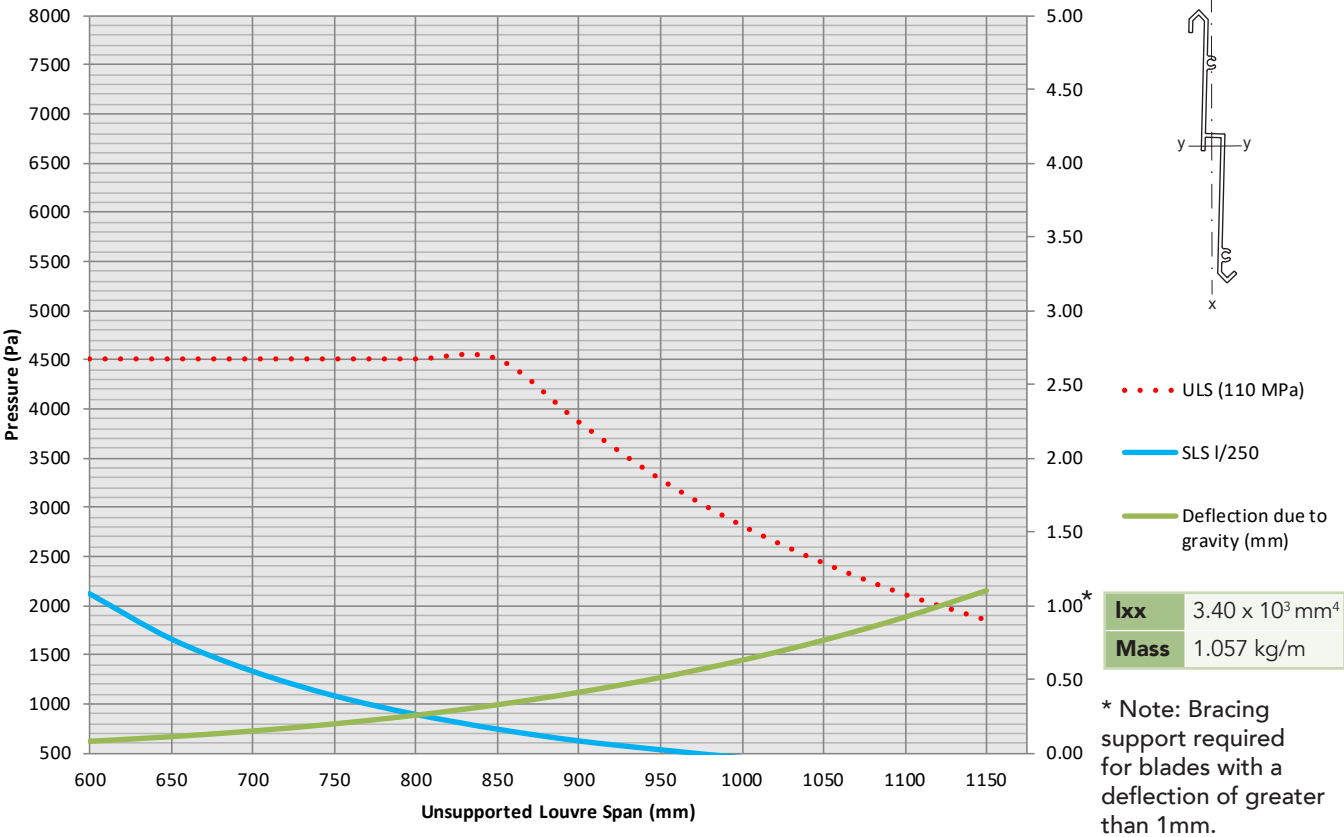
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 61    | 61       | 16.68  | 27%           |
| 65    | 57       | 20.4   | 31%           |
| 69    | 53       | 24.21  | 35%           |
| 73    | 49       | 28.08  | 38%           |
| 77    | 45       | 31.97  | 42%           |
| 81    | 41       | 35.39  | 44%           |
| 85    | 37       | 39.51  | 46%           |
| 89    | 33       | 42.34  | 48%           |
| 93    | 29       | 45.17  | 49%           |
| 97    | 25       | 47.76  | 49%           |
| 101   | 21       | 50.53  | 50%           |
| 105   | 17       | 53.65  | 51%           |
| 109   | 13       | 56.48  | 52%           |
| 113   | 9        | 59.31  | 52%           |
| 117   | 5        | 61.2   | 52%           |
| 121   | 1        | 63.36  | 52%           |
| 122   | 0        | 63.03  | 52%           |

Data is based on theoretical section properties

Louvre Details - LV202



LV202 Wind Pressure Chart

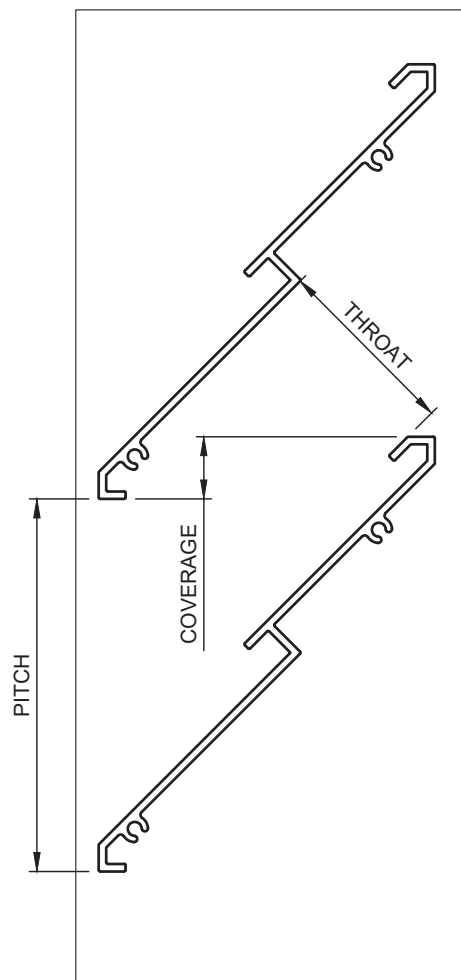
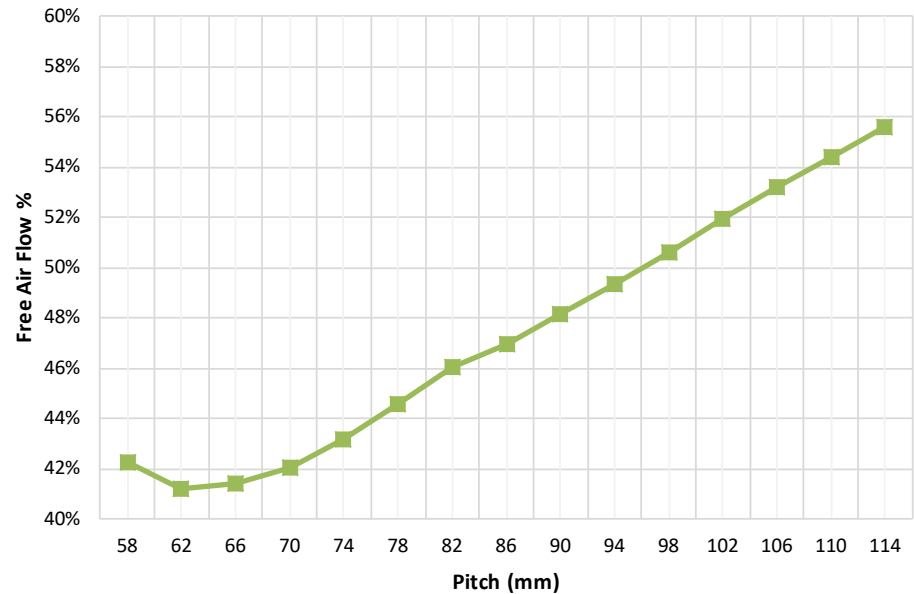


|                                       |            |            |            |            |            |            |            |            |             |             |             |             |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|
| <b>SLS L/250</b>                      | 2120       | 1660       | 1330       | 1080       | 890        | 740        | 620        | 530        | 450         |             |             |             |
| <b>ULS (110 MPa)</b>                  | 4500       | 4500       | 4500       | 4500       | 4500       | 4500       | 3860       | 3280       | 2810        | 2430        | 2110        | 1850        |
| <b>DEFLECTION DUE TO GRAVITY (mm)</b> | 0.08       | 0.11       | 0.15       | 0.20       | 0.26       | 0.33       | 0.41       | 0.51       | 0.63        | 0.77        | 0.92        | 1.10        |
| <b>LENGTH</b>                         | <b>600</b> | <b>650</b> | <b>700</b> | <b>750</b> | <b>800</b> | <b>850</b> | <b>900</b> | <b>950</b> | <b>1000</b> | <b>1050</b> | <b>1100</b> | <b>1150</b> |

Data is based on theoretical section properties

Louvre Details - LV202

LV202 Louvre Free Air %

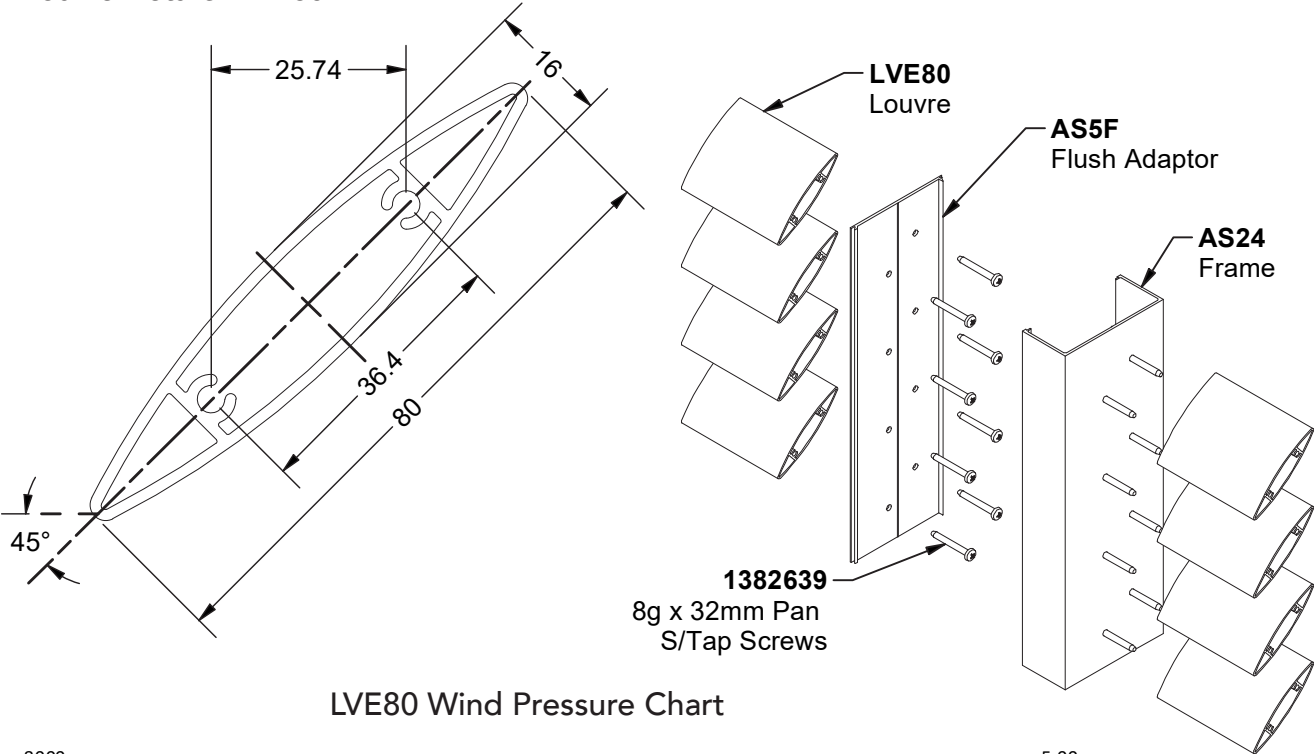


Free Air Flow % - Minimum Throat / Pitch x 100

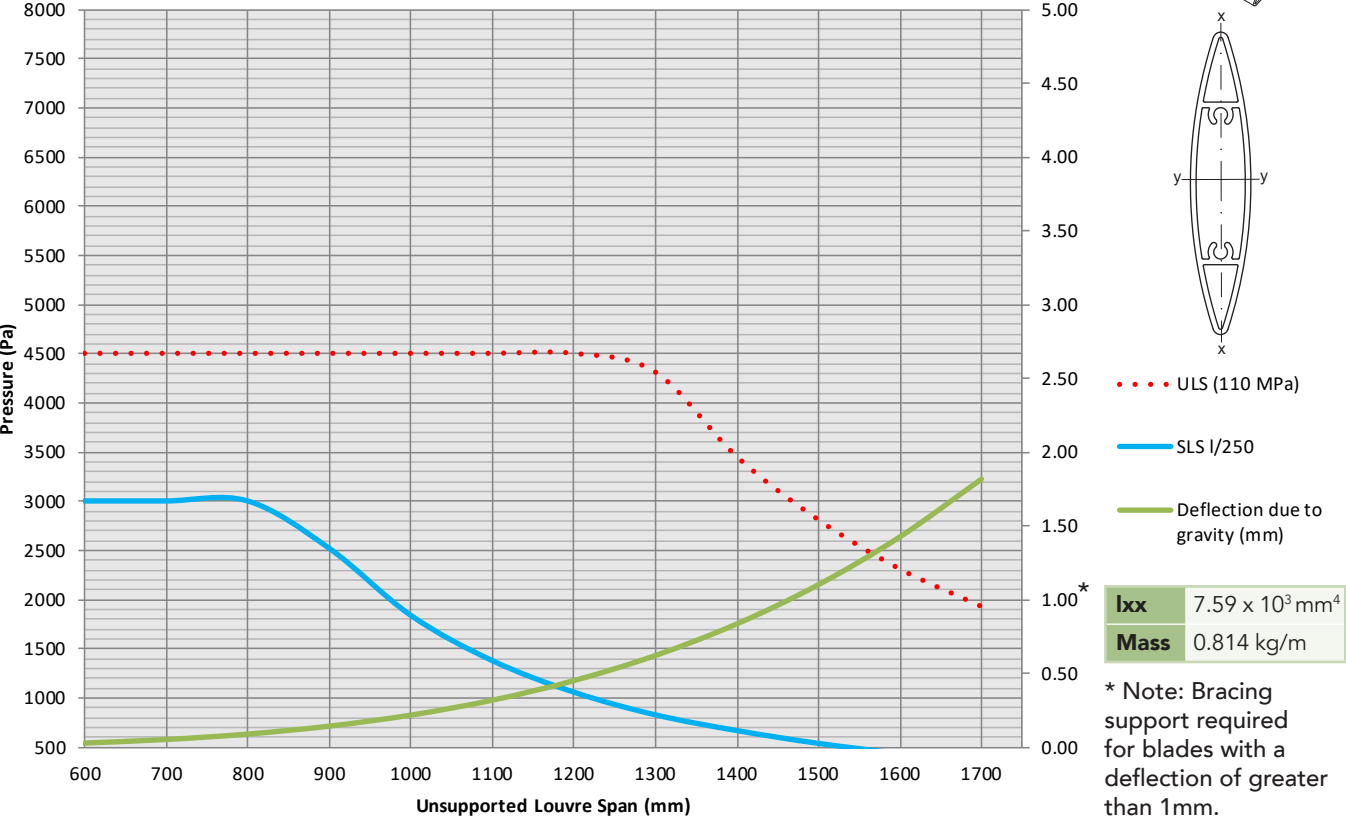
| PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|-------|----------|--------|---------------|
| 58    | 57       | 24.53  | 42%           |
| 62    | 53       | 25.54  | 41%           |
| 66    | 49       | 27.35  | 41%           |
| 70    | 45       | 29.44  | 42%           |
| 74    | 41       | 31.96  | 43%           |
| 78    | 37       | 34.77  | 45%           |
| 82    | 33       | 37.76  | 46%           |
| 86    | 29       | 40.4   | 47%           |
| 90    | 25       | 43.33  | 48%           |
| 94    | 21       | 46.42  | 49%           |
| 98    | 17       | 49.63  | 51%           |
| 102   | 13       | 52.96  | 52%           |
| 106   | 9        | 56.37  | 53%           |
| 110   | 5        | 59.85  | 54%           |
| 114   | 1        | 63.4   | 56%           |
| 115   | 0        | 64.3   | 56%           |

Data is based on theoretical section properties

Louvre Details - LVE80



LVE80 Wind Pressure Chart

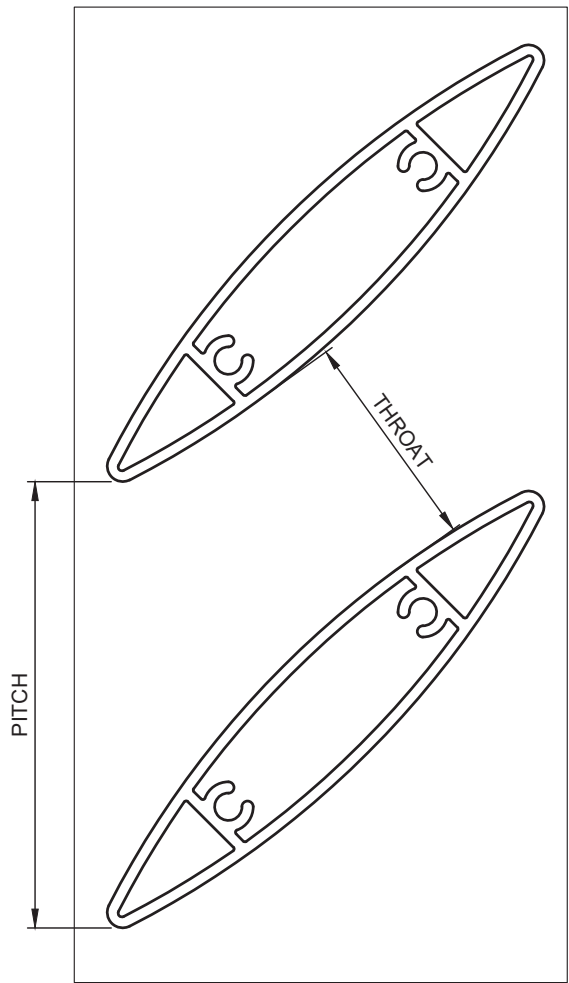
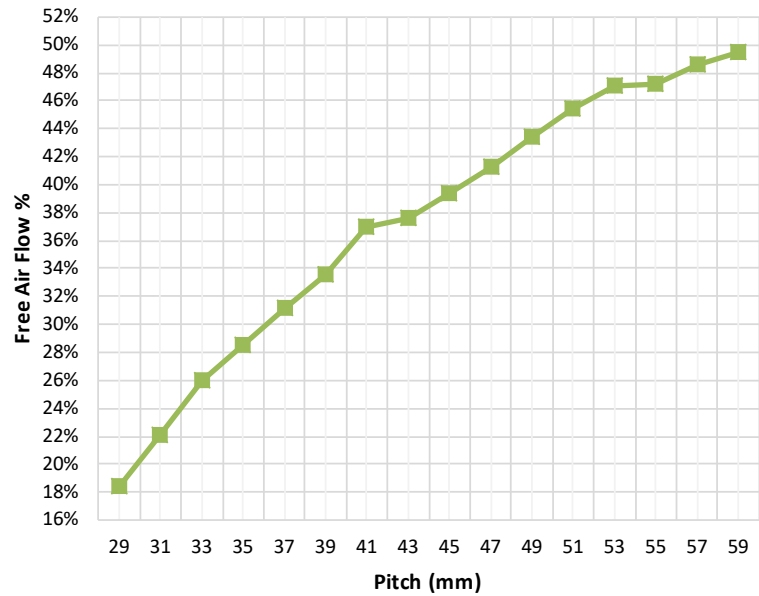


| SLS L/250                      | 3000 | 3000 | 3000 | 2520 | 1840 | 1380 | 1060 | 830  | 670  | 540  | 440  |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4310 | 3450 | 2810 | 2310 | 1930 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.03 | 0.05 | 0.09 | 0.14 | 0.22 | 0.32 | 0.45 | 0.62 | 0.84 | 1.10 | 1.43 | 1.82 |
| LENGTH                         | 600  | 700  | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 |

Data is based on theoretical section properties

Louvre Details - LVE80

LVE80 Louvre Free Air %

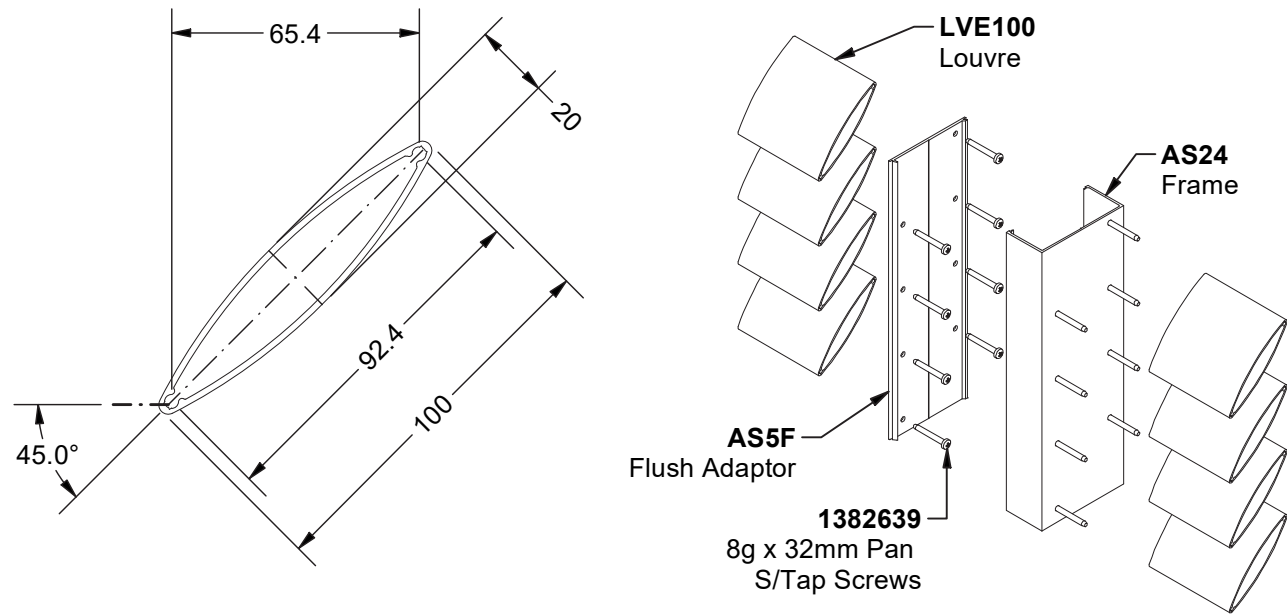


Free Air Flow % - Minimum Throat / Pitch x 100

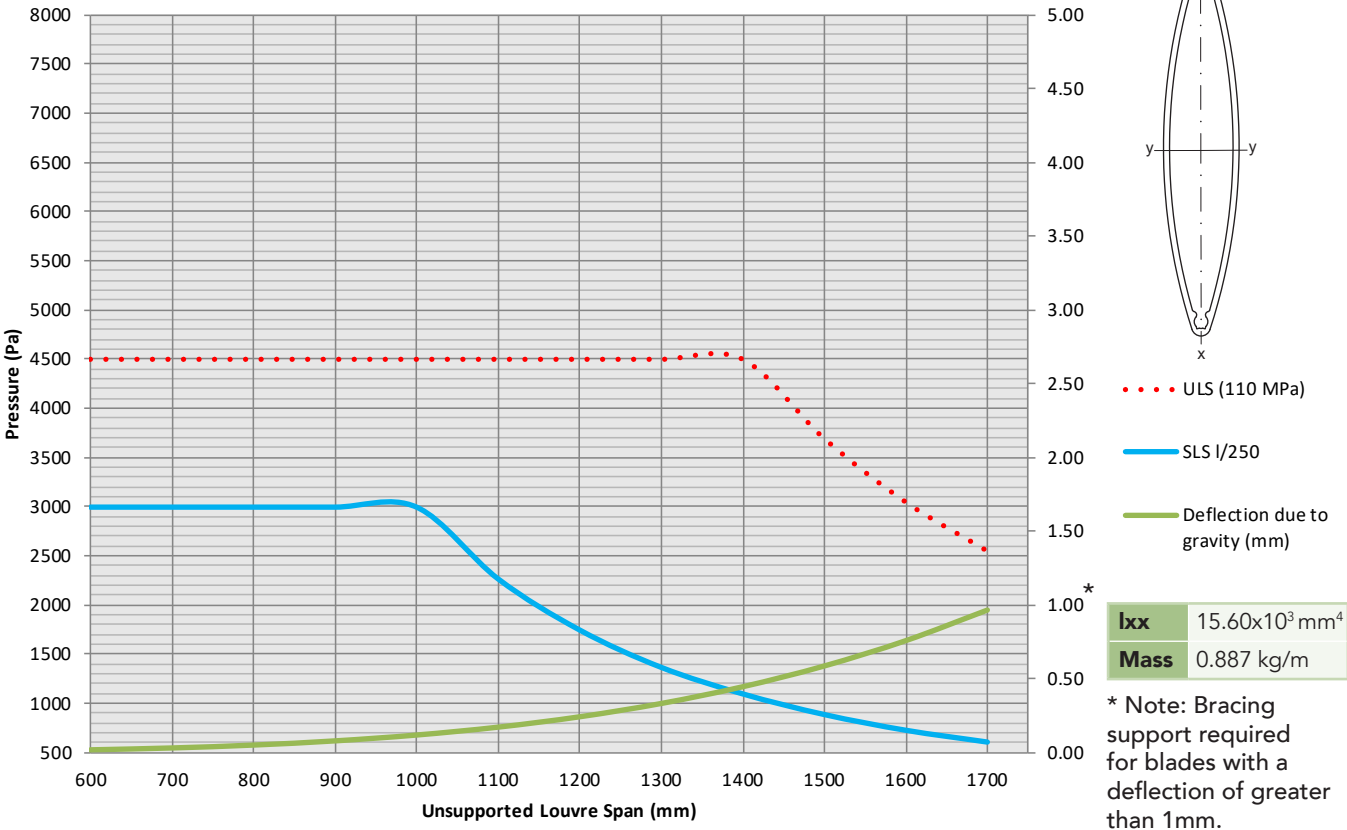
| PITCH | THROAT | FREE AIR FLOW |
|-------|--------|---------------|
| 29    | 5.33   | 18%           |
| 31    | 6.86   | 22%           |
| 33    | 8.59   | 26%           |
| 35    | 9.97   | 28%           |
| 37    | 11.53  | 31%           |
| 39    | 13.11  | 34%           |
| 41    | 15.18  | 37%           |
| 43    | 16.17  | 38%           |
| 45    | 17.72  | 39%           |
| 47    | 19.37  | 41%           |
| 49    | 21.25  | 43%           |
| 51    | 23.15  | 45%           |
| 53    | 24.95  | 47%           |
| 55    | 25.99  | 47%           |
| 57    | 27.71  | 49%           |
| 59    | 29.15  | 49%           |

Data is based on theoretical section properties

Louvre Details - LVE100



LVE100 Wind Pressure Chart

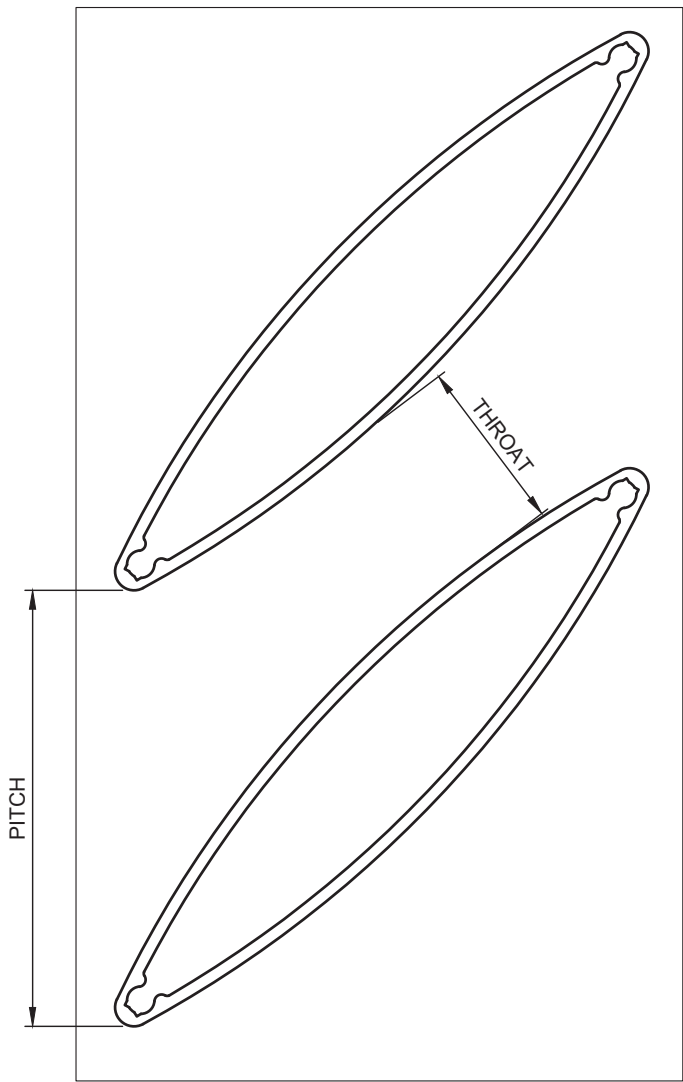
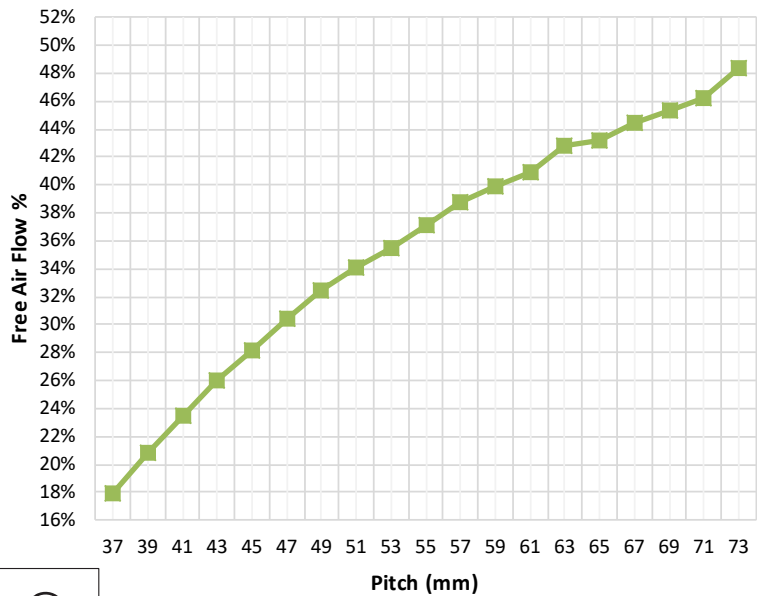


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 3000 | 3000 | 3000 | 3000 | 3000 | 2270 | 1750 | 1370 | 1100 | 890  | 730  | 610  |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 3690 | 3040 | 2540 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.01 | 0.03 | 0.05 | 0.08 | 0.12 | 0.17 | 0.24 | 0.33 | 0.44 | 0.58 | 0.76 | 0.96 |
| LENGTH                         | 600  | 700  | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 |

Data is based on theoretical section properties

Louvre Details - LVE100

LVE100 Louvre Free Air %

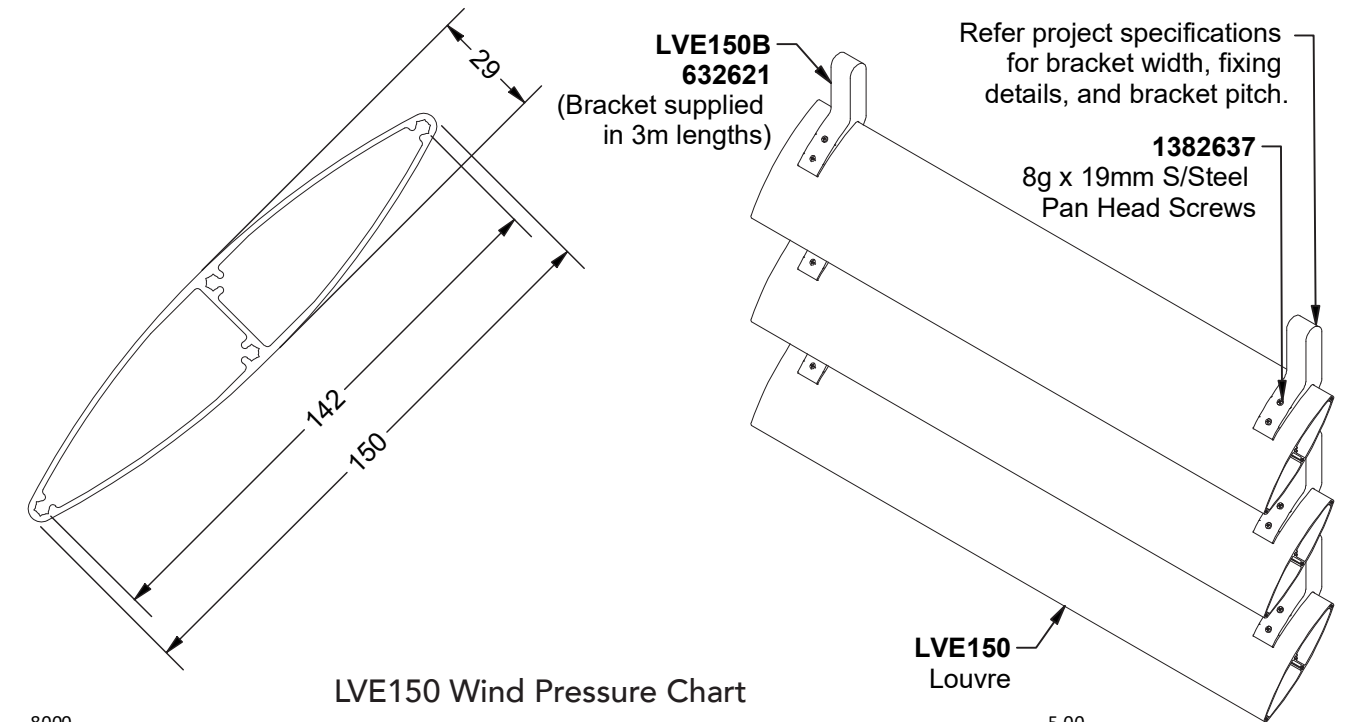


Free Air Flow % - Minimum Throat / Pitch x 100

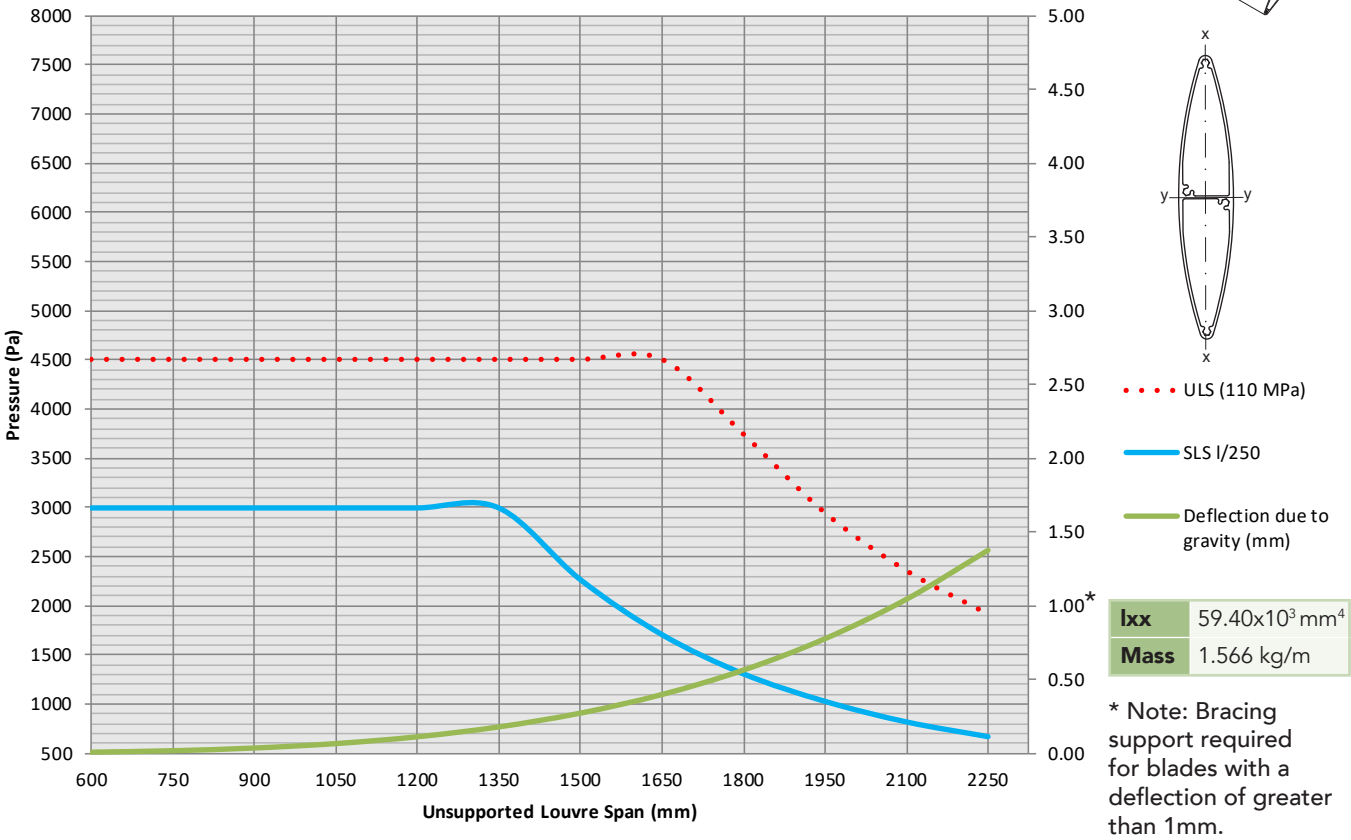
| PITCH | THROAT | FREE AIR FLOW |
|-------|--------|---------------|
| 37    | 6.65   | 18%           |
| 39    | 8.15   | 21%           |
| 41    | 9.65   | 24%           |
| 43    | 11.17  | 26%           |
| 45    | 12.69  | 28%           |
| 47    | 14.29  | 30%           |
| 49    | 15.92  | 32%           |
| 51    | 17.37  | 34%           |
| 53    | 18.82  | 36%           |
| 55    | 20.39  | 37%           |
| 57    | 22.1   | 39%           |
| 59    | 23.54  | 40%           |
| 61    | 24.98  | 41%           |
| 63    | 26.94  | 43%           |
| 65    | 28.1   | 43%           |
| 67    | 29.78  | 44%           |
| 69    | 31.25  | 45%           |
| 71    | 32.81  | 46%           |
| 73    | 35.31  | 48%           |

Data is based on theoretical section properties

Louvre Details - LVE150



LVE150 Wind Pressure Chart

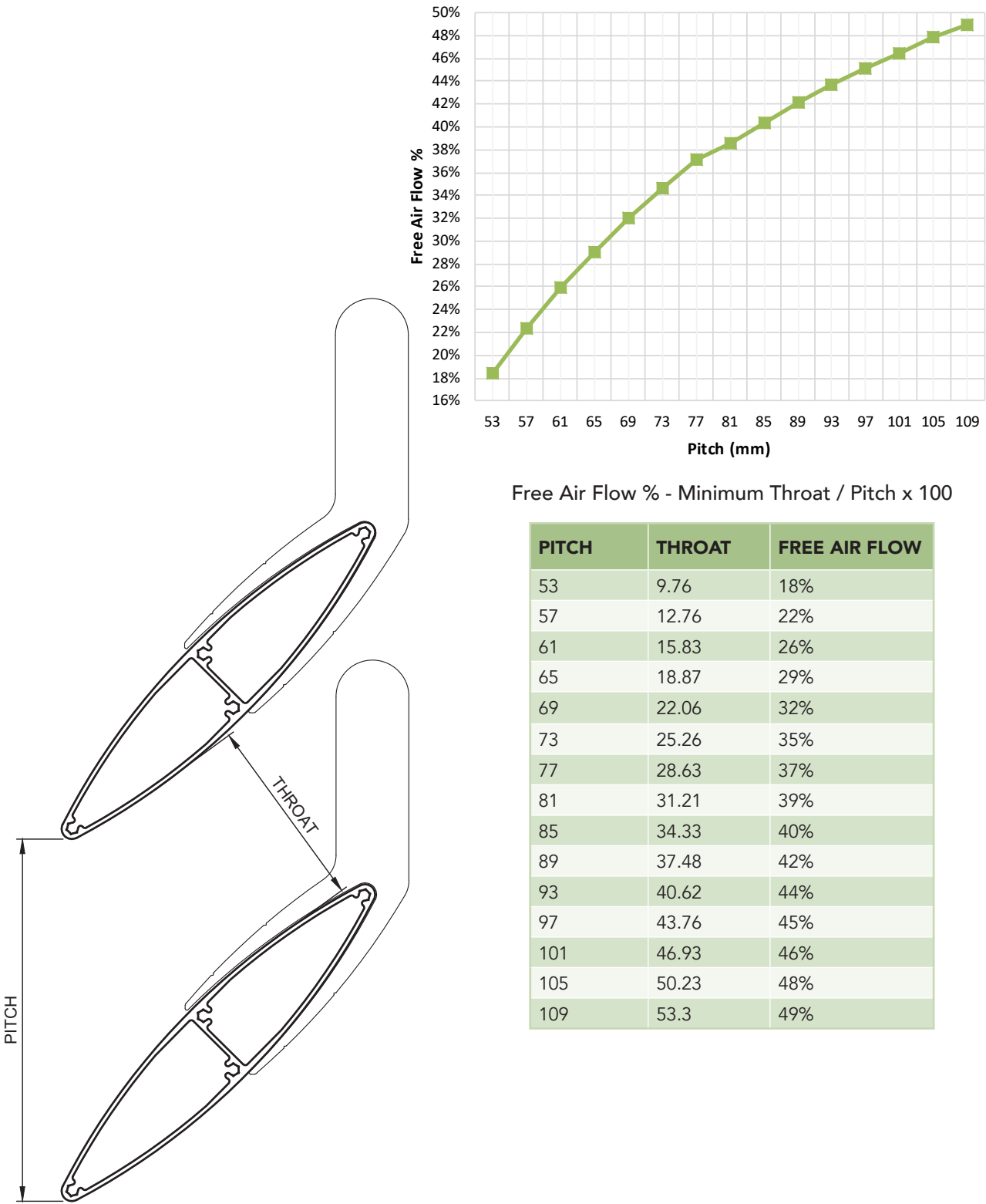


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 2270 | 1710 | 1310 | 1030 | 820  | 670  |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 3740 | 2940 | 2350 | 1910 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.01 | 0.02 | 0.04 | 0.06 | 0.11 | 0.18 | 0.27 | 0.40 | 0.56 | 0.77 | 1.04 | 1.37 |
| LENGTH                         | 600  | 750  | 900  | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 1950 | 2100 | 2250 |

Data is based on theoretical section properties

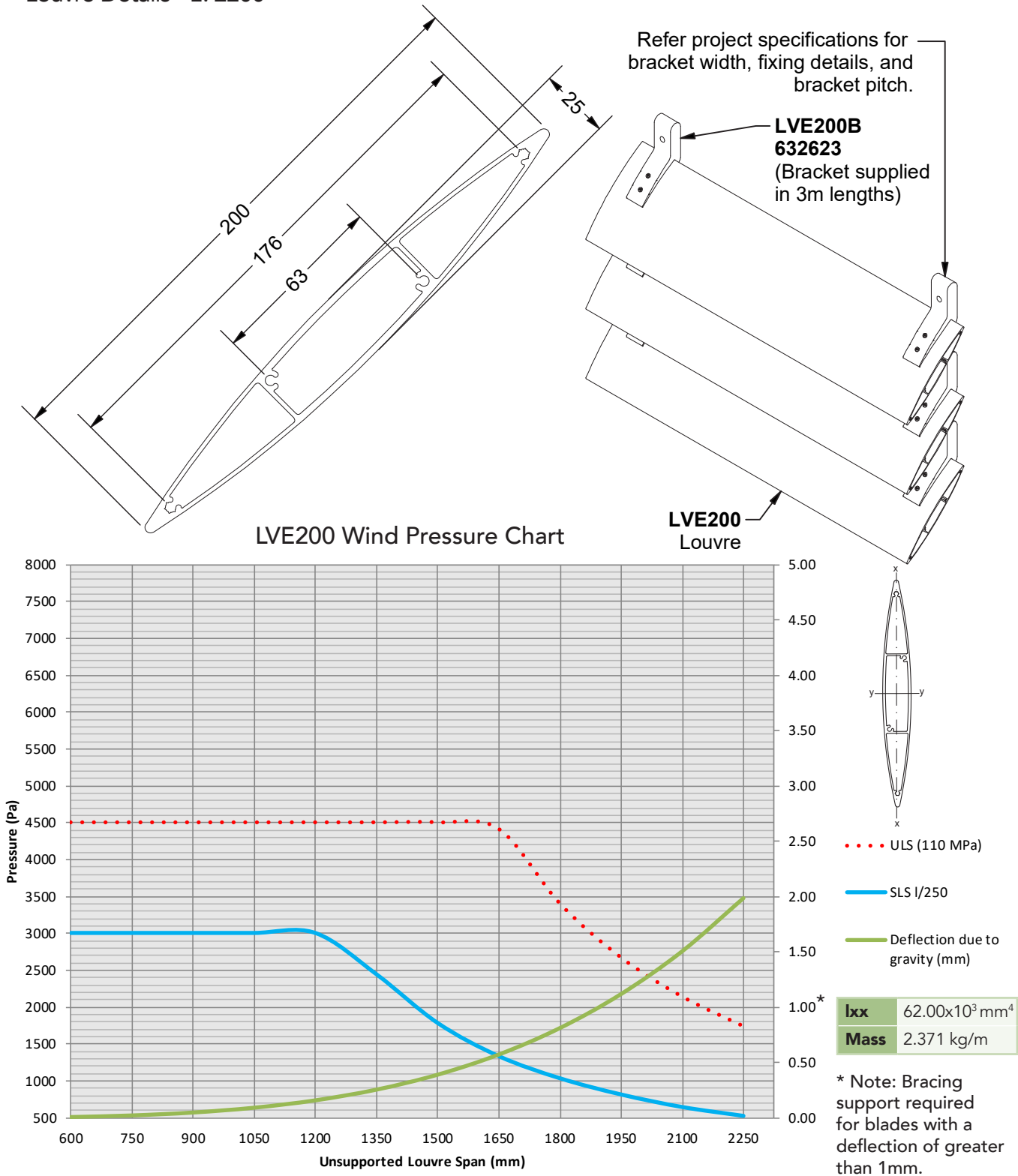
Louvre Details - LVE150

LVE150 Louvre Free Air %



Data is based on theoretical section properties

Louvre Details - LVE200

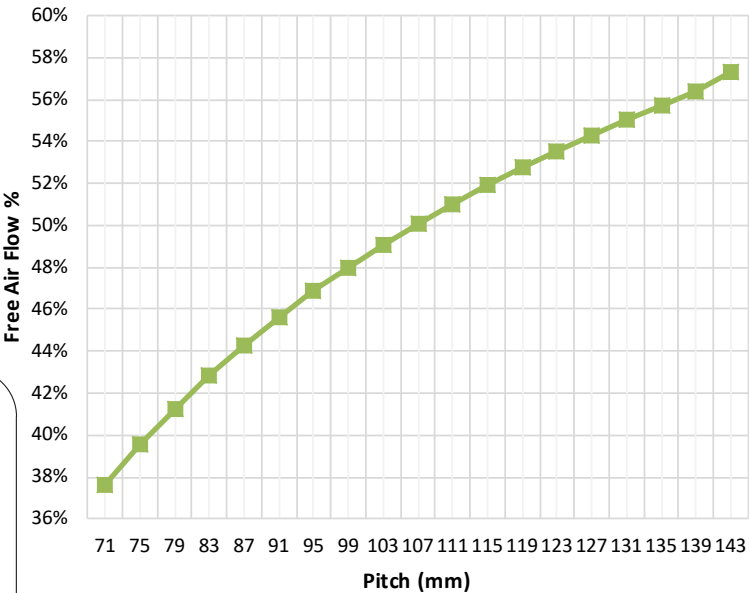


|                                       |            |            |            |             |             |             |             |             |             |             |             |             |
|---------------------------------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>SLS L/250</b>                      | 3000       | 3000       | 3000       | 3000        | 3000        | 2440        | 1780        | 1330        | 1030        | 810         | 640         | 520         |
| <b>ULS (110 MPa)</b>                  | 4500       | 4500       | 4500       | 4500        | 4500        | 4500        | 4500        | 4410        | 3400        | 2670        | 2140        | 1740        |
| <b>DEFLECTION DUE TO GRAVITY (mm)</b> | 0.01       | 0.02       | 0.05       | 0.09        | 0.16        | 0.26        | 0.39        | 0.57        | 0.81        | 1.12        | 1.51        | 1.99        |
| <b>LENGTH</b>                         | <b>600</b> | <b>750</b> | <b>900</b> | <b>1050</b> | <b>1200</b> | <b>1350</b> | <b>1500</b> | <b>1650</b> | <b>1800</b> | <b>1950</b> | <b>2100</b> | <b>2250</b> |

Data is based on theoretical section properties

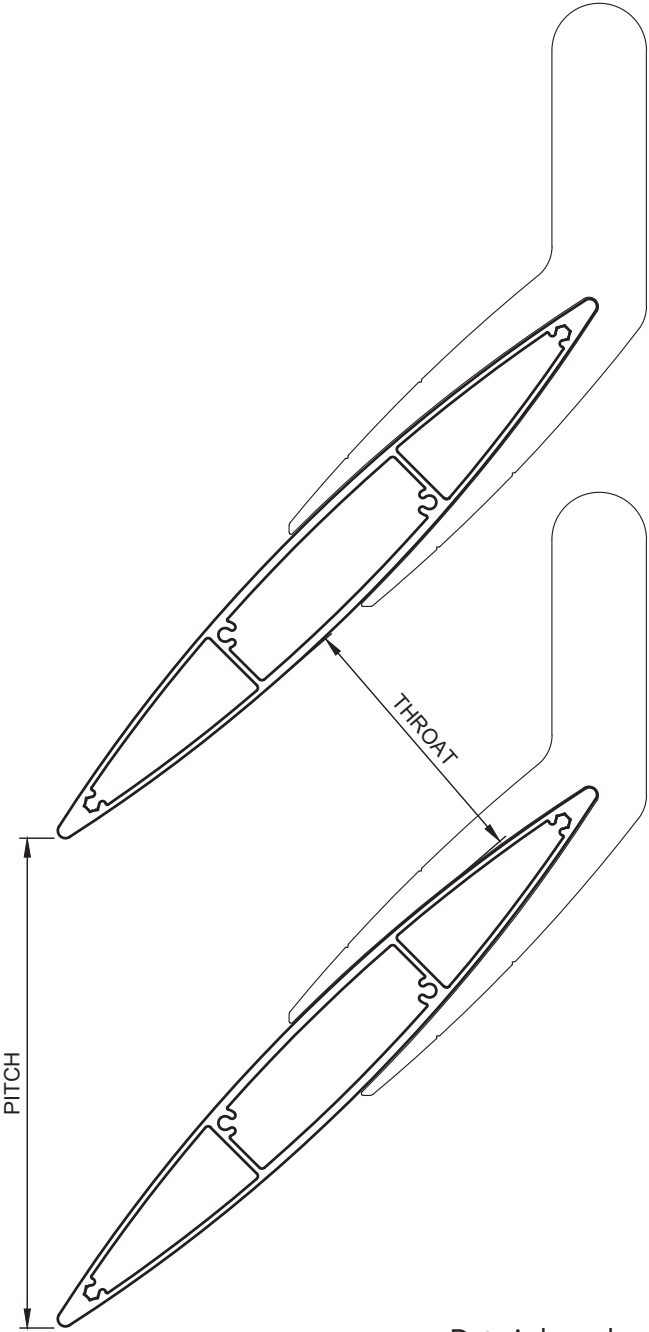
Louvre Details - LVE200

LVE200 Louvre Free Air %



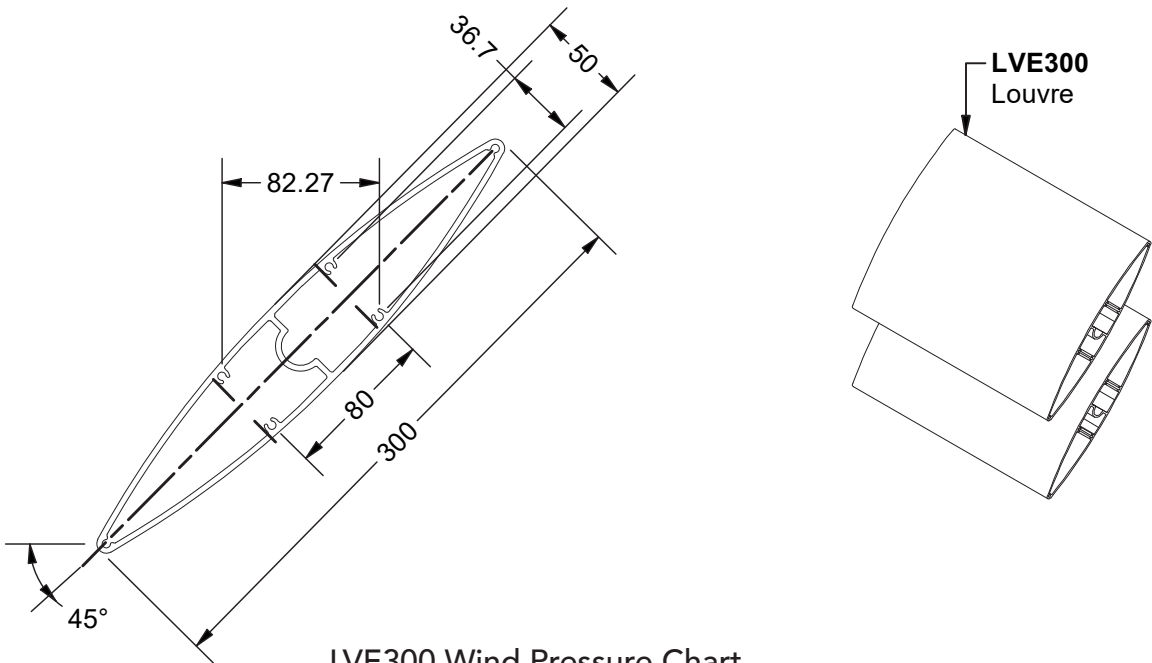
Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | THROAT | FREE AIR FLOW |
|-------|--------|---------------|
| 71    | 26.72  | 38%           |
| 75    | 29.65  | 40%           |
| 79    | 32.6   | 41%           |
| 83    | 35.56  | 43%           |
| 87    | 38.53  | 44%           |
| 91    | 41.51  | 46%           |
| 95    | 44.51  | 47%           |
| 99    | 47.52  | 48%           |
| 103   | 50.55  | 49%           |
| 107   | 53.58  | 50%           |
| 111   | 56.64  | 51%           |
| 115   | 59.69  | 52%           |
| 119   | 62.78  | 53%           |
| 123   | 65.85  | 54%           |
| 127   | 68.99  | 54%           |
| 131   | 72.08  | 55%           |
| 135   | 75.19  | 56%           |
| 139   | 78.36  | 56%           |
| 143   | 81.93  | 57%           |

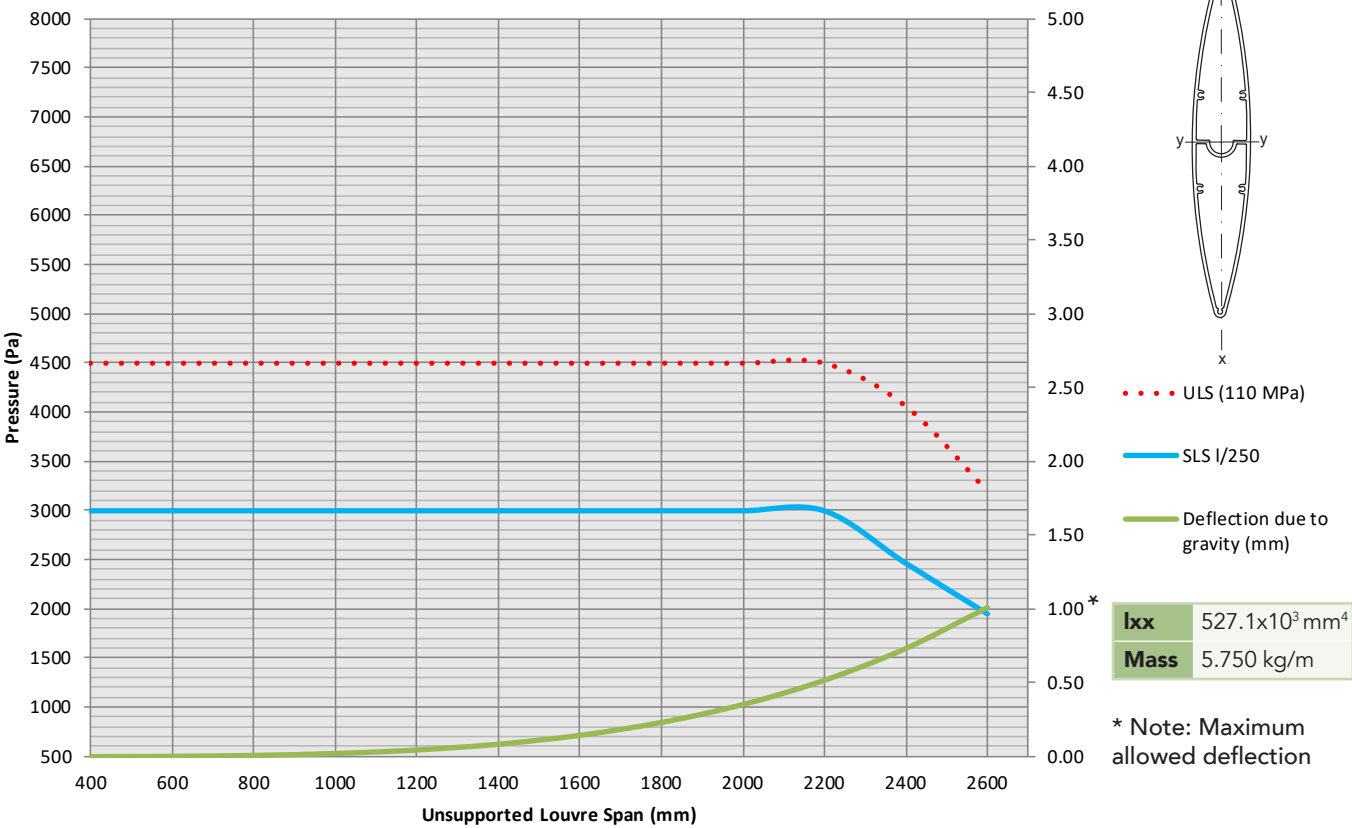


Data is based on theoretical section properties

Louvre Details - LVE300



LVE300 Wind Pressure Chart

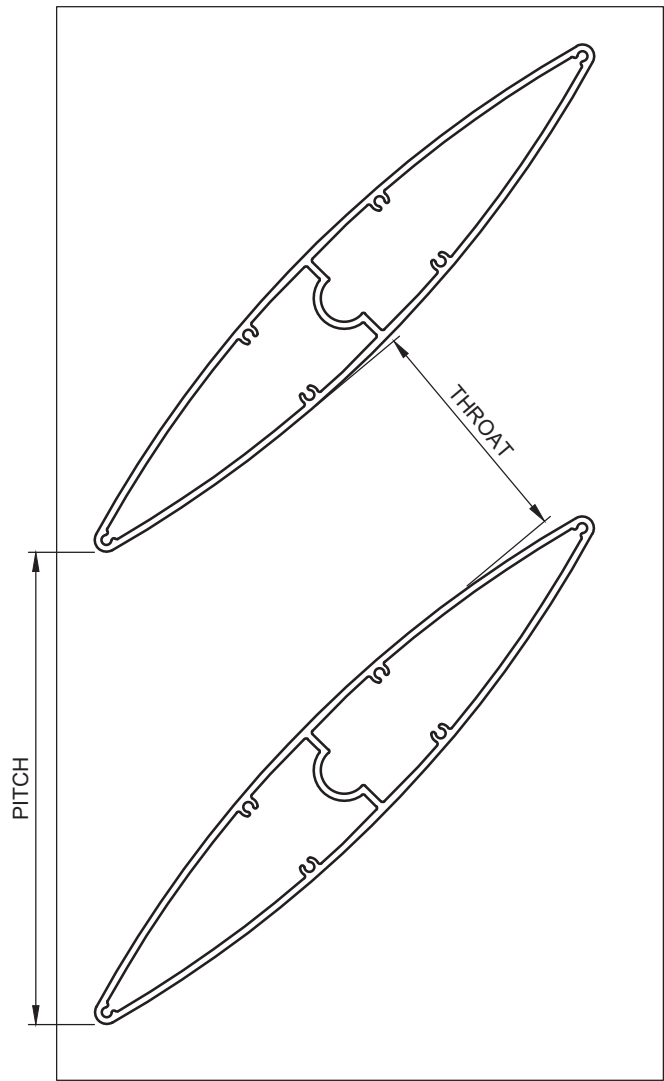
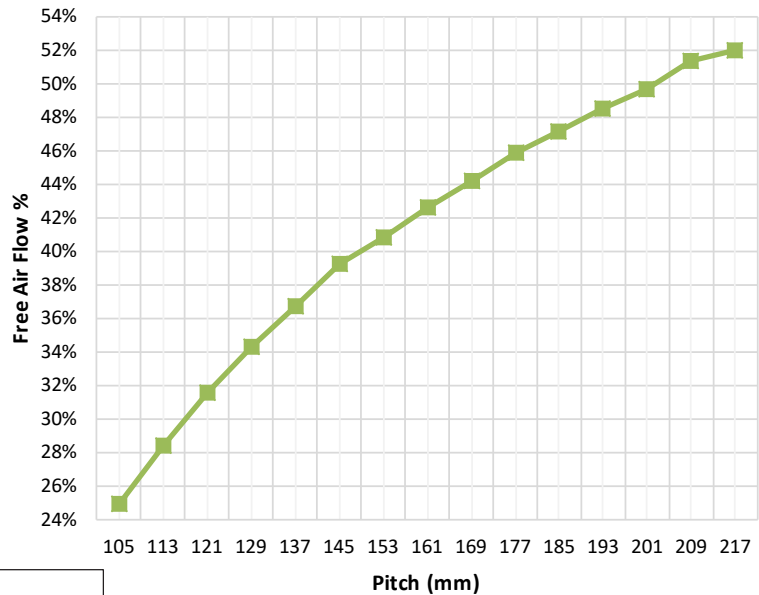


|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SLS L/250                      | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 2460 | 1940 |
| ULS (110 MPa)                  | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4060 | 3190 |
| DEFLECTION DUE TO GRAVITY (mm) | 0.00 | 0.00 | 0.01 | 0.02 | 0.05 | 0.08 | 0.14 | 0.23 | 0.35 | 0.52 | 0.73 | 1.01 |
| LENGTH                         | 400  | 600  | 800  | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 |

Data is based on theoretical section properties

Louvre Details - LVE300

LVE300 Louvre Free Air %

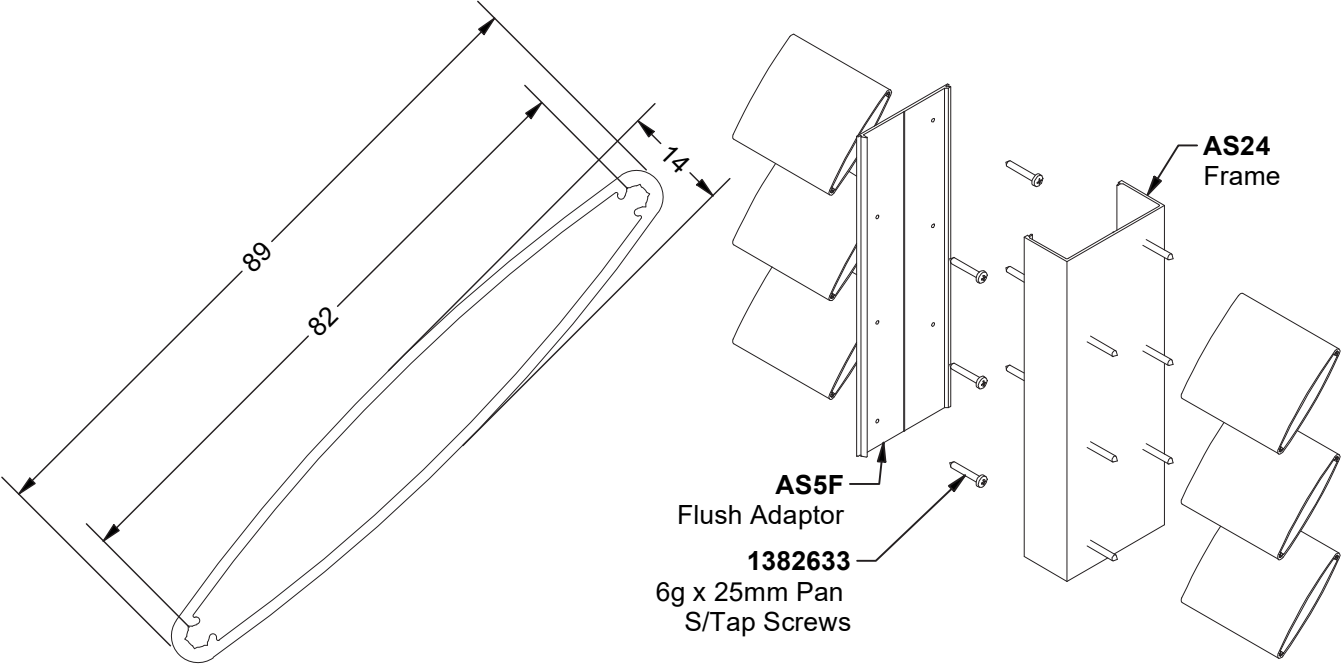


Free Air Flow % - Minimum Throat / Pitch x 100

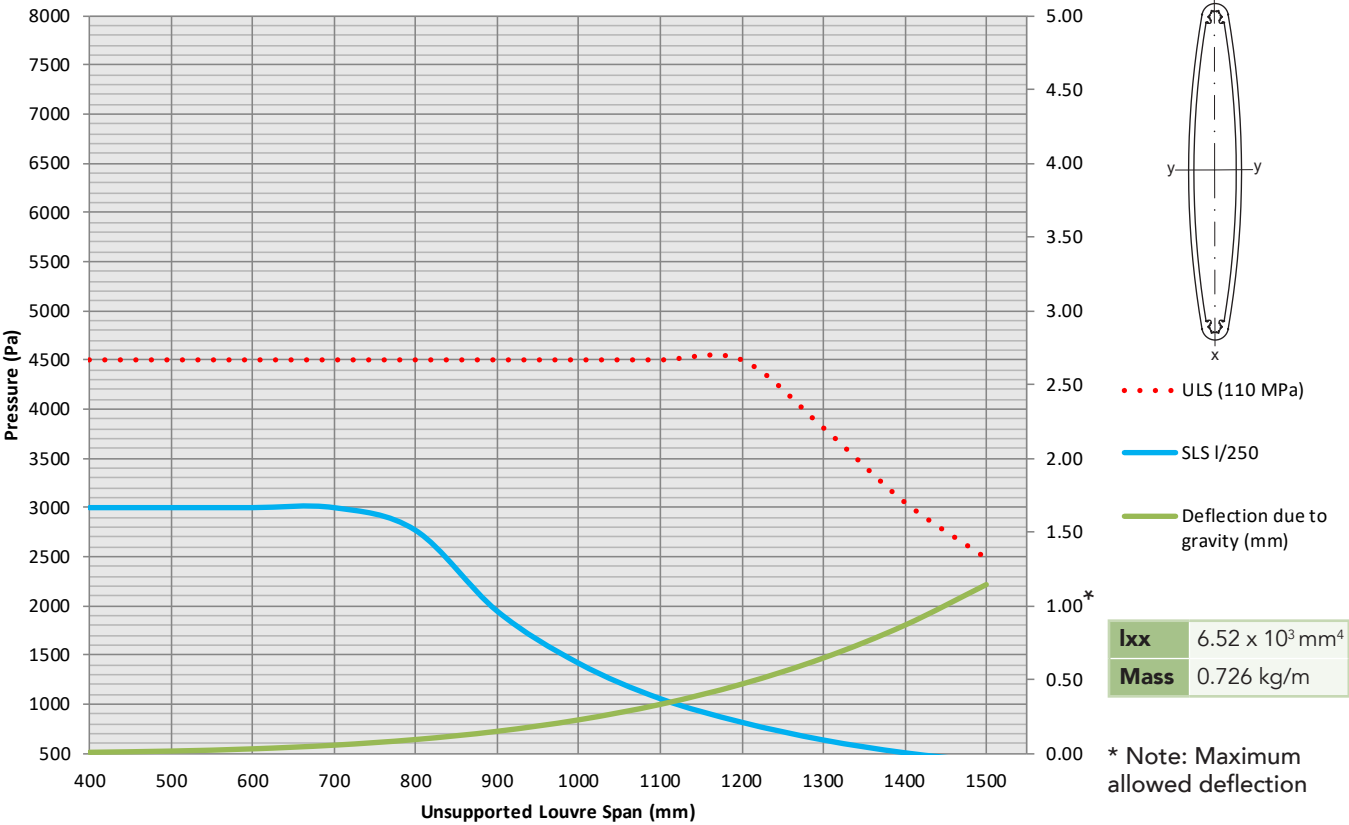
| PITCH | THROAT | FREE AIR FLOW |
|-------|--------|---------------|
| 105   | 26.21  | 25%           |
| 113   | 32.18  | 28%           |
| 121   | 38.19  | 32%           |
| 129   | 44.25  | 34%           |
| 137   | 50.36  | 37%           |
| 145   | 57     | 39%           |
| 153   | 62.52  | 41%           |
| 161   | 68.67  | 43%           |
| 169   | 74.84  | 44%           |
| 177   | 81.26  | 46%           |
| 185   | 87.22  | 47%           |
| 193   | 93.61  | 49%           |
| 201   | 99.82  | 50%           |
| 209   | 107.41 | 51%           |
| 217   | 112.8  | 52%           |

Data is based on theoretical section properties

Louvre Details - SCS113



SCS113 Wind Pressure Chart

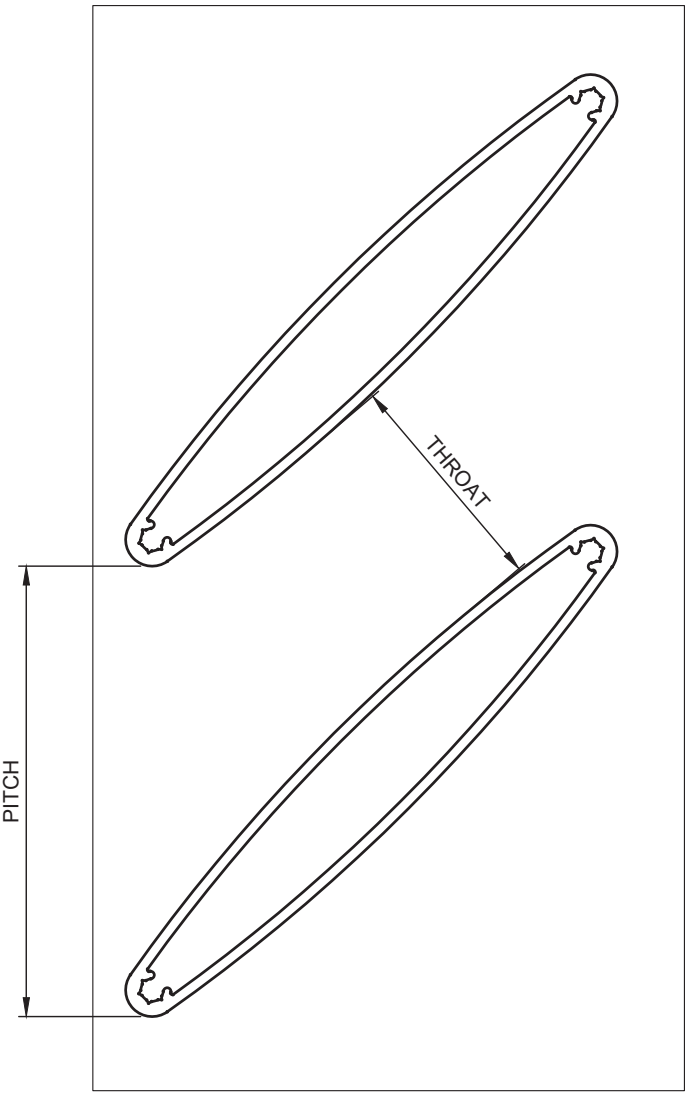
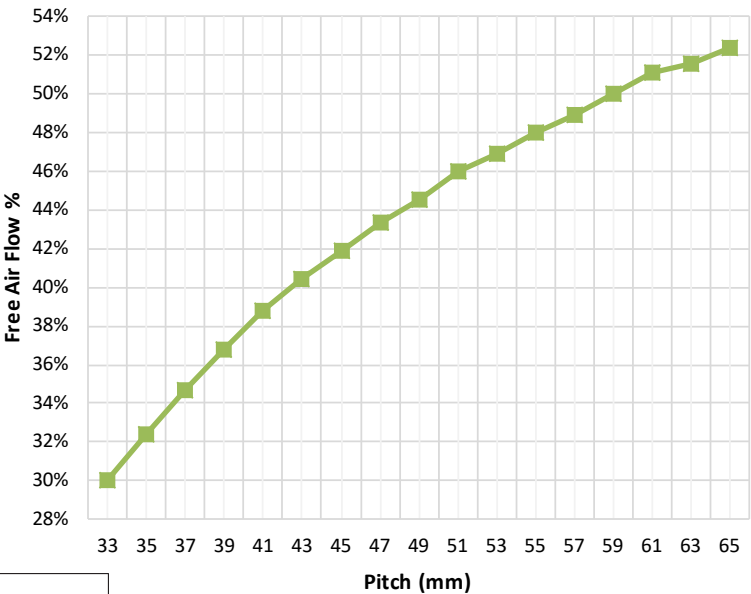


|                                       |            |            |            |            |            |            |             |             |             |             |             |             |
|---------------------------------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>SLS L/250</b>                      | 3000       | 3000       | 3000       | 3000       | 2770       | 1950       | 1420        | 1060        | 820         | 640         | 510         | 420         |
| <b>ULS (110 MPa)</b>                  | 4500       | 4500       | 4500       | 4500       | 4500       | 4500       | 4500        | 4500        | 4500        | 3810        | 3050        | 2480        |
| <b>DEFLECTION DUE TO GRAVITY (mm)</b> | 0.01       | 0.01       | 0.03       | 0.05       | 0.09       | 0.15       | 0.23        | 0.33        | 0.47        | 0.64        | 0.87        | 1.14        |
| <b>LENGTH</b>                         | <b>400</b> | <b>500</b> | <b>600</b> | <b>700</b> | <b>800</b> | <b>900</b> | <b>1000</b> | <b>1100</b> | <b>1200</b> | <b>1300</b> | <b>1400</b> | <b>1500</b> |

Data is based on theoretical section properties

Louvre Details - SCS113

SCS113 Louvre Free Air %

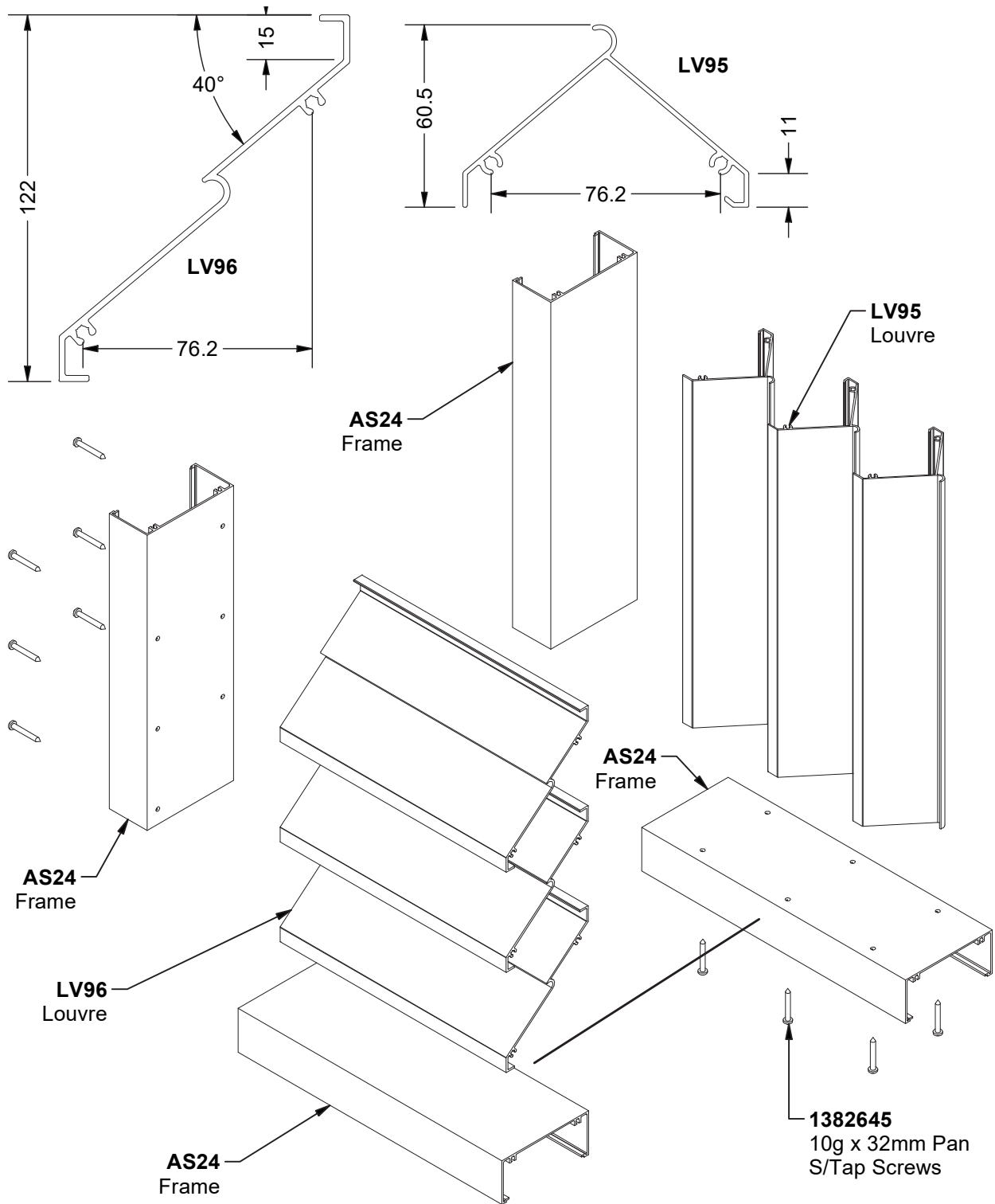


Free Air Flow % - Minimum Throat / Pitch x 100

| PITCH | THROAT | FREE AIR FLOW |
|-------|--------|---------------|
| 33    | 9.91   | 30%           |
| 35    | 11.35  | 32%           |
| 37    | 12.84  | 35%           |
| 39    | 14.35  | 37%           |
| 41    | 15.91  | 39%           |
| 43    | 17.4   | 40%           |
| 45    | 18.85  | 42%           |
| 47    | 20.36  | 43%           |
| 49    | 21.83  | 45%           |
| 51    | 23.45  | 46%           |
| 53    | 24.84  | 47%           |
| 55    | 26.38  | 48%           |
| 57    | 27.88  | 49%           |
| 59    | 29.52  | 50%           |
| 61    | 31.17  | 51%           |
| 63    | 32.48  | 52%           |
| 65    | 34.04  | 52%           |

Data is based on theoretical section properties

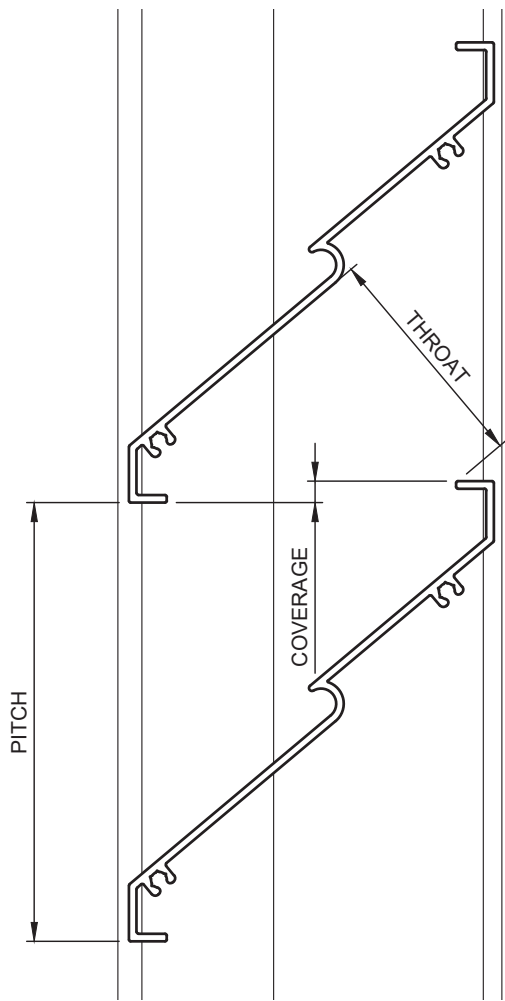
2 Stage Louvre



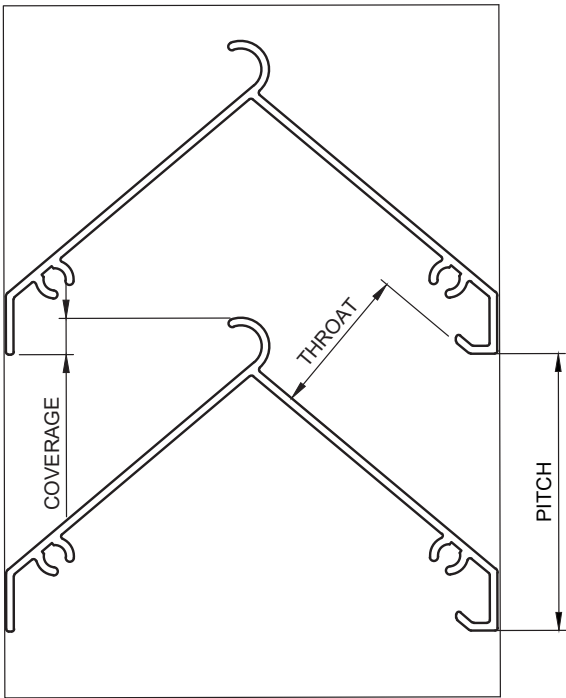
2 Stage Louvre

2 Stage Louvre Free Air %

| LOUVRE | PITCH | COVERAGE | THROAT | FREE AIR FLOW |
|--------|-------|----------|--------|---------------|
| LV96   | 98    | 24       | 47.1   | 48%           |
| LV95   | 45    | 16       | 21.8   | 48%           |
| LV96   | 106   | 16       | 53.16  | 50%           |
| LV95   | 47    | 14       | 23.33  | 50%           |
| LV96   | 110   | 12       | 56.22  | 51%           |
| LV95   | 49    | 12       | 24.86  | 51%           |
| LV96   | 114   | 8        | 59.28  | 52%           |
| LV95   | 51    | 10       | 26.4   | 52%           |
| LV96   | 118   | 4        | 62.35  | 53%           |
| LV95   | 53    | 8        | 27.93  | 53%           |
| LV96   | 122   | 0        | 65.41  | 54%           |
| LV95   | 55    | 6        | 29.46  | 54%           |

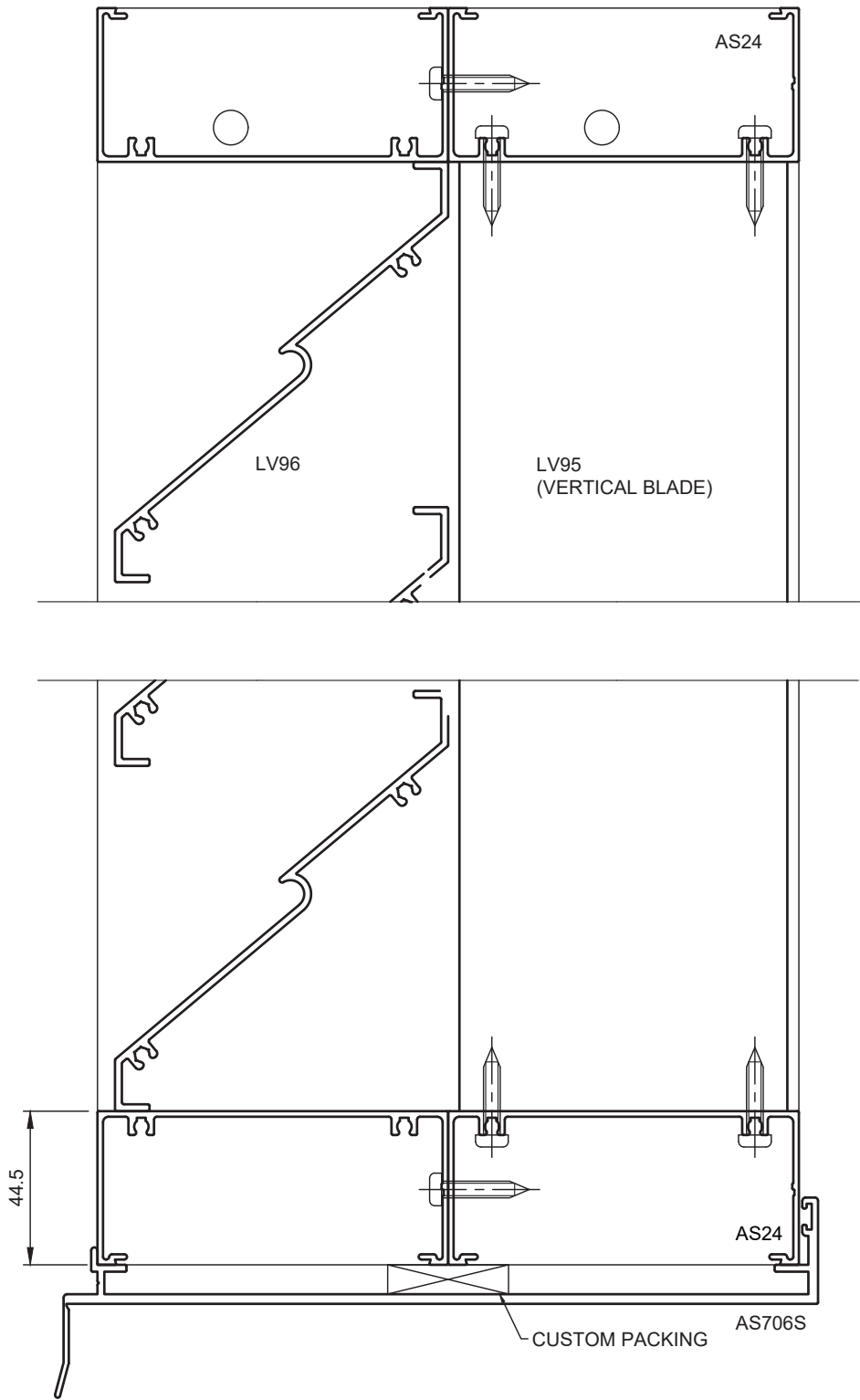


VERTICAL VIEW

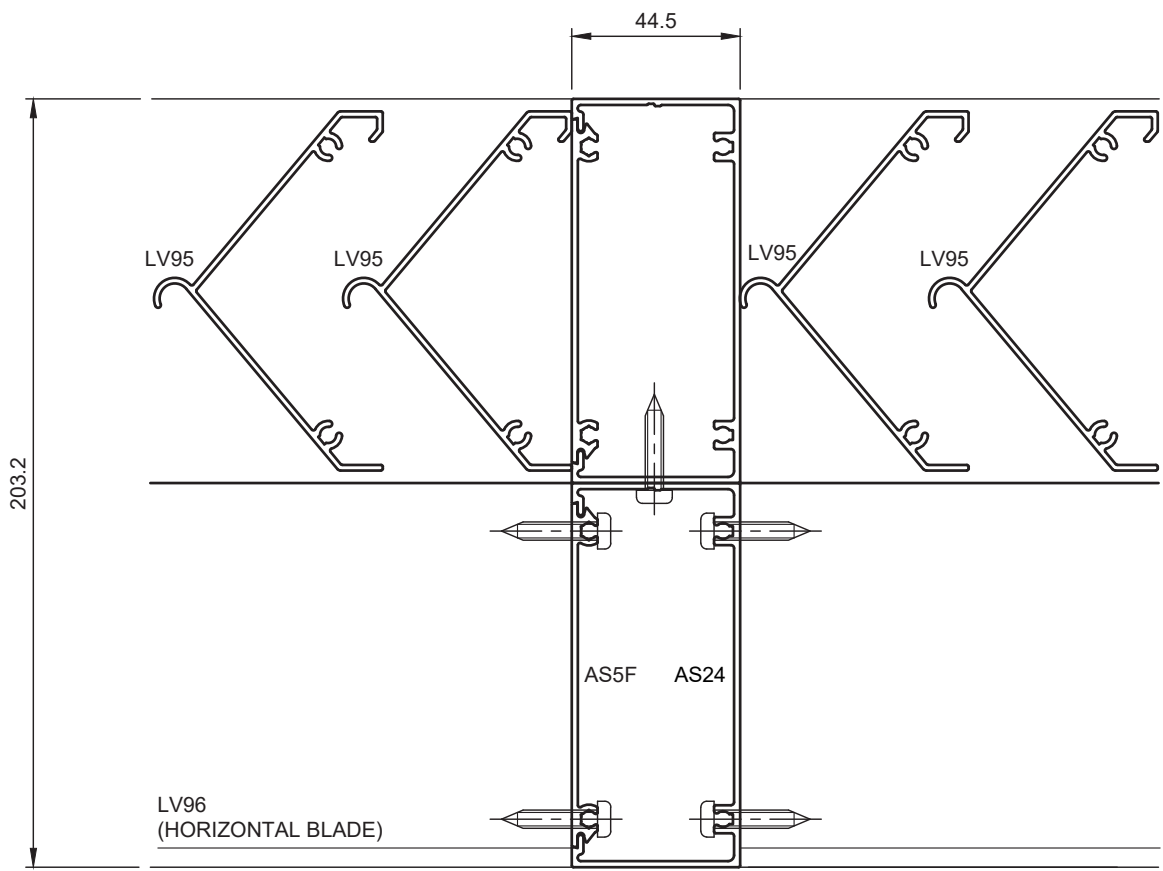


HORIZONTAL VIEW

2 Stage Louvre - 200mm Frame - Vertical Detail



2 Stage Louvre - 200mm Mullion - Horizontal Detail





**FRAMING**

Your new **Fixed Louvre Solar Control Solution** frames have been manufactured using the highest quality materials available to the Architectural industry. Constructed from Architectural grade aluminium, these products are highly corrosion resistant and exceptionally strong. With a moderate amount of maintenance, the **Fixed Louvre Solar Control Solution** frame will retain it's good looks and resist the elements for years to come.

The **Fixed Louvre Solar Control Solution** frames are the product of extensive research and development and designed to resist corrosion and rusting, but as with all external elements on the building require some maintenance to keep them looking good and performing well. Depending on how harsh the environment elements are, the maintenance period will vary. Refer to recommended maintenance table below.

Your **Fixed Louvre Solar Control Solution** frames should only ever need to be washed down with a soft bristled brush using warm water and mild detergent. Rinse well with fresh water and remove any detergent residue. Strong detergents and abrasive cleaners should never be used to clean the **Fixed Louvre Solar Control Solution** frames as they may scratch or damage the surface finish.

**MAINTENANCE PERIOD TABLE**

| ENVIRONMENT     | RECOMMENDED MAXIMUM MAINTENANCE INTERVAL |
|-----------------|------------------------------------------|
| Mild            | Six Months                               |
| Moderate        | Three Months                             |
| Tropical/Severe | One Month                                |

Environmental Definitions:

**Mild** – Being rural, away from the coast and remote from industry and urban activity.

**Moderate** – Being mainly urban, inland and away from heavy industry.

**Tropical** – Being coastal/marine, subject to salt deposition and within 15km of the Eastern coast or 10km of the Western coast of Australia.

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