

**GL Aluminum Patio Covers**  
**NBC-2023 (AE)**

**1-844-373-2557**

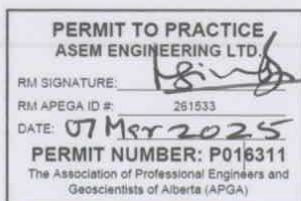
**Date: 07<sup>th</sup> March, 2025**

**4" 6063-T5 Aluminum Alloy I-Beam**

| ROOF SPAN<br>(SIMPLY SUPPORTED) | BASED ON | ROOF SNOW LOAD (PSF)               |        |         |        |                                    |         |         |         |                                    |         |        |        |                                    |        |         |         |
|---------------------------------|----------|------------------------------------|--------|---------|--------|------------------------------------|---------|---------|---------|------------------------------------|---------|--------|--------|------------------------------------|--------|---------|---------|
|                                 |          | 30                                 | 40     | 50      | 60     | 30                                 | 40      | 50      | 60      | 30                                 | 40      | 50     | 60     | 30                                 | 40     | 50      | 60      |
|                                 |          | SIMPLY SUPPORTED<br>+0'0" OVERHANG |        |         |        | SIMPLY SUPPORTED<br>+1'0" OVERHANG |         |         |         | SIMPLY SUPPORTED<br>+2'0" OVERHANG |         |        |        | SIMPLY SUPPORTED<br>+3'0" OVERHANG |        |         |         |
| 6'-0"                           | STRENGTH | 19'-0"                             | 16'-5" | 14'-8"  | 13'-5" | 19'-1"                             | 16'-7"  | 14'-10" | 13'-7"  | 19'-5"                             | 16'-11" | 15'-3" | 14'-0" | 19'-11"                            | 17'-6" | 15'-11" | 14'-8"  |
|                                 | L/180    | 10'-1"                             | 9'-2"  | 8'-6"   | 8'-0"  | 10'-3"                             | 9'-5"   | 8'-9"   | 8'-4"   | 11'-2"                             | 10'-4"  | 9'-9"  | 9'-3"  | 12'-3"                             | 11'-5" | 10'-10" | 10'-5"  |
| 7'-0"                           | STRENGTH | 17'-7"                             | 15'-3" | 13'-7"  | 12'-5" | 17'-8"                             | 15'-4"  | 13'-9"  | 12'-7"  | 18'-0"                             | 15'-9"  | 14'-2" | 13'-1" | 18'-7"                             | 16'-4" | 14'-11" | 13'-10" |
|                                 | L/180    | 9'-7"                              | 8'-9"  | 8'-1"   | 7'-7"  | 9'-10"                             | 9'-0"   | 8'-5"   | 7'-11"  | 10'-8"                             | 9'-11"  | 9'-4"  | 8'-11" | 11'-9"                             | 11'-0" | 10'-6"  | 10'-1"  |
| 8'-0"                           | STRENGTH | 16'-5"                             | 14'-3" | 12'-9"  | 11'-7" | 16'-7"                             | 14'-5"  | 12'-11" | 11'-10" | 16'-11"                            | 14'-9"  | 13'-4" | 12'-4" | 17'-6"                             | 15'-5" | 14'-1"  | 13'-1"  |
|                                 | L/180    | 9'-2"                              | 8'-4"  | 7'-9"   | 7'-3"  | 9'-5"                              | 8'-7"   | 8'-1"   | 7'-8"   | 10'-4"                             | 9'-7"   | 9'-0"  | 8'-7"  | 11'-5"                             | 10'-8" | 10'-2"  | 9'-10"  |
| 9'-0"                           | STRENGTH | 15'-6"                             | 13'-5" | 12'-0"  | 11'-0" | 15'-8"                             | 13'-7"  | 12'-2"  | 11'-2"  | 16'-0"                             | 14'-0"  | 12'-8" | 11'-8" | 16'-7"                             | 14'-8" | 13'-5"  | 12'-6"  |
|                                 | L/180    | 8'-10"                             | 8'-0"  | 7'-5"   | 7'-0"  | 9'-1"                              | 8'-4"   | 7'-9"   | 7'-5"   | 10'-0"                             | 9'-3"   | 8'-9"  | 8'-4"  | 11'-1"                             | 10'-5" | 9'-11"  | 9'-7"   |
| 10'-0"                          | STRENGTH | 14'-8"                             | 12'-9" | 11'-5"  | 10'-5" | 14'-10"                            | 12'-11" | 11'-7"  | 10'-7"  | 15'-3"                             | 13'-4"  | 12'-1" | 11'-2" | 15'-11"                            | 14'-1" | 12'-10" | 12'-0"  |
|                                 | L/180    | 8'-6"                              | 7'-9"  | 7'-2"   | 6'-9"  | 8'-9"                              | 8'-1"   | 7'-7"   | 7'-2"   | 9'-9"                              | 9'-0"   | 8'-6"  | 8'-2"  | 10'-10"                            | 10'-2" | 9'-9"   | 9'-5"   |
| 11'-0"                          | STRENGTH | 14'-0"                             | 12'-2" | 10'-10" | 9'-11" | 14'-2"                             | 12'-4"  | 11'-0"  | 10'-1"  | 14'-7"                             | 12'-9"  | 11'-7" | 10'-8" | 15'-3"                             | 13'-7" | 12'-5"  | 11'-7"  |
|                                 | L/180    | 8'-3"                              | 7'-6"  | 6'-12"  | 6'-7"  | 8'-6"                              | 7'-10"  | 7'-4"   | 7'-0"   | 9'-6"                              | 8'-10"  | 8'-4"  | 8'-0"  | 10'-7"                             | 10'-0" | 9'-7"   | 9'-3"   |
| 12'-0"                          | STRENGTH | 13'-5"                             | 11'-7" | 10'-5"  | 9'-6"  | 13'-7"                             | 11'-10" | 10'-7"  | 9'-8"   | 14'-0"                             | 12'-4"  | 11'-2" | 10'-4" | 14'-8"                             | 13'-1" | 12'-0"  | 11'-3"  |
|                                 | L/180    | 8'-0"                              | 7'-3"  | 6'-9"   | 6'-4"  | 8'-4"                              | 7'-8"   | 7'-2"   | 6'-9"   | 9'-3"                              | 8'-7"   | 8'-2"  | 7'-10" | 10'-5"                             | 9'-10" | 9'-5"   | 9'-1"   |
| 13'-0"                          | STRENGTH | 12'-11"                            | 11'-2" | 9'-12"  | 9'-1"  | 13'-1"                             | 11'-4"  | 10'-2"  | 9'-4"   | 13'-6"                             | 11'-10" | 10'-9" | 9'-11" | 14'-3"                             | 12'-8" | 11'-8"  | 10'-11" |
|                                 | L/180    | 8'-0"                              | 7'-1"  | 6'-7"   | 6'-2"  | 8'-2"                              | 7'-6"   | 7'-0"   | 6'-8"   | 9'-1"                              | 8'-5"   | 8'-0"  | 7'-8"  | 10'-3"                             | 9'-8"  | 9'-3"   | 9'-0"   |
| 14'-0"                          | STRENGTH | 12'-5"                             | 10'-9" | 9'-8"   | 8'-9"  | 12'-7"                             | 10'-11" | 9'-10"  | 9'-0"   | 13'-1"                             | 11'-6"  | 10'-5" | 9'-8"  | 13'-10"                            | 12'-4" | 11'-4"  | 10'-8"  |
|                                 | L/180    | 8'-0"                              | 6'-11" | 6'-5"   | 6'-1"  | 7'-11"                             | 7'-4"   | 6'-10"  | 6'-6"   | 8'-11"                             | 8'-4"   | 7'-10" | 7'-6"  | 10'-1"                             | 9'-6"  | 9'-2"   | 8'-10"  |

**NOTES:**

- Structural Alloy 6063 – T5
- Design as per AB Building Code 2023 and Aluminum Design Manual 2005
- Above table to be used for NBC (AE)-2023 Part 9 Construction only. AB part 4 construction will require additional engineering
- Beam is assumed to be fully laterall supporter at the top
- Design and engineering of support struature by others.
- Municipal requirements such as Building Permits is the responsibility of others
- Use of these tables do not circumvent the need for a registered professional as determined by the authority having jurisdiction



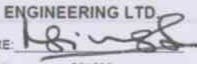
6" 6063-T5 Aluminum Alloy I-Beam

| Panel Span | Roof Snow Load (lb/ft <sup>2</sup> ) | Simply Supported | Simply Supported + 1'-0" overhang | Simply Supported + 2'-0" overhang | Simply Supported + 3'-0" overhang |
|------------|--------------------------------------|------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 9'-0"      | 40                                   | 19'-7"           | 17'-7"                            | 16'-0"                            | 14'-8"                            |
|            | 50                                   | 17'-7"           | 15'-10"                           | 14'-4"                            | 13'-2"                            |
|            | 60                                   | 15'-11"          | 14'-4"                            | 13'-0"                            | 11'-11"                           |
| 10'-0"     | 40                                   | 18'-7"           | 16'-10"                           | 15'-5"                            | 14'-3"                            |
|            | 50                                   | 16'-8"           | 15'-2"                            | 13'-11"                           | 12'-10"                           |
|            | 60                                   | 15'-1"           | 13'-9"                            | 12'-7"                            | 11'-7"                            |
| 11'-0"     | 40                                   | 17'-8"           | 16'-3"                            | 15'-0"                            | 13'-11"                           |
|            | 50                                   | 15'-11"          | 14'-7"                            | 13'-5"                            | 12'-6"                            |
|            | 60                                   | 14'-5"           | 13'-2"                            | 12'-2"                            | 11'-4"                            |
| 12'-0"     | 40                                   | 16'-11"          | 15'-8"                            | 14'-6"                            | 13'-7"                            |
|            | 50                                   | 15'-2"           | 14'-0"                            | 13'-0"                            | 12'-2"                            |
|            | 60                                   | 13'-9"           | 12'-9"                            | 11'-10"                           | 11'-0"                            |
| 13'-0"     | 40                                   | 16'-3"           | 15'-1"                            | 14'-1"                            | 13'-3"                            |
|            | 50                                   | 14'-7"           | 13'-7"                            | 12'-8"                            | 11'-10"                           |
|            | 60                                   | 13'-3"           | 12'-4"                            | 11'-6"                            | 10'-9"                            |

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PERMIT TO PRACTICE  
ASEM ENGINEERING LTD.

RM SIGNATURE: 

RM APEGA ID #: 261533

DATE: 07 Mar 2025

PERMIT NUMBER: P016311

The Association of Professional Engineers and Geoscientists of Alberta (APGA)



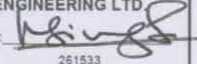
3"x3"x0.063" 6063-T5 Aluminum Alloy Post with 3'-0" overhang

|                         |           | Post Height            |         |         |        |        |        |
|-------------------------|-----------|------------------------|---------|---------|--------|--------|--------|
| Roof Snow Load (lb/ft²) | Roof Span | 7'-0"                  | 8'-0"   | 9'-0"   | 10'-0" | 11'-0" | 12'-0" |
| 40                      |           | Allowable Post Spacing |         |         |        |        |        |
|                         | 8'-0"     | 14'-8"                 | 13'-6"  | 12'-6"  | 11'-7" | 8'-11" | 7'-1"  |
|                         | 9'-0"     | 13'-8"                 | 12'-8"  | 11'-8"  | 10'-9" | 8'-4"  | 6'-8"  |
|                         | 10'-0"    | 12'-9"                 | 11'-10" | 10'-11" | 10'-1" | 7'-9"  | 6'-3"  |
|                         | 11'-0"    | 12'-0"                 | 11'-2"  | 10'-4"  | 9'-7"  | 7'-4"  | 5'-9"  |
|                         | 12'-0"    | 11'-4"                 | 10'-7"  | 9'-8"   | 9'-0"  | 6'-10" | 5'-7"  |
| 50                      | 8'-0"     | 11'-8"                 | 10'-9"  | 10'-0"  | 9'-3"  | 7'-2"  | 5'-9"  |
|                         | 9'-0"     | 10'-11"                | 10'-2"  | 9'-4"   | 8'-8"  | 6'-8"  | 5'-4"  |
|                         | 10'-0"    | 10'-3"                 | 9'-6"   | 8'-9"   | 8'-2"  | 6'-3"  | 5'-0"  |
|                         | 11'-0"    | 9'-8"                  | 8'-10"  | 8'-3"   | 7'-8"  | 5'-10" | 4'-9"  |
|                         | 12'-0"    | 9'-1"                  | 8'-5"   | 7'-9"   | 7'-3"  | 5'-7"  | 4'-5"  |
| 60                      | 8'-0"     | 9'-9"                  | 9'-1"   | 8'-4"   | 7'-9"  | 5'-11" | 4'-9"  |
|                         | 9'-0"     | 9'-1"                  | 8'-5"   | 7'-9"   | 7'-3"  | 5'-7"  | 4'-5"  |
|                         | 10'-0"    | 8'-6"                  | 7'-11"  | 7'-4"   | 6'-8"  | 5'-2"  | 4'-2"  |
|                         | 11'-0"    | 8'-0"                  | 7'-5"   | 6'-9"   | 6'-4"  | 4'-10" | 3'-11" |
|                         | 12'-0"    | 7'-7"                  | 7'-0"   | 6'-5"   | 6'-0"  | 4'-7"  | 3'-8"  |

NOTES:

- Structural Alloy 6063 – T5
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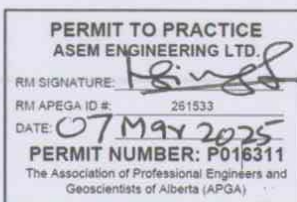


3"x3"x0.063" 6063-T5 Aluminum Alloy Post with 2'-0" overhang

|                         |           | Post Height            |         |         |         |        |        |
|-------------------------|-----------|------------------------|---------|---------|---------|--------|--------|
| Roof Snow Load (lb/ft²) | Roof Span | 7'-0"                  | 8'-0"   | 9'-0"   | 10'-0"  | 11'-0" | 12'-0" |
| 40                      |           | Allowable Post Spacing |         |         |         |        |        |
|                         | 8'-0"     | 17'-1"                 | 15'-10" | 14'-6"  | 13'-6"  | 10'-5" | 8'-4"  |
|                         | 9'-0"     | 15'-9"                 | 14'-7"  | 13'-6"  | 12'-6"  | 9'-8"  | 7'-8"  |
|                         | 10'-0"    | 14'-8"                 | 13'-6"  | 12'-6"  | 11'-7"  | 8'-11" | 7'-2"  |
|                         | 11'-0"    | 13'-7"                 | 12'-8"  | 11'-8"  | 10'-10" | 8'-4"  | 6'-8"  |
|                         | 12'-0"    | 12'-10"                | 11'-10" | 10'-11" | 10'-2"  | 7'-9"  | 6'-3"  |
| 50                      | 8'-0"     | 13'-8"                 | 12'-8"  | 11'-8"  | 10'-10" | 8'-4"  | 6'-8"  |
|                         | 9'-0"     | 12'-7"                 | 11'-7"  | 10'-9"  | 10'-0"  | 7'-8"  | 6'-1"  |
|                         | 10'-0"    | 11'-9"                 | 10'-10" | 10'-0"  | 9'-3"   | 7'-2"  | 5'-9"  |
|                         | 11'-0"    | 10'-10"                | 10'-2"  | 9'-4"   | 8'-8"   | 6'-9"  | 5'-4"  |
|                         | 12'-0"    | 10'-3"                 | 9'-6"   | 8'-9"   | 8'-2"   | 6'-3"  | 5'-0"  |
| 60                      | 8'-0"     | 11'-4"                 | 10'-6"  | 9'-9"   | 9'-0"   | 6'-11" | 5'-7"  |
|                         | 9'-0"     | 10'-6"                 | 9'-8"   | 8'-10"  | 8'-4"   | 6'-5"  | 5'-2"  |
|                         | 10'-0"    | 9'-8"                  | 9'-0"   | 8'-4"   | 7'-8"   | 5'-11" | 4'-8"  |
|                         | 11'-0"    | 9'-2"                  | 8'-5"   | 7'-8"   | 7'-3"   | 5'-6"  | 4'-5"  |
|                         | 12'-0"    | 8'-6"                  | 7'-11"  | 7'-3"   | 6'-8"   | 5'-2"  | 4'-2"  |

NOTES:

- Structural Alloy 6063 – T5
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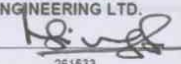
3"x3"x0.063" 6063-T5 Aluminum Alloy Post with 1'-0" overhang

|                         |           | Post Height            |         |         |         |         |        |
|-------------------------|-----------|------------------------|---------|---------|---------|---------|--------|
| Roof Snow Load (lb/ft²) | Roof Span | 7'-0"                  | 8'-0"   | 9'-0"   | 10'-0"  | 11'-0"  | 12'-0" |
| 40                      |           | Allowable Post Spacing |         |         |         |         |        |
|                         | 8'-0"     | 25'-7"                 | 23'-8"  | 21'-10" | 20'-4"  | 15'-8"  | 12'-6" |
|                         | 9'-0"     | 22'-9"                 | 21'-1"  | 19'-6"  | 18'-0"  | 13'-10" | 11'-2" |
|                         | 10'-0"    | 20'-6"                 | 19'-0"  | 17'-6"  | 16'-3"  | 12'-6"  | 10'-0" |
|                         | 11'-0"    | 18'-8"                 | 14'-3"  | 15'-11" | 14'-8"  | 11'-4"  | 9'-2"  |
|                         | 12'-0"    | 17'-1"                 | 15'-9"  | 14'-7"  | 13'-6"  | 10'-5"  | 8'-4"  |
| 50                      | 8'-0"     | 20'-6"                 | 19'-0"  | 17'-6"  | 16'-3"  | 12'-6"  | 10'-0" |
|                         | 9'-0"     | 18'-3"                 | 16'-11" | 15'-6"  | 14'-4"  | 11'-2"  | 8'-10" |
|                         | 10'-0"    | 16'-5"                 | 15'-2"  | 14'-0"  | 13'-0"  | 10'-0"  | 8'-0"  |
|                         | 11'-0"    | 14'-11"                | 13'-10" | 12'-9"  | 11'-10" | 9'-0"   | 7'-3"  |
|                         | 12'-0"    | 13'-8"                 | 12'-8"  | 11'-8"  | 10'-10" | 8'-4"   | 6'-8"  |
| 60                      | 8'-0"     | 17'-1"                 | 15'-10" | 14'-7"  | 13'-6"  | 10'-5"  | 8'-4"  |
|                         | 9'-0"     | 15'-1"                 | 14'-1"  | 12'-11" | 12'-0"  | 9'-3"   | 7'-5"  |
|                         | 10'-0"    | 13'-7"                 | 12'-8"  | 11'-8"  | 10'-10" | 8'-4"   | 6'-8"  |
|                         | 11'-0"    | 12'-4"                 | 11'-6"  | 10'-7"  | 9'-11"  | 7'-6"   | 6'-1"  |
|                         | 12'-0"    | 11'-4"                 | 10'-6"  | 9'-9"   | 9'-0"   | 6'-11"  | 5'-6"  |

NOTES:

- Structural Alloy 6063 – T5
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- End conditions assumed to be unrestrained (K= 1.0)
- Design and engineering of support structure by others.
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ASEM ENGINEERING LTD.

RM SIGNATURE: 

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DATE: 07 May 2025

PERMIT NUMBER: P016311

The Association of Professional Engineers and Geoscientists of Alberta (APGA)



## 3.25" x 24" 3105-H25 Aluminum Alloy Panel

| Thickness (in) | Roof Snow Load (lb/ft <sup>2</sup> ) | Max. Clear Span | Max. Overhang |
|----------------|--------------------------------------|-----------------|---------------|
| 0.032          | 40                                   | 12'-2"          | 3'-8"         |
|                | 50                                   | 11'-4"          | 3'-2"         |
|                | 60                                   | 10'-6"          | 2'-6"         |

## 3.25" 6063-T5 Aluminum Alloy T-Bar spaced at 2'-0" o.c.

| Roof Pitch   | Roof Snow Load (lb/ft <sup>2</sup> ) | Max. Span |
|--------------|--------------------------------------|-----------|
| Flat - 3:12  | 40                                   | 12'-0"    |
|              | 50                                   | 11'-6"    |
|              | 60                                   | 10'-0"    |
| 3:12 - 5:12  | 40                                   | 13'-6"    |
|              | 50                                   | 13'-0"    |
|              | 60                                   | 12'-2"    |
| 5:12 - 8:12  | 40                                   | 13'-11"   |
|              | 50                                   | 13'-6"    |
|              | 60                                   | 13'-0"    |
| 8:12 - 12:12 | 40                                   | 14'-6"    |
|              | 50                                   | 13'-10"   |
|              | 60                                   | 13'-2"    |

### NOTES:

- Structural Alloy 3105-H25 for panels and 6063 – T5 for T-Bar
- Design as per AB Building Code 2023 and Aluminum Design Manual 2005
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