STARLINE WINDOWS

Punched Opening

Clearance Requirements

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Note: This document is intended to provide Starline's recommended clearances for punched window and door applications only. Ribbon windows, window wall, and doors used in applications other than a punched opening application require clearances other than laid out in this document. These other products do not have a standard as the clearances vary depending on the project specific requirements and conditions.

Why Are Clearances Required?

Clearance (a space) between the rough opening and heel of a window and / or door is required for a successful, sound, safe and durable installation. Inadequate clearance can result in several issues including severe damage to the window and door product. The amount of clearance required can vary from manufacturer to manufacturer as well as product to product (punch window versus window wall).

The following points highlight a few of these reasons clearance is required, but not limited to:

Structural [1]

- To allow for deflection of the building structure.
- To withstand slab edge vertical differential deflections.
- To withstand seismic inter-story lateral drift movements.

Building Envelope Tie In (Based on best building practices)[2]

- To allow for self-adhered membrane at the sill.
- To allow for shimming at the sill to ensure adequate sub sill drainage is achieved.
- To allow for equal gaps on all four sides of the window and / or door product to provide an interior air seal using backer rod and caulking.
- To ensure that there is continuity of the air barrier from the structure to the window component.

Framing [3]

- To allow adequate space incase rough opening is framed to large or small.
- To accommodate the framing being out of plumb.

[1] Structural members are subject to loads (live, dead, lateral, snow, etc.) these loads cause a member to move from its static position and results in deflection of the member.

For example, if there is a lintel above a windows and the head of the window is tight against the lintel (no clearance). When the framing member experiences a load (which it will) deflection in the lintel will occur and there is space between the window and lintel to absorb that deflection. The result is the window would absorb the deflection, likely resulting in the window being compressed, or worse.

Structural members are to be designed by a structural engineer or as outline by the building code, bylaws, etc, including the amount structural members are expected to deflect. This is not a responsibility of Starline.
While Starline has established recommended clearances, these clearances may change depending on the project specific requirements.

[2] Points noted above are recommended based on best building practices guidelines and are a suggested method of installation and does not necessarily represent methods that are suitable for a specific project. To confirm project specific details, please check with your Waterproofing / Building Envelope Consultant.

[3] While the clearance can accommodate the framing being out a bit, if the framing is out of tolerance considerably it will be considered unacceptable to install the window and/or door. Starline's recommendation is 3/8" gap per side of the window +/- 1/8" tolerance (that is 3/4" in both width and height +/- 1/4 tolerance).

Starline's Recommended Clearances

In a punched window and door application Starline's recommended clearance is 3/8" per side of the window and door. The end result is the heel dimension of the window and door is 3/4" smaller than the Rough Opening for both the width and height. This is the case for all punched window product series and frame styles with the exception to the Rainshield (RS). The RS requires 1" on the height as the sill requires 5/8" not 3/8" clearance, due to the PVC continuous subsill.

Starline's standard punched opening clearances

PRODUCT SERIES	WIDTH	HEIGHT
2500 - Vinyl Swing Patio Door	3/4" Total (3/8" a side)	3/4" Total (3/8" a side)
4500T - Aluminum Sliding Patio Door	3/4" Total (3/8" a side)	3/4" Total (3/8" a side)
4503 – Aluminum Lift and Slide Patio Door [1]	3/4" Total (3/8" a side)	3/4" Total (3/8" a side)
5000T - Aluminum Fixed, Casement, Awning Window	3/4" Total (3/8" a side)	3/4" Total (3/8" a side)
6000 - Vinyl Fixed, Horizontal & Vertical Sliding Window Nailing Flange, RS	3/4" Total (3/8" a side) 3/4" Total (3/8" a side)	3/4" Total (3/8" a side) 1" Total (3/8" head, 5/8" sill)
7100 - Vinyl Fixed, Casement, Awning Window Nailing Flange, RS	3/4" Total (3/8" a side) 3/4" Total (3/8" a side)	3/4" Total (3/8" a side) 1" Total (3/8" head, 5/8" sill)
8500 - Vinyl Sliding Patio Door	3/4" Total (3/8" a side)	3/4" Total (3/8" a side)

As noted previously the clearance between the rough opening and the heel of the window and door may be required to be different than specified in the above chart due to project specific requirements. It is the responsibility of the building designer to confirm that the recommended 3/4" clearance for both the width and the height of the window and /or doors is adequate to accommodate building deflection, materials used for building envelope tie in and other.
Starline has standard details available for use for punched window and door products. These details will provide some standard installation methods for the above frame options. These installation details are a suggested method of installation and does not necessarily represent a detail that is suitable for a specific project. To confirm project specific details, please check with your Waterproofing / Building Envelope Consultant.

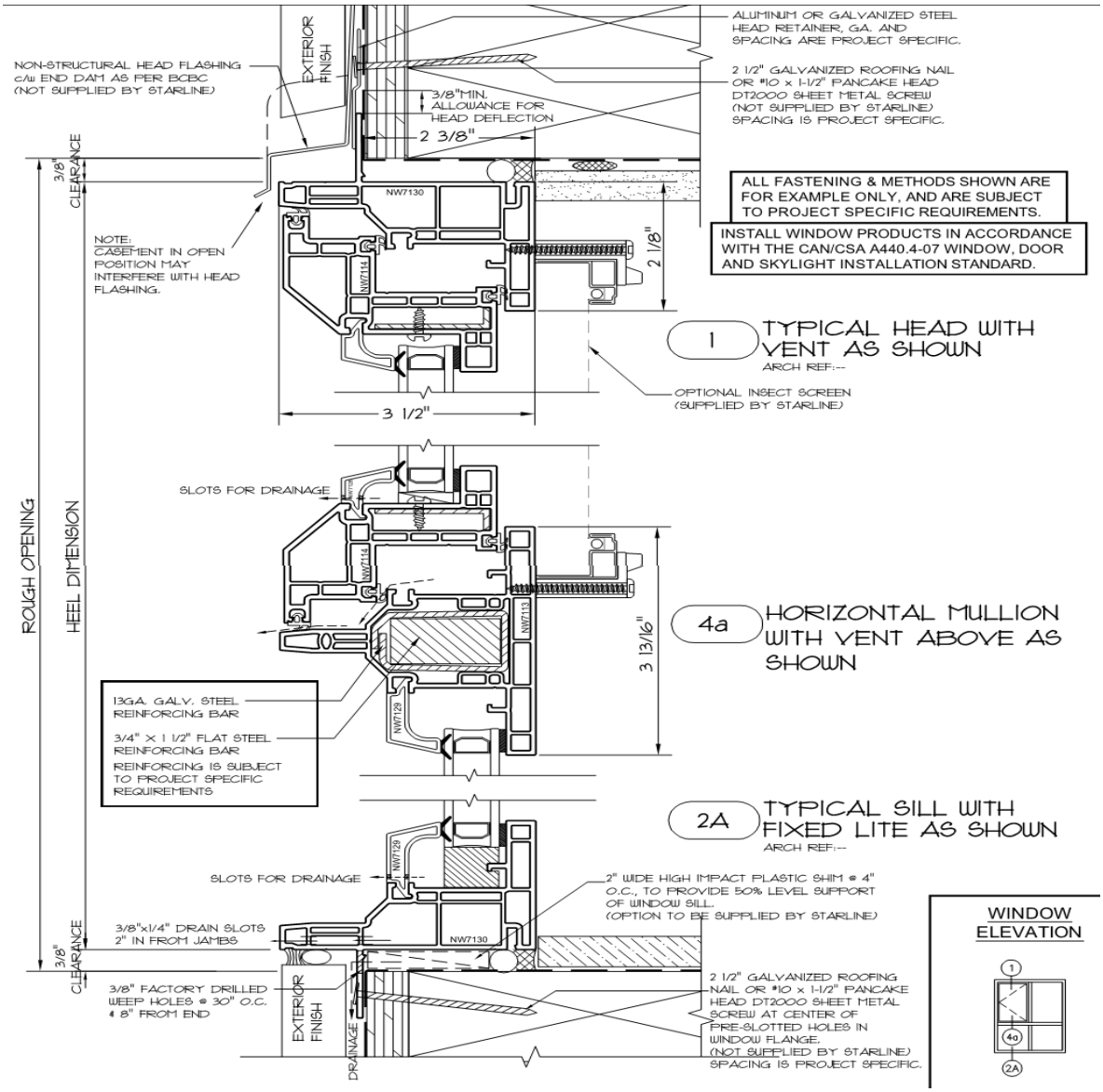
To obtain a copy of these details or if you have any project specific inquiries please email sales@starlinewindows.com

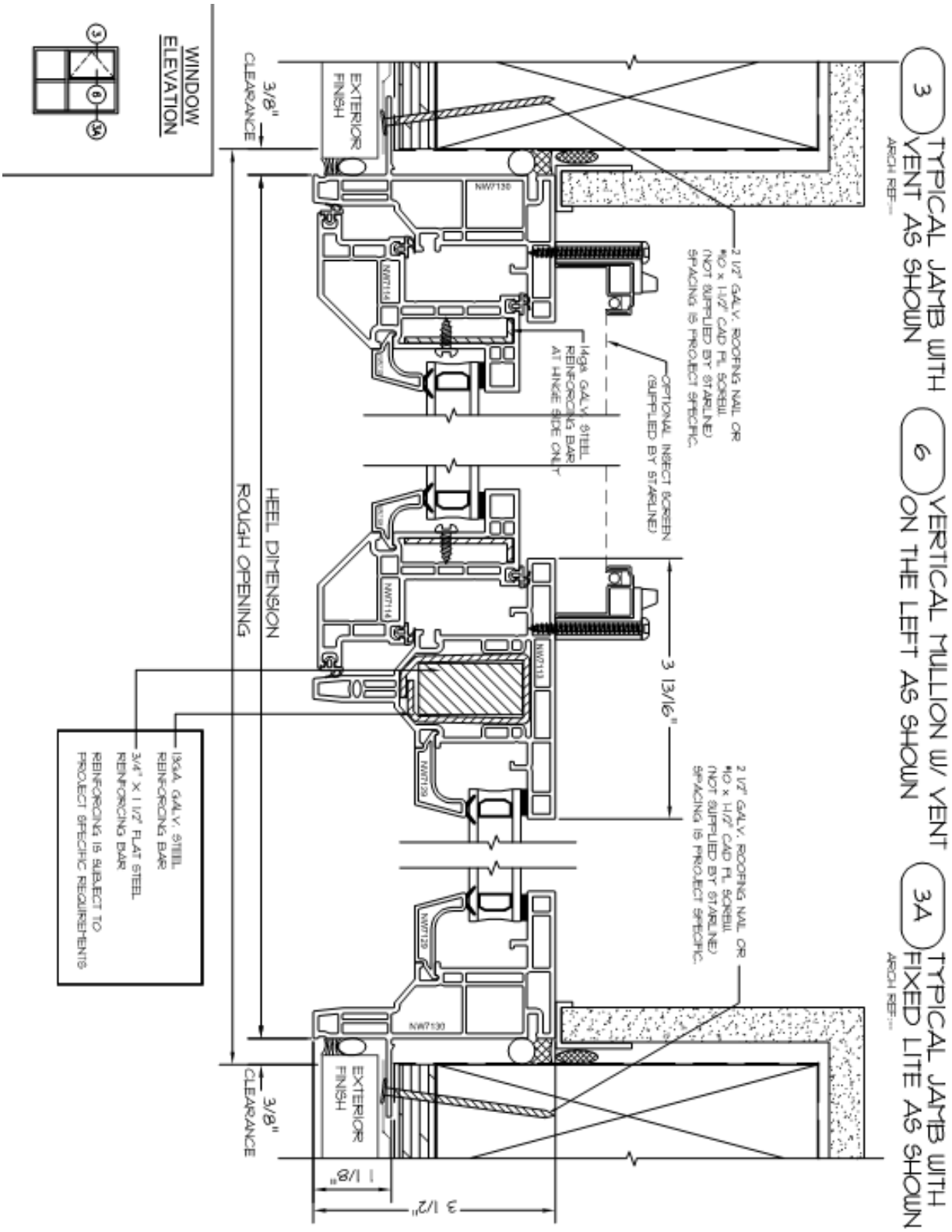
Please refer to page 5 & 6 of this document which provides a visual example of Starline's recommended installation methods for wood-frame construction.

[1] The clearances required for the 4503 door varies depending on the configuration chosen as well as if a deflection header is used. Clearance requirements can be determined on a project specific basis. This products deflection allowances are as follows:

- 3/4" +/- 1/8" for OX and OX configurations
- 1/2" +/- 1/8" for OXXO configuration from 120" to 144" in width
- Maximum 1/8" for OXXO configuration >144" to 168" in width
- Maximum 1/8" for XXO, OXX, OXXXXO configurations

Recommended Installation




3 TYPICAL JAMB WITH VENT AS SHOWN
6 VERTICAL MULLION W/ VENT ON THE LEFT AS SHOWN
3A TYPICAL JAMB WITH FIXED LITE AS SHOWN
ARCH REF.
WINDOW ELEVATION
EXTERIOR FINISH
3/8" CLEARANCE
NW7130
NW7114
NW7113
NW7139
2 1/2" GALV. ROOFING NAIL OR #10 x 1-1/2" CAD PL SCREW (NOT SUPPLIED BY STARLINE) SPACING IS PROJECT SPECIFIC.
OPTIONAL INSECT SCREEN (SUPPLIED BY STARLINE)
14ga GALV. STEEL REINFORCING BAR AT HINGE SIDE ONLY
3 13/16"
HEEL DIMENSION
ROUGH OPENING
13GA. GALV. STEEL REINFORCING BAR
3/4" X 1 1/2" FLAT STEEL REINFORCING BAR
REINFORCING IS SUBJECT TO PROJECT SPECIFIC REQUIREMENTS
1 1/8"
3 1/2"