Altitude Limits for Products With Dual-Pane Glass

The chart below gives the altitude limit in feet for 100 Series products with dual-pane glass in this guide. If the installation of a given product is at an altitude greater than that shown in this chart, a capillary breather tube must be ordered. Be aware that the use of a capillary breather tube eliminates argon gas blend fill and will result in a slightly lower thermal performance (approximately 0.02 increase in unit U-Factor). For NFRC certified total unit performance on units with capillary breather tubes for higher altitude applications, see your Andersen supplier.

The use of dual-pane insulating glass without capillary breather tubes at altitudes higher than its rating will result in severe glass distortion, increased glass breakage potential and a risk of seal failure. Smaller units are most affected by altitude changes. An increase in altitude results in a decrease in atmospheric pressure. A sealed insulating glass unit attempts to combat this change by increasing its volume to reduce its pressure. One way to increase its volume is by glass deflection. A smaller unit is stiffer and does not deflect as much as a larger unit therefore, it cannot relieve the pressure as readily. Thus, the load applied to the glass is greater, resulting in a greater risk for breakage. Another way the unit tries to increase its volume is by increasing the edge area; i.e., the seal area. The increased pressure applied to the edge seal load for a smaller unit is therefore greater, increasing the chance for seal failure.

Andersen® Product	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
100 Series Casement Windows		1620 1650 1626 1656 1630 1660 1636 1640 1646	2020 2050 2026 2056 2030 2060 2036 2620 2040 3020 2046	2660	2626 2656 2630 3026 2636 2640 2646 2650	3056 3060	3030 3036 3040 3046 3050	
100 Series Awning Windows		1616 2016 4016 1620 2616 1626 3016 1630 3616	2020 3020 2026 3620 2030 4020 2620		2626 4026 2630 3026 3626		3030 3630 4030	
100 Series Single-Hung Windows	1620 2020 2620 3020 3620 4020	1626 1666 3030 1630 1670 3626 1636 1676 3630 1640 2026 4026 1646 2030 4030 1650 2626 1656 2630 1660 3026	2036 2076 2040 2636 2046 3036 2050 3636 2056 4036 2060 2066 2070	2640 3040 3640 4040	2646 3646 2650 4046 2656 2660 2666 2670 2676 3046	3050 3650 4050	3056 3060 3066 3070 3076 3656 4056	3660 3666 3670 3676 4060 4066 4070 4076
100 Series Gliding Windows Active-Stationary or Stationary-Active	2010 2056 4016 2016 2060 4610 2020 2610 4616 2026 2616 5010 2030 3010 5016 2036 3016 5610 2040 3610 5616 2046 3616 6010 2050 4010 6016	2620 3020 3620 2626 3026 4020 2630 3030 4620 2636 3036 5020 2640 3040 5620 2646 3046 6020 2650 3050 2656 3056 2660 3060	3626 4626 3630 5026 3636 5626 3640 6026 3646 3650 3656 3660 4026	4030 4036 4040 4046 4050 4056 4060	4630 5630 4636 6030 4640 4646 4650 4656 4660 5030 5060	5036 5040 5046 5050 5056 5656 5660	5636 5640 5646 5650 6036 6050 6056 6060	6040 6046
100 Series Gliding Windows Active-Stationary-Active		5016 6020 5020 6026 5026 6030 5030 7016 5036 7616 5040 8016 5046 8616 5050 9016 5056 10016 5060 11016 6016 12016	6036 8020 6040 8620 6046 9020 6050 10020 6056 11020 6060 12020 7020 7026 7030 7036 7620	7040 8040 7046 7050 7056 7060 7626 7630 7636 8026 8030 8036	7640 8636 7646 8640 7650 9026 7656 9030 7660 9036 8046 9040 8050 9046 8056 10026 8060 11026 8626 12026 8630	8646 8650 8656 8660 10030 10036 10040 10046 10050 11056	9050 12056 9056 12060 9060 10060 11030 11036 11040 11046 11050 12030 12050	10056 11060 12036 12040 12046
100 Series Picture, Transom and Specialty Windows	1010 5610 1016 6010 1020 6610 1026 7010 1030 7610 1036 8010 1040 1046 1050 1056 1060 1066 1070 1076 1080 1610 2010 2610 3010 3610 4010 4610 5010	1616 2060 7016 1620 2066 7020 1626 2070 7616 1630 2076 7620 1636 2080 8016 1640 2616 8020 1646 2620 1650 3016 1656 3020 1660 3616 1666 3620 1670 4016 1676 4020 1680 4616 2016 4620 2020 5016 2026 5020 2030 5616 2036 5620 2040 6016 2046 6020 2050 6616 2056 6620	2626 2630 2636 2640 2646 2650 2656 2660 2666 2670 2676 2680 3026 3626 4026 4626 5026 5626 6026 6626 7026 7626 8026		3030 3036 3040 3046 3050 3056 3060 3066 3070 3076 3080 3630 4030 4630 5030 5630 6030 6630 7030 7630 8030		3636 3640 3646 3650 3656 3660 3666 3670 3676 3680 4036 4636 5036 5636 6036 6636 7036 7636 8036	4040 5066 6646 4046 5070 6650 4050 5076 6656 4056 5080 6660 4060 5640 7040 4066 5646 7046 4070 5650 7050 4076 5656 7056 4080 5660 7060 4640 5666 7640 4646 5670 7646 4650 5676 7650 4656 5680 7656 4660 6040 7660 4666 6046 8040 4670 6050 8046 4676 6055 8050 4680 6060 8056 5040 6066 8060 5046 6070 5050 6076 5056 6080 5060 6640
100 Series Gliding Patio Doors								5068 6068 8068 50611 60611 80611 5080 6080 8080
100 Series Patio Door Sidelights	1368 13611 1380	1668 16611 1680				2068 20611 2080		2668 3068 4068 26611 30611 40611 2680 3080 4080
100 Series Patio Door Transoms	1313 2016 5013 1316 2613 5016 1320 2616 6013 1613 3013 6016 1616 3016 8013 1620 4013 8016 2013 4016	2020 2620 3020 4020 5020 6020 8020						

• Deflection of glass will occur on units with larger glass areas. If interior/exterior grilles are used on double-hung windows, gliding windows or gliding patio doors at higher altitudes without capillary breather tubes, some interference may occur, affecting operation.
• Altitude limits for patio doors shown in two-panel configurations. These limits also qualify for same-size panels used in single-panel configurations.
• Contact your Andersen supplier for altitude limits for custom-size windows and patio doors.

continued on next page

Altitude Limits for Products With Triple-Pane Glass

The chart below gives the altitude limit in feet for 100 Series products with triple-pane glass in this guide. If the installation of a given product is at an altitude greater than that shown in this chart, a capillary breather tube must be ordered. Be aware that the use of a capillary breather tube eliminates argon gas blend fill and will result in a slightly lower thermal performance (approximately 0.02 increase in unit U-Factor). For NFRC certified total unit performance on units with capillary breather tubes for higher altitude applications, see your Andersen supplier.

The use of triple-pane insulating glass without capillary breather tubes at altitudes higher than its rating will result in severe glass distortion, increased glass breakage potential and a risk of seal failure. Smaller units are most affected by altitude changes. An increase in altitude results in a decrease in atmospheric pressure. A sealed insulating glass unit attempts to combat this change by increasing its volume to reduce its pressure. One way to increase its volume is by glass deflection. A smaller unit is stiffer and does not deflect as much as a larger unit therefore, it cannot relieve the pressure as readily. Thus, the load applied to the glass is greater, resulting in a greater risk for breakage. Another way the unit tries to increase its volume is by increasing the edge area; i.e., the seal area. The increased pressure applied to the edge seal load for a smaller unit is therefore greater, increasing the chance for seal failure.

Andersen® Product	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
100 Series Casement Windows	1620 1626 1630 1636 1640 1646 1650 1656 1660	2020 2026 2030 2036 2620 3020	2040 2046 2050 2056 2060	2626 2630 2636 2640 2646 3026 3056	2650 2656 2660 3030 3036 3040 3046 3050 3060				
100 Series Awning Windows	1616 1620 1626 1630 2016 2616 3016 3616 4016	2020 2026 2030 2620 3020 3620	4020 2626 2630 3026 3626 4026	3030 3630 4030					
100 Series Picture Windows	1010 1016 1020 1026 1030 1036 1040 1046 1050 1056 1060 1066 1070 1076 1080 1610 1616 1620 1626 1630 1636 1640 1646 1650 1656 1660 1666 1670 1676 1680 2010 2016 2610 2616 3010 3016 3610 3616 4010 4016 4610 4616 5010 5016 5610 5616 6010 6016 6610 6616 7010 7016 7610 7616 8010 8016	2020 2026 2030 2036 2040 2046 2050 2056 2060 2066 2070 2076 2080 2620 3020 3620 4020 4620 5020 5620 6020 6620 7020 7620 8020	2626 2630 2636 2640 2646 2650 2656 2660 2666 2670 2676 2680 3026 3626 4026 4626 5026 5626 6026 6626 7026 7626 8026	3030 3036 3040 3046 3050 3056 3076 3080 3630 4030 4630 5030 5630 7030 7630 8030	3060 3066 3070 3636 3640 3646 3650 3656 3660 3666 4036 4636 5036 5636 6030 6036 6630 6636	3670 3676 3680 4040 4046 4050 4056 4060 4066 4070 4076 4640 5040 5640 6040 6640 7036 7040 7636 7640 8036	4080 4670 4676 4680 6646 7046 7646 8040 8046	4646 4650 4656 4660 4666 5046 5080 5646 6046 8050	5050 5056 5060 5066 5070 5076 5650 5656 5660 5666 5670 5676 5680 6050 6056 6060 6066 6070 6076 6080 6650 6656 6660 7050 7056 7060 7650 7656 7660 8056 8060

- Deflection of glass will occur on units with larger glass areas.
- Contact your Andersen supplier for altitude limits for custom-size windows.