

February 11, 2016

Everest Solar Systems, LLC
 3809 Ocean Ranch Blvd, Suite 111
 Oceanside, CA 92056
 Attn: Andy Neshat



RE: *CrossRail PV Panel Mounting System Evaluation*

To whom it may concern:

Per your request, Moment Engineering + Design has performed a comprehensive structural analysis of the Everest Solar CrossRail Solar PV Mounting System for typical installations in the Commonwealth of Pennsylvania. When installed per the conditions and design criteria described herein, the CrossRail Solar PV Mounting System is compliant with the sections of the design reference documents noted below.

Design Reference Documents

- *2009 International Building Code*
- *2009 International Residential Code*
- *ASCE/SEI 7-05 – Minimum Design Loads for Buildings and Other Structures*
- *2010 Aluminum Design Manual*, by the Aluminum Association
- Section and materials data provided by Everest Solar Systems
 - Rail section properties appear in the appendix to this report

Overview

The CrossRail PV-panel roof mounting system consists of extruded aluminum support rails spanning between points of attachment on an existing roof structure. This analysis is limited to capacity of the CrossRail only. Attachment of the CrossRail Mounting System to the existing roof structure shall be the responsibility of the installer, and should be analyzed by a registered design professional where required by the local authority having jurisdiction.

Methods & Design Parameters

Applicable combinations of dead, wind, snow, and seismic loads were evaluated in accordance with current code requirements to determine allowable rail span lengths, based on assumptions of single-span conditions and allowable deflection of $L/60$.

Design wind pressures were determined using Components and Cladding calculations in Chapter 6 of ASCE 7-05, using the loading parameters listed below. Configurations not conforming to these parameters will require additional analysis. Calculation of applicable roof snow load should be based upon ground snow load maps and equations and factors of ASCE 7-05, Chapter 7 and applicable sections of the 2009 IBC. For designated Case Study areas noted in the 2009 International Building Code, refer to local jurisdiction requirements for snow and wind load

determination. Seismic criteria were considered per provisions of ASCE 7-05 Chapter 13 with parameters specified below. While seismic effects did not appear to govern the capacity of this system, applicable seismic detailing requirements should be satisfied when installed per the manufacturer instructions and additional installation notes specified herein.

Loading Parameters:

- Ground snow load: Varies
- Design 3-second gust wind speed (V): 85-150 mph
- Building roof mean height: 30 ft. or less
- Roof wind pressure region: Zone 1 - Zone 3
- Structural occupancy category: II
- Wind exposure: B, C, D
- Seismic site class: D
- Seismic design category: A through E
- 0.2s MCE_R ground motion parameter (S_S): Not to exceed 2.000
- 1s MCE_R ground motion parameter (S_1): Not to exceed 1.250
- Component importance factor (I_p): 1.0
- Component acceleration factor, (a_p): 1.0
- Component response modification factor (R_p): 1.5
- Panel orientation: Portrait or Landscape
- Panel installation angle: Flush with roof slope
- Roof slope (θ): 0-7°, >7-27°, >27-45°

Design Results

The allowable span lengths of the system are principally controlled by applicable wind and snow loads to the structure. Refer to the CrossRail span tables in the appendix to this document for recommended rail configurations based on combinations of these loading parameters. Note that reaction loads provided in the attached tables are only applicable when used with the corresponding span length recommendations provided therein. These reactions may be scaled linearly when shorter spans are used.

Installation Notes

The following guidelines apply to all installations using the CrossRail product line:

- Tables assume two independent support rails per row with either panel orientation.
- Maximum end cantilever of aluminum support rail shall not exceed one-third (1/3) of allowable span in the roof wind pressure zone of the cantilever.
- Rails shall be continuous (not spliced) over a minimum of two supports.
- Installation over roof overhangs or within 10" of any roof edge is not advised.
- Observe all local jurisdictional requirements regarding roof setback requirements.
- Ensure that actual span length does not exceed capacity of roof attachment.

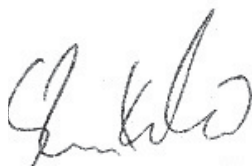
Summary

This assessment has provided design validation for code-compliant installations of the CrossRail PV Mounting System in the Commonwealth of Pennsylvania. For the configurations and design loadings noted previously, the attached span tables represent maximum span lengths based on allowable stresses and deflection criteria. For all other configurations, refer to Everest Solar Systems for engineering support.

This report does not provide analysis of roof attachment hardware, nor of any existing structures, as may be required by the local authority having jurisdiction.

We appreciate the opportunity to have assisted you with this project. Should you have any further questions regarding this analysis, please feel free to contact us by phone or email.

Best Regards,



Shawn P. Kelley, P.E.

Principal

moment ENGINEERING + DESIGN

spkelley@msegllc.com

| Exposure | Table 1.1: Maximum Span Length (in.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------|---------------------------|-----|-----|----|----|-----|---------------------------|-----|-----|----|----|----|---------------------------|-----|-----|----|----|----|
| | Design Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | | Roof Wind Pressure Zone 2 | | | | | | Roof Wind Pressure Zone 3 | | | | | |
| | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 127 | 117 | 107 | 99 | 87 | 78 | 111 | 111 | 107 | 99 | 87 | 78 |
| | | X48 | 95 | 88 | 80 | 72 | 63 | 56 | 89 | 88 | 80 | 72 | 63 | 56 | 76 | 76 | 76 | 72 | 63 | 56 |
| | | 48-S | 92 | 85 | 73 | 63 | 55 | 50 | 85 | 85 | 73 | 63 | 55 | 50 | 68 | 68 | 68 | 63 | 55 | 50 |
| | 90 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 125 | 117 | 107 | 99 | 87 | 78 | 105 | 105 | 105 | 99 | 87 | 78 |
| | | X48 | 95 | 88 | 80 | 72 | 63 | 56 | 85 | 85 | 80 | 72 | 63 | 56 | 72 | 72 | 72 | 72 | 63 | 56 |
| | | 48-S | 92 | 85 | 73 | 63 | 55 | 50 | 80 | 80 | 73 | 63 | 55 | 50 | 64 | 64 | 64 | 63 | 55 | 50 |
| | 100 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 116 | 116 | 107 | 99 | 87 | 78 | 94 | 94 | 94 | 94 | 87 | 78 |
| | | X48 | 95 | 88 | 80 | 72 | 63 | 56 | 79 | 79 | 79 | 72 | 63 | 56 | 64 | 64 | 64 | 64 | 63 | 56 |
| | | 48-S | 91 | 85 | 73 | 63 | 55 | 50 | 71 | 71 | 71 | 63 | 55 | 50 | 58 | 58 | 58 | 58 | 55 | 50 |
| | 105 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 111 | 111 | 107 | 99 | 87 | 78 | 90 | 90 | 90 | 90 | 87 | 78 |
| | | X48 | 92 | 88 | 80 | 72 | 63 | 56 | 76 | 76 | 76 | 72 | 63 | 56 | 61 | 61 | 61 | 61 | 61 | 56 |
| | | 48-S | 88 | 85 | 73 | 63 | 55 | 50 | 68 | 68 | 68 | 63 | 55 | 50 | 55 | 55 | 55 | 55 | 55 | 50 |
| 110 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 105 | 105 | 105 | 99 | 87 | 78 | 85 | 85 | 85 | 85 | 85 | 78 | |
| | X48 | 89 | 88 | 80 | 72 | 63 | 56 | 72 | 72 | 72 | 72 | 63 | 56 | 58 | 58 | 58 | 58 | 58 | 56 | |
| | 48-S | 85 | 85 | 73 | 63 | 55 | 50 | 65 | 65 | 65 | 63 | 55 | 50 | 52 | 52 | 52 | 52 | 52 | 50 | |
| 115 | X80 | 126 | 117 | 107 | 99 | 87 | 78 | 101 | 101 | 101 | 99 | 87 | 78 | 82 | 82 | 82 | 82 | 82 | 78 | |
| | X48 | 86 | 86 | 80 | 72 | 63 | 56 | 69 | 69 | 69 | 69 | 63 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | |
| | 48-S | 81 | 81 | 73 | 63 | 55 | 50 | 62 | 62 | 62 | 62 | 55 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| 120 | X80 | 123 | 117 | 107 | 99 | 87 | 78 | 96 | 96 | 96 | 96 | 87 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | |
| | X48 | 83 | 83 | 80 | 72 | 63 | 56 | 66 | 66 | 66 | 66 | 63 | 56 | 53 | 53 | 53 | 53 | 53 | 53 | |
| | 48-S | 77 | 77 | 72 | 63 | 55 | 50 | 59 | 59 | 59 | 59 | 55 | 50 | 48 | 48 | 48 | 48 | 48 | 48 | |
| 130 | X80 | 116 | 114 | 105 | 99 | 87 | 78 | 89 | 89 | 89 | 89 | 87 | 78 | 72 | 72 | 72 | 72 | 72 | 72 | |
| | X48 | 79 | 79 | 79 | 70 | 63 | 56 | 61 | 61 | 61 | 61 | 61 | 56 | 49 | 49 | 49 | 49 | 49 | 49 | |
| | 48-S | 71 | 71 | 71 | 62 | 55 | 50 | 54 | 54 | 54 | 54 | 54 | 50 | 44 | 44 | 44 | 44 | 44 | 44 | |
| 140 | X80 | 107 | 107 | 104 | 97 | 87 | 78 | 82 | 82 | 82 | 82 | 82 | 78 | 67 | 67 | 67 | 67 | 67 | 67 | |
| | X48 | 73 | 73 | 73 | 69 | 63 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 46 | 46 | 46 | 46 | 46 | 46 | |
| | 48-S | 66 | 66 | 66 | 61 | 55 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 41 | 41 | 41 | 41 | 41 | 41 | |
| 150 | X80 | 100 | 100 | 100 | 95 | 87 | 78 | 77 | 77 | 77 | 77 | 77 | 77 | 62 | 62 | 62 | 62 | 62 | 62 | |
| | X48 | 68 | 68 | 68 | 68 | 62 | 56 | 52 | 52 | 52 | 52 | 52 | 52 | 42 | 42 | 42 | 42 | 42 | 42 | |
| | 48-S | 61 | 61 | 61 | 60 | 55 | 50 | 47 | 47 | 47 | 47 | 47 | 47 | 38 | 38 | 38 | 38 | 38 | 38 | |

| Exposure | Design Wind Speed, V (mph) | Rail Type | Table 1.2: Maximum Uplift (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | |
|-----------------------|----------------------------|-----------|---|------|------|------|------|---------------------------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|-------|------|
| | | | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | -330 | -305 | -279 | -257 | -225 | -203 | -587 | -541 | -496 | -458 | -401 | -361 | -796 | -796 | -767 | -708 | -620 | -558 |
| | | X48 | -248 | -228 | -209 | -186 | -163 | -147 | -410 | -405 | -371 | -331 | -289 | -261 | -545 | -545 | -545 | -511 | -448 | -403 |
| | | 48-S | -239 | -220 | -190 | -164 | -144 | -129 | -391 | -391 | -337 | -292 | -255 | -230 | -488 | -488 | -488 | -451 | -395 | -355 |
| | 90 | X80 | -377 | -348 | -318 | -294 | -257 | -232 | -653 | -611 | -560 | -517 | -452 | -407 | -846 | -846 | -846 | -799 | -699 | -630 |
| | | X48 | -283 | -260 | -238 | -212 | -186 | -167 | -444 | -444 | -419 | -373 | -327 | -294 | -579 | -579 | -579 | -577 | -505 | -455 |
| | | 48-S | -273 | -251 | -217 | -187 | -164 | -148 | -416 | -416 | -381 | -329 | -288 | -260 | -518 | -518 | -518 | -509 | -446 | -401 |
| | 100 | X80 | -476 | -439 | -402 | -371 | -325 | -293 | -760 | -760 | -703 | -649 | -568 | -511 | -945 | -945 | -945 | -945 | -871 | -784 |
| | | X48 | -356 | -329 | -301 | -268 | -235 | -211 | -517 | -517 | -517 | -469 | -410 | -369 | -646 | -646 | -646 | -646 | -629 | -566 |
| | | 48-S | -340 | -317 | -273 | -236 | -207 | -186 | -467 | -467 | -467 | -413 | -362 | -326 | -579 | -579 | -579 | -579 | -555 | -499 |
| | 105 | X80 | -529 | -487 | -447 | -412 | -361 | -325 | -803 | -803 | -779 | -719 | -630 | -567 | -995 | -995 | -995 | -995 | -964 | -868 |
| | | X48 | -382 | -365 | -334 | -298 | -261 | -235 | -549 | -549 | -549 | -519 | -455 | -409 | -680 | -680 | -680 | -680 | -680 | -627 |
| | | 48-S | -364 | -352 | -304 | -263 | -230 | -207 | -492 | -492 | -492 | -458 | -401 | -361 | -609 | -609 | -609 | -609 | -609 | -553 |
| | 110 | X80 | -587 | -541 | -496 | -458 | -401 | -361 | -843 | -843 | -843 | -843 | -792 | -693 | -1045 | -1045 | -1045 | -1045 | -1045 | -956 |
| | | X48 | -410 | -405 | -371 | -331 | -289 | -261 | -576 | -576 | -576 | -576 | -501 | -451 | -714 | -714 | -714 | -714 | -714 | -690 |
| | | 48-S | -391 | -391 | -337 | -292 | -255 | -230 | -516 | -516 | -516 | -505 | -442 | -398 | -639 | -639 | -639 | -639 | -639 | -609 |
| 115 | X80 | -642 | -595 | -545 | -503 | -440 | -397 | -883 | -883 | -883 | -869 | -761 | -685 | -1094 | -1094 | -1094 | -1094 | -1094 | -1047 | |
| | X48 | -436 | -436 | -408 | -363 | -318 | -286 | -604 | -604 | -604 | -604 | -550 | -495 | -747 | -747 | -747 | -747 | -747 | -747 | |
| | 48-S | -411 | -411 | -371 | -321 | -281 | -253 | -541 | -541 | -541 | -541 | -485 | -437 | -669 | -669 | -669 | -669 | -669 | -667 | |
| 120 | X80 | -682 | -648 | -595 | -551 | -482 | -434 | -924 | -924 | -924 | -924 | -833 | -750 | -1143 | -1143 | -1143 | -1143 | -1143 | -1142 | |
| | X48 | -464 | -464 | -445 | -398 | -348 | -314 | -632 | -632 | -632 | -632 | -601 | -542 | -780 | -780 | -780 | -780 | -780 | -780 | |
| | 48-S | -430 | -430 | -403 | -351 | -307 | -277 | -566 | -566 | -566 | -566 | -531 | -478 | -699 | -699 | -699 | -699 | -699 | -699 | |
| 130 | X80 | -764 | -754 | -696 | -652 | -572 | -515 | -1005 | -1005 | -1005 | -1005 | -982 | -884 | -1241 | -1241 | -1241 | -1241 | -1241 | -1241 | |
| | X48 | -519 | -519 | -519 | -464 | -413 | -372 | -686 | -686 | -686 | -686 | -686 | -639 | -847 | -847 | -847 | -847 | -847 | -847 | |
| | 48-S | -468 | -468 | -466 | -411 | -364 | -328 | -615 | -615 | -615 | -615 | -615 | -563 | -759 | -759 | -759 | -759 | -759 | -759 | |
| 140 | X80 | -828 | -828 | -804 | -750 | -669 | -603 | -1085 | -1085 | -1085 | -1085 | -1085 | -1031 | -1339 | -1339 | -1339 | -1339 | -1339 | -1339 | |
| | X48 | -566 | -566 | -566 | -533 | -484 | -435 | -741 | -741 | -741 | -741 | -741 | -741 | -914 | -914 | -914 | -914 | -914 | -914 | |
| | 48-S | -507 | -507 | -507 | -472 | -427 | -384 | -664 | -664 | -664 | -664 | -664 | -657 | -819 | -819 | -819 | -819 | -819 | -819 | |
| 150 | X80 | -890 | -890 | -890 | -849 | -771 | -696 | -1165 | -1165 | -1165 | -1165 | -1165 | -1165 | -1437 | -1437 | -1437 | -1437 | -1437 | -1437 | |
| | X48 | -609 | -609 | -609 | -603 | -549 | -503 | -795 | -795 | -795 | -795 | -795 | -795 | -980 | -980 | -980 | -980 | -980 | -980 | |
| | 48-S | -545 | -545 | -545 | -534 | -486 | -443 | -713 | -713 | -713 | -713 | -713 | -713 | -879 | -879 | -879 | -879 | -879 | -879 | |

| Exposure | Table 1.3: Maximum Downforce (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Design Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| ROOFS 0° TO 7° | 85 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 942 | 374 | 478 | 622 | 743 | 848 | 942 | 328 | 454 | 622 | 743 | 848 | 942 |
| | | X48 | 280 | 358 | 466 | 537 | 612 | 680 | 680 | 261 | 358 | 466 | 537 | 612 | 680 | 224 | 311 | 441 | 537 | 612 | 680 |
| | | 48-S | 270 | 345 | 423 | 474 | 540 | 600 | 600 | 249 | 345 | 423 | 474 | 540 | 600 | 201 | 278 | 395 | 474 | 540 | 600 |
| | 90 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 942 | 368 | 478 | 622 | 743 | 848 | 942 | 309 | 428 | 608 | 743 | 848 | 942 |
| | | X48 | 280 | 358 | 466 | 537 | 612 | 680 | 680 | 250 | 347 | 466 | 537 | 612 | 680 | 211 | 293 | 416 | 537 | 612 | 680 |
| | | 48-S | 270 | 345 | 423 | 474 | 540 | 600 | 600 | 235 | 325 | 423 | 474 | 540 | 600 | 189 | 262 | 372 | 474 | 540 | 600 |
| | 100 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 942 | 341 | 473 | 622 | 743 | 848 | 942 | 277 | 384 | 545 | 707 | 848 | 942 |
| | | X48 | 280 | 358 | 466 | 537 | 612 | 680 | 680 | 232 | 322 | 457 | 537 | 612 | 680 | 189 | 262 | 373 | 483 | 612 | 680 |
| | | 48-S | 267 | 345 | 423 | 474 | 540 | 600 | 600 | 210 | 291 | 413 | 474 | 540 | 600 | 169 | 235 | 334 | 432 | 540 | 600 |
| | 105 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 942 | 325 | 451 | 622 | 743 | 848 | 942 | 263 | 365 | 518 | 672 | 848 | 942 |
| | | X48 | 270 | 358 | 466 | 537 | 612 | 680 | 680 | 222 | 308 | 438 | 537 | 612 | 680 | 180 | 249 | 354 | 459 | 598 | 680 |
| | | 48-S | 257 | 345 | 423 | 474 | 540 | 600 | 600 | 199 | 276 | 392 | 474 | 540 | 600 | 161 | 223 | 317 | 411 | 536 | 600 |
| | 110 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 942 | 310 | 430 | 610 | 743 | 848 | 942 | 251 | 348 | 494 | 640 | 834 | 942 |
| | | X48 | 261 | 358 | 466 | 537 | 612 | 680 | 680 | 212 | 294 | 417 | 537 | 612 | 680 | 171 | 238 | 337 | 437 | 570 | 680 |
| | | 48-S | 249 | 345 | 423 | 474 | 540 | 600 | 600 | 190 | 263 | 374 | 474 | 540 | 600 | 153 | 213 | 302 | 392 | 511 | 600 |
| 115 | X80 | 371 | 478 | 622 | 743 | 848 | 942 | 942 | 296 | 411 | 583 | 743 | 848 | 942 | 240 | 333 | 472 | 612 | 797 | 942 | |
| | X48 | 253 | 350 | 466 | 537 | 612 | 680 | 680 | 202 | 281 | 398 | 516 | 612 | 680 | 164 | 227 | 322 | 418 | 544 | 672 | |
| | 48-S | 238 | 330 | 423 | 474 | 540 | 600 | 600 | 181 | 251 | 357 | 462 | 540 | 600 | 147 | 203 | 289 | 374 | 488 | 600 | |
| 120 | X80 | 374 | 485 | 628 | 752 | 848 | 942 | 942 | 294 | 401 | 566 | 731 | 848 | 942 | 239 | 325 | 459 | 593 | 764 | 942 | |
| | X48 | 255 | 347 | 471 | 543 | 612 | 680 | 680 | 201 | 274 | 387 | 499 | 612 | 680 | 163 | 222 | 313 | 405 | 521 | 643 | |
| | 48-S | 236 | 322 | 426 | 479 | 540 | 600 | 600 | 180 | 245 | 346 | 447 | 540 | 600 | 146 | 199 | 281 | 363 | 467 | 576 | |
| 130 | X80 | 404 | 514 | 654 | 782 | 848 | 942 | 942 | 310 | 398 | 550 | 702 | 848 | 942 | 251 | 323 | 447 | 570 | 704 | 868 | |
| | X48 | 275 | 354 | 489 | 557 | 612 | 680 | 680 | 212 | 272 | 376 | 480 | 592 | 680 | 171 | 221 | 305 | 389 | 480 | 592 | |
| | 48-S | 248 | 319 | 439 | 493 | 540 | 600 | 600 | 189 | 244 | 337 | 430 | 531 | 600 | 154 | 198 | 273 | 348 | 430 | 531 | |
| 140 | X80 | 421 | 517 | 680 | 800 | 863 | 942 | 942 | 323 | 396 | 537 | 678 | 818 | 942 | 262 | 322 | 436 | 551 | 665 | 805 | |
| | X48 | 288 | 353 | 479 | 569 | 624 | 680 | 680 | 220 | 270 | 367 | 463 | 559 | 677 | 179 | 220 | 298 | 376 | 454 | 550 | |
| | 48-S | 258 | 316 | 429 | 504 | 550 | 600 | 600 | 197 | 242 | 328 | 415 | 501 | 600 | 160 | 197 | 267 | 337 | 407 | 492 | |
| 150 | X80 | 443 | 519 | 690 | 821 | 894 | 942 | 942 | 340 | 398 | 530 | 661 | 792 | 924 | 276 | 324 | 430 | 537 | 643 | 751 | |
| | X48 | 303 | 355 | 472 | 583 | 637 | 680 | 680 | 232 | 272 | 361 | 451 | 541 | 631 | 188 | 221 | 294 | 366 | 439 | 512 | |
| | 48-S | 271 | 318 | 423 | 517 | 564 | 600 | 600 | 208 | 244 | 324 | 404 | 484 | 565 | 169 | 198 | 263 | 328 | 393 | 459 | |

| Exposure | Table 1.4: Maximum Shear (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|-----------|---------------------------|----|----|----|----|---------------------------|----|----|----|----|---------------------------|----|----|----|----|----|----|----|
| | Design Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| B | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 9 | 36 | 59 | 78 | 89 | 99 | 8 | 34 | 59 | 78 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 23 | 42 | 56 | 64 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 21 | 37 | 50 | 57 | 63 |
| | 90 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 8 | 36 | 59 | 78 | 89 | 99 | 7 | 32 | 57 | 78 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 6 | 26 | 44 | 56 | 64 | 71 | 5 | 22 | 39 | 56 | 64 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 25 | 40 | 50 | 57 | 63 | 4 | 20 | 35 | 50 | 57 | 63 |
| | 100 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 8 | 36 | 59 | 78 | 89 | 99 | 6 | 29 | 52 | 74 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 24 | 43 | 56 | 64 | 71 | 4 | 20 | 35 | 51 | 64 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 22 | 39 | 50 | 57 | 63 | 4 | 18 | 32 | 45 | 57 | 63 |
| | 105 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 7 | 34 | 59 | 78 | 89 | 99 | 6 | 28 | 49 | 71 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 23 | 41 | 56 | 64 | 71 | 4 | 19 | 33 | 48 | 63 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 21 | 37 | 50 | 57 | 63 | 4 | 17 | 30 | 43 | 56 | 63 |
| 110 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 7 | 32 | 58 | 78 | 89 | 99 | 6 | 26 | 47 | 67 | 88 | 99 | |
| | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 22 | 39 | 56 | 64 | 71 | 4 | 18 | 32 | 46 | 60 | 71 | |
| | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 4 | 20 | 35 | 50 | 57 | 63 | 4 | 16 | 29 | 41 | 54 | 63 | |
| 115 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 7 | 31 | 55 | 78 | 89 | 99 | 6 | 25 | 45 | 64 | 84 | 99 | |
| | X48 | 6 | 26 | 44 | 56 | 64 | 71 | 5 | 21 | 38 | 54 | 64 | 71 | 4 | 17 | 30 | 44 | 57 | 71 | |
| | 48-S | 5 | 25 | 40 | 50 | 57 | 63 | 4 | 19 | 34 | 49 | 57 | 63 | 3 | 15 | 27 | 39 | 51 | 63 | |
| 120 | X80 | 8 | 36 | 59 | 78 | 89 | 99 | 7 | 30 | 53 | 76 | 89 | 99 | 5 | 24 | 43 | 62 | 80 | 99 | |
| | X48 | 6 | 26 | 44 | 56 | 64 | 71 | 4 | 20 | 36 | 52 | 64 | 71 | 4 | 16 | 29 | 42 | 55 | 68 | |
| | 48-S | 5 | 24 | 40 | 50 | 57 | 63 | 4 | 18 | 32 | 46 | 57 | 63 | 3 | 15 | 26 | 38 | 49 | 61 | |
| 130 | X80 | 8 | 35 | 58 | 78 | 89 | 99 | 6 | 27 | 49 | 70 | 89 | 99 | 5 | 22 | 39 | 57 | 74 | 91 | |
| | X48 | 5 | 24 | 43 | 55 | 64 | 71 | 4 | 19 | 33 | 48 | 62 | 71 | 3 | 15 | 27 | 39 | 50 | 62 | |
| | 48-S | 5 | 22 | 39 | 49 | 57 | 63 | 4 | 17 | 30 | 43 | 56 | 63 | 3 | 14 | 24 | 35 | 45 | 56 | |
| 140 | X80 | 7 | 33 | 57 | 76 | 89 | 99 | 6 | 25 | 45 | 65 | 84 | 99 | 5 | 21 | 37 | 53 | 69 | 85 | |
| | X48 | 5 | 23 | 40 | 54 | 64 | 71 | 4 | 17 | 31 | 44 | 58 | 71 | 3 | 14 | 25 | 36 | 47 | 58 | |
| | 48-S | 4 | 20 | 36 | 48 | 57 | 63 | 3 | 15 | 28 | 40 | 52 | 63 | 3 | 13 | 22 | 32 | 42 | 52 | |
| 150 | X80 | 7 | 31 | 55 | 75 | 89 | 99 | 5 | 24 | 42 | 60 | 79 | 97 | 4 | 19 | 34 | 49 | 64 | 79 | |
| | X48 | 5 | 21 | 37 | 53 | 63 | 71 | 4 | 16 | 29 | 41 | 54 | 66 | 3 | 13 | 23 | 33 | 44 | 54 | |
| | 48-S | 4 | 19 | 33 | 47 | 56 | 63 | 3 | 14 | 26 | 37 | 48 | 59 | 3 | 12 | 21 | 30 | 39 | 48 | |

| Exposure C | | Table 1.5: Maximum Span Length (in.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | |
|------------------------------|-----------|--|-----|-----|----|----|---------------------------|-----|-----|-----|----|---------------------------|----|----|----|----|----|----|----|
| | | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| Ultimate Wind Speed, V (mph) | Rail Type | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 116 | 116 | 107 | 99 | 87 | 78 | 94 | 94 | 94 | 94 | 87 | 78 |
| | X48 | 95 | 88 | 80 | 72 | 63 | 56 | 79 | 79 | 79 | 72 | 63 | 56 | 64 | 64 | 64 | 64 | 63 | 56 |
| | 48-S | 90 | 85 | 73 | 63 | 55 | 50 | 71 | 71 | 71 | 63 | 55 | 50 | 57 | 57 | 57 | 57 | 55 | 50 |
| 90 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 109 | 109 | 107 | 99 | 87 | 78 | 88 | 88 | 88 | 88 | 87 | 78 |
| | X48 | 91 | 88 | 80 | 72 | 63 | 56 | 75 | 75 | 75 | 72 | 63 | 56 | 60 | 60 | 60 | 60 | 60 | 56 |
| | 48-S | 87 | 85 | 73 | 63 | 55 | 50 | 67 | 67 | 67 | 63 | 55 | 50 | 54 | 54 | 54 | 54 | 54 | 50 |
| 100 | X80 | 124 | 117 | 107 | 99 | 87 | 78 | 98 | 98 | 98 | 98 | 87 | 78 | 79 | 79 | 79 | 79 | 79 | 78 |
| | X48 | 84 | 84 | 80 | 72 | 63 | 56 | 67 | 67 | 67 | 67 | 63 | 56 | 54 | 54 | 54 | 54 | 54 | 54 |
| | 48-S | 78 | 78 | 73 | 63 | 55 | 50 | 60 | 60 | 60 | 60 | 55 | 50 | 48 | 48 | 48 | 48 | 48 | 48 |
| 105 | X80 | 120 | 116 | 106 | 99 | 87 | 78 | 93 | 93 | 93 | 93 | 87 | 78 | 75 | 75 | 75 | 75 | 75 | 75 |
| | X48 | 81 | 81 | 80 | 71 | 63 | 56 | 63 | 63 | 63 | 63 | 63 | 56 | 51 | 51 | 51 | 51 | 51 | 51 |
| | 48-S | 75 | 75 | 72 | 63 | 55 | 50 | 57 | 57 | 57 | 57 | 55 | 50 | 46 | 46 | 46 | 46 | 46 | 46 |
| 110 | X80 | 116 | 114 | 105 | 99 | 87 | 78 | 89 | 89 | 89 | 89 | 87 | 78 | 72 | 72 | 72 | 72 | 72 | 72 |
| | X48 | 79 | 79 | 79 | 70 | 63 | 56 | 61 | 61 | 61 | 61 | 61 | 56 | 49 | 49 | 49 | 49 | 49 | 49 |
| | 48-S | 71 | 71 | 71 | 62 | 55 | 50 | 54 | 54 | 54 | 54 | 54 | 50 | 44 | 44 | 44 | 44 | 44 | 44 |
| 115 | X80 | 111 | 111 | 105 | 98 | 87 | 78 | 85 | 85 | 85 | 85 | 85 | 78 | 69 | 69 | 69 | 69 | 69 | 69 |
| | X48 | 76 | 76 | 76 | 70 | 63 | 56 | 58 | 58 | 58 | 58 | 58 | 56 | 47 | 47 | 47 | 47 | 47 | 47 |
| | 48-S | 68 | 68 | 68 | 62 | 55 | 50 | 52 | 52 | 52 | 52 | 52 | 50 | 42 | 42 | 42 | 42 | 42 | 42 |
| 120 | X80 | 106 | 106 | 104 | 97 | 87 | 78 | 81 | 81 | 81 | 81 | 81 | 78 | 66 | 66 | 66 | 66 | 66 | 66 |
| | X48 | 72 | 72 | 72 | 69 | 62 | 56 | 55 | 55 | 55 | 55 | 55 | 55 | 45 | 45 | 45 | 45 | 45 | 45 |
| | 48-S | 65 | 65 | 65 | 61 | 55 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 40 | 40 | 40 | 40 | 40 |
| 130 | X80 | 97 | 97 | 97 | 95 | 86 | 78 | 75 | 75 | 75 | 75 | 75 | 75 | 61 | 61 | 61 | 61 | 61 | 61 |
| | X48 | 67 | 67 | 67 | 67 | 61 | 56 | 51 | 51 | 51 | 51 | 51 | 51 | 41 | 41 | 41 | 41 | 41 | 41 |
| | 48-S | 60 | 60 | 60 | 59 | 54 | 50 | 46 | 46 | 46 | 46 | 46 | 46 | 37 | 37 | 37 | 37 | 37 | 37 |
| 140 | X80 | 90 | 90 | 90 | 90 | 84 | 78 | 69 | 69 | 69 | 69 | 69 | 69 | 56 | 56 | 56 | 56 | 56 | 56 |
| | X48 | 62 | 62 | 62 | 62 | 60 | 56 | 47 | 47 | 47 | 47 | 47 | 47 | 38 | 38 | 38 | 38 | 38 | 38 |
| | 48-S | 55 | 55 | 55 | 55 | 53 | 49 | 42 | 42 | 42 | 42 | 42 | 42 | 34 | 34 | 34 | 34 | 34 | 34 |
| 150 | X80 | 84 | 84 | 84 | 84 | 83 | 77 | 65 | 65 | 65 | 65 | 65 | 65 | 53 | 53 | 53 | 53 | 53 | 53 |
| | X48 | 57 | 57 | 57 | 57 | 57 | 55 | 44 | 44 | 44 | 44 | 44 | 44 | 36 | 36 | 36 | 36 | 36 | 36 |
| | 48-S | 51 | 51 | 51 | 51 | 51 | 48 | 39 | 39 | 39 | 39 | 39 | 39 | 32 | 32 | 32 | 32 | 32 | 32 |

ROOFS 0° TO 7°

Table 1.6: Maximum Uplift (lb.) - Wind Exposure C Condition

| Exposure | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | | | | | | | | | | | Roof Wind Pressure Zone 2 | | | | | | | | | | | | | | | Roof Wind Pressure Zone 3 | | | | | | | | | | | | | | |
|-------------------------|------------------------------|-----------|---------------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|------|----|----|----|--|--|--|--|--|--|---------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | Roof Snow Load (psf) | | | | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | | | | | | | | | | | | | | | | | | | | | |
| ROOFS 0° TO 7° - | 85 | X80 | -482 | -444 | -407 | -376 | -329 | -296 | -766 | -711 | -656 | -574 | -517 | -766 | -711 | -656 | -574 | -517 | -766 | -711 | -656 | -574 | -517 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X48 | -359 | -333 | -305 | -271 | -238 | -214 | -521 | -521 | -474 | -415 | -373 | -521 | -521 | -474 | -415 | -373 | -521 | -521 | -474 | -415 | -373 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 48-S | -343 | -321 | -277 | -239 | -210 | -189 | -469 | -469 | -418 | -366 | -329 | -469 | -469 | -418 | -366 | -329 | -469 | -469 | -418 | -366 | -329 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90 | X80 | -548 | -505 | -462 | -427 | -374 | -336 | -814 | -814 | -739 | -647 | -582 | -814 | -814 | -739 | -647 | -582 | -814 | -814 | -739 | -647 | -582 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X48 | -391 | -378 | -346 | -308 | -270 | -243 | -556 | -556 | -534 | -467 | -421 | -556 | -556 | -534 | -467 | -421 | -556 | -556 | -534 | -467 | -421 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 48-S | -373 | -365 | -314 | -272 | -238 | -214 | -498 | -498 | -471 | -412 | -371 | -498 | -498 | -471 | -412 | -371 | -498 | -498 | -471 | -412 | -371 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 100 | X80 | -668 | -631 | -579 | -535 | -468 | -422 | -911 | -911 | -911 | -808 | -728 | -911 | -911 | -911 | -808 | -728 | -911 | -911 | -911 | -808 | -728 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X48 | -455 | -455 | -433 | -386 | -338 | -305 | -622 | -622 | -622 | -584 | -526 | -622 | -622 | -622 | -584 | -526 | -622 | -622 | -622 | -584 | -526 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 48-S | -424 | -424 | -393 | -341 | -298 | -269 | -557 | -557 | -557 | -515 | -464 | -557 | -557 | -557 | -515 | -464 | -557 | -557 | -557 | -515 | -464 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 105 | X80 | -715 | -691 | -635 | -592 | -518 | -467 | -959 | -959 | -959 | -895 | -806 | -959 | -959 | -959 | -895 | -806 | -959 | -959 | -959 | -895 | -806 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X48 | -487 | -487 | -476 | -425 | -375 | -337 | -655 | -655 | -655 | -646 | -582 | -655 | -655 | -655 | -646 | -582 | -655 | -655 | -655 | -646 | -582 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 48-S | -446 | -446 | -429 | -377 | -330 | -297 | -587 | -587 | -587 | -570 | -513 | -587 | -587 | -587 | -570 | -513 | -587 | -587 | -587 | -570 | -513 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 110 | X80 | -766 | -757 | -698 | -654 | -574 | -517 | -1006 | -1006 | -1006 | -984 | -886 | -1006 | -1006 | -1006 | -984 | -886 | -1006 | -1006 | -1006 | -984 | -886 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X48 | -521 | -521 | -521 | -466 | -415 | -373 | -687 | -687 | -687 | -687 | -640 | -687 | -687 | -687 | -687 | -640 | -687 | -687 | -687 | -687 | -640 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 48-S | -469 | -469 | -468 | -412 | -366 | -329 | -615 | -615 | -615 | -615 | -564 | -615 | -615 | -615 | -615 | -564 | -615 | -615 | -615 | -615 | -564 | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | X80 | -803 | -803 | -760 | -710 | -630 | -567 | -1053 | -1053 | -1053 | -1053 | -971 | -1053 | -1053 | -1053 | -1053 | -971 | -1053 | -1053 | -1053 | -1053 | -971 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X48 | -549 | -549 | -549 | -505 | -455 | -410 | -719 | -719 | -719 | -719 | -702 | -719 | -719 | -719 | -719 | -702 | -719 | -719 | -719 | -719 | -702 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 48-S | -492 | -492 | -492 | -448 | -401 | -361 | -644 | -644 | -644 | -644 | -619 | -644 | -644 | -644 | -644 | -619 | -644 | -644 | -644 | -644 | -619 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | X80 | -840 | -840 | -825 | -768 | -689 | -620 | -1101 | -1101 | -1101 | -1101 | -1062 | -1101 | -1101 | -1101 | -1101 | -1062 | -1101 | -1101 | -1101 | -1101 | -1062 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X48 | -574 | -574 | -574 | -546 | -496 | -448 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 48-S | -514 | -514 | -514 | -484 | -439 | -395 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | -674 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | X80 | -914 | -914 | -914 | -887 | -807 | -733 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | -1196 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X48 | -625 | -625 | -625 | -625 | -574 | -529 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | -816 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 48-S | -559 | -559 | -559 | -558 | -509 | -467 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 140 | X80 | -988 | -988 | -988 | -988 | -925 | -856 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | -1291 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X48 | -675 | -675 | -675 | -675 | -657 | -610 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | -881 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 48-S | -605 | -605 | -605 | -605 | -583 | -540 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | -789 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | X80 | -1061 | -1061 | -1061 | -1061 | -1045 | -970 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | -1385 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X48 | -725 | -725 | -725 | -725 | -725 | -690 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | -945 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 48-S | -649 | -649 | -649 | -649 | -649 | -611 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | -847 | | | | | | | | | | | | | | | | | | | | | | | | | |

| Exposure C | | Table 1.7: Maximum Downforce (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | |
|------------------------------|-----------|--|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| Ultimate Wind Speed, V (mph) | Rail Type | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 340 | 472 | 622 | 743 | 848 | 942 | 275 | 382 | 542 | 702 | 848 | 942 |
| | X48 | 278 | 358 | 466 | 537 | 612 | 680 | 231 | 321 | 456 | 537 | 612 | 680 | 188 | 261 | 370 | 480 | 612 | 680 |
| | 48-S | 266 | 345 | 423 | 474 | 540 | 600 | 208 | 289 | 410 | 474 | 540 | 600 | 168 | 234 | 332 | 430 | 540 | 600 |
| 90 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 321 | 445 | 622 | 743 | 848 | 942 | 259 | 360 | 511 | 662 | 848 | 942 |
| | X48 | 267 | 358 | 466 | 537 | 612 | 680 | 219 | 304 | 432 | 537 | 612 | 680 | 177 | 246 | 349 | 452 | 589 | 680 |
| | 48-S | 254 | 345 | 423 | 474 | 540 | 600 | 196 | 272 | 387 | 474 | 540 | 600 | 159 | 220 | 313 | 405 | 528 | 600 |
| 100 | X80 | 370 | 481 | 625 | 747 | 848 | 942 | 292 | 402 | 569 | 737 | 848 | 942 | 237 | 326 | 462 | 598 | 775 | 942 |
| | X48 | 252 | 347 | 468 | 540 | 612 | 680 | 200 | 275 | 389 | 503 | 612 | 680 | 162 | 223 | 315 | 408 | 529 | 653 |
| | 48-S | 234 | 323 | 424 | 476 | 540 | 600 | 179 | 246 | 349 | 451 | 540 | 600 | 145 | 200 | 283 | 366 | 474 | 585 |
| 105 | X80 | 389 | 498 | 640 | 766 | 848 | 942 | 302 | 400 | 559 | 718 | 848 | 942 | 245 | 325 | 454 | 583 | 737 | 909 |
| | X48 | 264 | 351 | 479 | 550 | 612 | 680 | 206 | 273 | 382 | 491 | 612 | 680 | 167 | 222 | 310 | 398 | 503 | 621 |
| | 48-S | 242 | 321 | 432 | 487 | 540 | 600 | 185 | 245 | 342 | 440 | 540 | 600 | 150 | 199 | 278 | 357 | 451 | 556 |
| 110 | X80 | 405 | 515 | 655 | 783 | 848 | 942 | 311 | 399 | 551 | 702 | 848 | 942 | 252 | 324 | 447 | 570 | 703 | 867 |
| | X48 | 276 | 354 | 489 | 558 | 612 | 680 | 212 | 272 | 376 | 480 | 592 | 680 | 172 | 221 | 305 | 389 | 480 | 592 |
| | 48-S | 248 | 319 | 439 | 494 | 540 | 600 | 190 | 244 | 337 | 430 | 530 | 600 | 154 | 198 | 273 | 348 | 430 | 530 |
| 115 | X80 | 416 | 519 | 670 | 794 | 853 | 942 | 318 | 397 | 542 | 687 | 832 | 942 | 258 | 323 | 440 | 558 | 676 | 829 |
| | X48 | 284 | 355 | 484 | 565 | 616 | 680 | 217 | 271 | 370 | 469 | 569 | 680 | 176 | 220 | 300 | 381 | 461 | 566 |
| | 48-S | 255 | 318 | 434 | 500 | 543 | 600 | 195 | 243 | 332 | 421 | 509 | 600 | 158 | 197 | 269 | 341 | 413 | 507 |
| 120 | X80 | 425 | 517 | 686 | 804 | 869 | 942 | 326 | 396 | 535 | 673 | 812 | 942 | 265 | 322 | 434 | 547 | 660 | 794 |
| | X48 | 291 | 353 | 477 | 572 | 627 | 680 | 222 | 270 | 365 | 460 | 555 | 667 | 180 | 220 | 296 | 373 | 450 | 542 |
| | 48-S | 260 | 317 | 427 | 507 | 554 | 600 | 199 | 242 | 327 | 412 | 497 | 598 | 162 | 197 | 266 | 335 | 404 | 485 |
| 130 | X80 | 451 | 520 | 687 | 829 | 902 | 952 | 346 | 399 | 527 | 655 | 783 | 911 | 281 | 324 | 428 | 532 | 636 | 740 |
| | X48 | 308 | 356 | 470 | 584 | 642 | 688 | 236 | 273 | 360 | 447 | 535 | 622 | 192 | 221 | 292 | 363 | 434 | 505 |
| | 48-S | 276 | 319 | 421 | 521 | 568 | 607 | 211 | 244 | 322 | 401 | 479 | 557 | 172 | 198 | 262 | 325 | 389 | 452 |
| 140 | X80 | 472 | 523 | 678 | 832 | 924 | 988 | 363 | 402 | 520 | 639 | 758 | 876 | 295 | 327 | 423 | 520 | 616 | 713 |
| | X48 | 323 | 357 | 463 | 568 | 656 | 704 | 248 | 274 | 355 | 436 | 517 | 598 | 201 | 223 | 289 | 355 | 420 | 486 |
| | 48-S | 289 | 320 | 415 | 509 | 582 | 624 | 222 | 246 | 318 | 391 | 463 | 536 | 180 | 200 | 259 | 318 | 377 | 436 |
| 150 | X80 | 500 | 532 | 676 | 820 | 949 | 1013 | 384 | 409 | 520 | 630 | 741 | 852 | 312 | 333 | 423 | 513 | 602 | 692 |
| | X48 | 341 | 363 | 462 | 560 | 658 | 720 | 262 | 279 | 355 | 430 | 506 | 581 | 213 | 227 | 288 | 350 | 411 | 472 |
| | 48-S | 306 | 326 | 414 | 502 | 590 | 638 | 235 | 250 | 318 | 385 | 453 | 521 | 191 | 203 | 258 | 313 | 368 | 423 |

ROOFS 0° TO 7°

| Exposure | Table 1.8: Maximum Shear (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------|---------------------------|----|----|----|----|---------------------------|----|----|----|----|---------------------------|----|----|----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| C | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 8 | 36 | 59 | 78 | 89 | 99 | 6 | 29 | 51 | 74 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 24 | 43 | 56 | 64 | 71 | 4 | 20 | 35 | 50 | 64 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 22 | 39 | 50 | 57 | 63 | 4 | 18 | 31 | 45 | 57 | 63 |
| | 90 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 7 | 34 | 59 | 78 | 89 | 99 | 6 | 27 | 48 | 70 | 89 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 23 | 41 | 56 | 64 | 71 | 4 | 19 | 33 | 47 | 62 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 5 | 21 | 37 | 50 | 57 | 63 | 4 | 17 | 30 | 43 | 55 | 63 |
| | 100 | X80 | 8 | 36 | 59 | 78 | 89 | 99 | 7 | 30 | 54 | 77 | 89 | 99 | 5 | 24 | 43 | 62 | 81 | 99 |
| | | X48 | 6 | 26 | 44 | 56 | 64 | 71 | 5 | 21 | 37 | 53 | 64 | 71 | 4 | 17 | 30 | 43 | 56 | 69 |
| | | 48-S | 5 | 24 | 40 | 50 | 57 | 63 | 4 | 18 | 33 | 47 | 57 | 63 | 3 | 15 | 27 | 38 | 50 | 61 |
| | 105 | X80 | 8 | 36 | 58 | 78 | 89 | 99 | 6 | 29 | 51 | 73 | 89 | 99 | 5 | 23 | 41 | 59 | 77 | 96 |
| | | X48 | 6 | 25 | 44 | 56 | 64 | 71 | 4 | 20 | 35 | 50 | 64 | 71 | 3 | 16 | 28 | 41 | 53 | 65 |
| | | 48-S | 5 | 23 | 39 | 50 | 57 | 63 | 4 | 17 | 31 | 45 | 57 | 63 | 3 | 14 | 25 | 36 | 47 | 58 |
| 110 | X80 | 8 | 35 | 58 | 78 | 89 | 99 | 6 | 27 | 49 | 70 | 89 | 99 | 5 | 22 | 39 | 57 | 74 | 91 | |
| | X48 | 5 | 24 | 43 | 55 | 64 | 71 | 4 | 19 | 33 | 48 | 62 | 71 | 3 | 15 | 27 | 39 | 50 | 62 | |
| | 48-S | 5 | 22 | 39 | 49 | 57 | 63 | 4 | 17 | 30 | 43 | 56 | 63 | 3 | 14 | 24 | 35 | 45 | 56 | |
| 115 | X80 | 7 | 34 | 57 | 77 | 89 | 99 | 6 | 26 | 46 | 67 | 87 | 99 | 5 | 21 | 38 | 54 | 71 | 87 | |
| | X48 | 5 | 23 | 41 | 55 | 64 | 71 | 4 | 18 | 32 | 46 | 59 | 71 | 3 | 14 | 26 | 37 | 48 | 59 | |
| | 48-S | 5 | 21 | 37 | 49 | 57 | 63 | 4 | 16 | 28 | 41 | 53 | 63 | 3 | 13 | 23 | 33 | 43 | 53 | |
| 120 | X80 | 7 | 33 | 57 | 76 | 89 | 99 | 5 | 25 | 44 | 64 | 83 | 99 | 4 | 20 | 36 | 52 | 68 | 83 | |
| | X48 | 5 | 22 | 40 | 54 | 64 | 71 | 4 | 17 | 30 | 44 | 57 | 70 | 3 | 14 | 25 | 35 | 46 | 57 | |
| | 48-S | 4 | 20 | 35 | 48 | 57 | 63 | 3 | 15 | 27 | 39 | 51 | 63 | 3 | 12 | 22 | 32 | 41 | 51 | |
| 130 | X80 | 7 | 30 | 53 | 74 | 88 | 99 | 5 | 23 | 41 | 59 | 77 | 95 | 4 | 19 | 33 | 48 | 62 | 77 | |
| | X48 | 4 | 20 | 36 | 52 | 63 | 71 | 3 | 16 | 28 | 40 | 52 | 65 | 3 | 13 | 23 | 33 | 43 | 52 | |
| | 48-S | 4 | 18 | 33 | 47 | 56 | 63 | 3 | 14 | 25 | 36 | 47 | 58 | 3 | 11 | 20 | 29 | 38 | 47 | |
| 140 | X80 | 6 | 28 | 49 | 71 | 87 | 99 | 5 | 21 | 38 | 55 | 71 | 88 | 4 | 17 | 31 | 44 | 58 | 71 | |
| | X48 | 4 | 19 | 34 | 49 | 62 | 71 | 3 | 15 | 26 | 37 | 49 | 60 | 3 | 12 | 21 | 30 | 39 | 49 | |
| | 48-S | 4 | 17 | 30 | 43 | 55 | 63 | 3 | 13 | 23 | 33 | 44 | 54 | 2 | 11 | 19 | 27 | 35 | 44 | |
| 150 | X80 | 6 | 26 | 46 | 66 | 85 | 97 | 4 | 20 | 35 | 51 | 66 | 82 | 4 | 16 | 29 | 41 | 54 | 67 | |
| | X48 | 4 | 18 | 31 | 45 | 59 | 69 | 3 | 14 | 24 | 35 | 45 | 56 | 2 | 11 | 20 | 28 | 37 | 45 | |
| | 48-S | 3 | 16 | 28 | 40 | 53 | 61 | 3 | 12 | 22 | 31 | 41 | 50 | 2 | 10 | 18 | 25 | 33 | 41 | |

| Exposure | Table 1.9: Maximum Span Length - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------|---------------------------|-----|-----|----|----|---------------------------|-----|-----|-----|----|---------------------------|----|----|----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| D | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 127 | 117 | 107 | 99 | 87 | 78 | 106 | 106 | 106 | 99 | 87 | 78 | 86 | 86 | 86 | 86 | 86 | 86 |
| | | X48 | 89 | 88 | 80 | 72 | 63 | 56 | 72 | 72 | 72 | 72 | 63 | 56 | 59 | 59 | 59 | 59 | 59 | 59 |
| | | 48-S | 85 | 85 | 73 | 63 | 55 | 50 | 65 | 65 | 65 | 63 | 55 | 50 | 52 | 52 | 52 | 52 | 52 | 52 |
| | 90 | X80 | 126 | 117 | 107 | 99 | 87 | 78 | 100 | 100 | 100 | 99 | 87 | 78 | 81 | 81 | 81 | 81 | 81 | 81 |
| | | X48 | 85 | 85 | 80 | 72 | 63 | 56 | 68 | 68 | 68 | 68 | 63 | 56 | 55 | 55 | 55 | 55 | 55 | 55 |
| | | 48-S | 80 | 80 | 73 | 63 | 55 | 50 | 61 | 61 | 61 | 61 | 55 | 50 | 49 | 49 | 49 | 49 | 49 | 49 |
| | 100 | X80 | 117 | 115 | 106 | 99 | 87 | 78 | 89 | 89 | 89 | 89 | 87 | 78 | 73 | 73 | 73 | 73 | 73 | 73 |
| | | X48 | 79 | 79 | 79 | 71 | 63 | 56 | 61 | 61 | 61 | 61 | 61 | 56 | 50 | 50 | 50 | 50 | 50 | 50 |
| | | 48-S | 72 | 72 | 71 | 62 | 55 | 50 | 55 | 55 | 55 | 55 | 55 | 50 | 44 | 44 | 44 | 44 | 44 | 44 |
| | 105 | X80 | 111 | 111 | 105 | 98 | 87 | 78 | 85 | 85 | 85 | 85 | 85 | 78 | 69 | 69 | 69 | 69 | 69 | 69 |
| | | X48 | 76 | 76 | 76 | 70 | 63 | 56 | 58 | 58 | 58 | 58 | 58 | 56 | 47 | 47 | 47 | 47 | 47 | 47 |
| | | 48-S | 68 | 68 | 68 | 62 | 55 | 50 | 52 | 52 | 52 | 52 | 52 | 50 | 42 | 42 | 42 | 42 | 42 | 42 |
| 110 | X80 | 106 | 106 | 104 | 97 | 87 | 78 | 81 | 81 | 81 | 81 | 81 | 78 | 66 | 66 | 66 | 66 | 66 | 66 | |
| | X48 | 72 | 72 | 72 | 69 | 62 | 56 | 55 | 55 | 55 | 55 | 55 | 55 | 45 | 45 | 45 | 45 | 45 | 45 | |
| | 48-S | 65 | 65 | 65 | 61 | 55 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 40 | 40 | 40 | 40 | 40 | |
| 115 | X80 | 101 | 101 | 101 | 96 | 87 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 63 | 63 | 63 | 63 | 63 | 63 | |
| | X48 | 69 | 69 | 69 | 68 | 62 | 56 | 53 | 53 | 53 | 53 | 53 | 53 | 43 | 43 | 43 | 43 | 43 | 43 | |
| | 48-S | 62 | 62 | 62 | 60 | 55 | 50 | 47 | 47 | 47 | 47 | 47 | 47 | 39 | 39 | 39 | 39 | 39 | 39 | |
| 120 | X80 | 97 | 97 | 97 | 94 | 86 | 78 | 74 | 74 | 74 | 74 | 74 | 74 | 60 | 60 | 60 | 60 | 60 | 60 | |
| | X48 | 66 | 66 | 66 | 66 | 61 | 56 | 51 | 51 | 51 | 51 | 51 | 51 | 41 | 41 | 41 | 41 | 41 | 41 | |
| | 48-S | 59 | 59 | 59 | 59 | 54 | 50 | 45 | 45 | 45 | 45 | 45 | 45 | 37 | 37 | 37 | 37 | 37 | 37 | |
| 130 | X80 | 89 | 89 | 89 | 89 | 84 | 78 | 68 | 68 | 68 | 68 | 68 | 68 | 56 | 56 | 56 | 56 | 56 | 56 | |
| | X48 | 61 | 61 | 61 | 61 | 60 | 55 | 47 | 47 | 47 | 47 | 47 | 47 | 38 | 38 | 38 | 38 | 38 | 38 | |
| | 48-S | 55 | 55 | 55 | 55 | 53 | 49 | 42 | 42 | 42 | 42 | 42 | 42 | 34 | 34 | 34 | 34 | 34 | 34 | |
| 140 | X80 | 83 | 83 | 83 | 83 | 82 | 77 | 63 | 63 | 63 | 63 | 63 | 63 | 52 | 52 | 52 | 52 | 52 | 52 | |
| | X48 | 56 | 56 | 56 | 56 | 56 | 54 | 43 | 43 | 43 | 43 | 43 | 43 | 35 | 35 | 35 | 35 | 35 | 35 | |
| | 48-S | 51 | 51 | 51 | 51 | 51 | 48 | 39 | 39 | 39 | 39 | 39 | 39 | 32 | 32 | 32 | 32 | 32 | 32 | |
| 150 | X80 | 77 | 77 | 77 | 77 | 77 | 75 | 59 | 59 | 59 | 59 | 59 | 59 | 48 | 48 | 48 | 48 | 48 | 48 | |
| | X48 | 53 | 53 | 53 | 53 | 53 | 53 | 40 | 40 | 40 | 40 | 40 | 40 | 33 | 33 | 33 | 33 | 33 | 33 | |
| | 48-S | 47 | 47 | 47 | 47 | 47 | 47 | 36 | 36 | 36 | 36 | 36 | 36 | 29 | 29 | 29 | 29 | 29 | 29 | |

| Exposure | Ultimate Wind Speed, V (mph) | Rail Type | Table 1.10: Maximum Uplift (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|-----------------------|------------------------------|-----------|--|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | | |
| ROOFS 0° TO 7° | 85 | X80 | -581 | -535 | -490 | -453 | -396 | -357 | -839 | -839 | -839 | -785 | -687 | -619 | -1039 | -1039 | -1039 | -1039 | -1039 | -1039 | -946 | |
| | | X48 | -407 | -401 | -367 | -327 | -286 | -258 | -574 | -574 | -574 | -574 | -496 | -447 | -710 | -710 | -710 | -710 | -710 | -710 | -710 | -683 |
| | | 48-S | -388 | -387 | -333 | -288 | -252 | -227 | -514 | -514 | -514 | -514 | -500 | -438 | -394 | -636 | -636 | -636 | -636 | -636 | -636 | -603 |
| | 90 | X80 | -650 | -607 | -556 | -513 | -449 | -404 | -890 | -890 | -890 | -883 | -773 | -696 | -1103 | -1103 | -1103 | -1103 | -1103 | -1103 | -1103 | -1065 |
| | | X48 | -442 | -442 | -416 | -371 | -324 | -292 | -609 | -609 | -609 | -609 | -558 | -503 | -753 | -753 | -753 | -753 | -753 | -753 | -753 | -753 |
| | | 48-S | -415 | -415 | -378 | -327 | -286 | -258 | -545 | -545 | -545 | -545 | -493 | -443 | -675 | -675 | -675 | -675 | -675 | -675 | -675 | -675 |
| | 100 | X80 | -754 | -743 | -684 | -641 | -561 | -506 | -996 | -996 | -996 | -996 | -965 | -869 | -1229 | -1229 | -1229 | -1229 | -1229 | -1229 | -1229 | -1229 |
| | | X48 | -513 | -513 | -513 | -457 | -406 | -365 | -680 | -680 | -680 | -680 | -680 | -627 | -839 | -839 | -839 | -839 | -839 | -839 | -839 | -839 |
| | | 48-S | -464 | -464 | -459 | -405 | -358 | -322 | -609 | -609 | -609 | -609 | -609 | -553 | -752 | -752 | -752 | -752 | -752 | -752 | -752 | -752 |
| | 105 | X80 | -797 | -797 | -750 | -701 | -621 | -559 | -1048 | -1048 | -1048 | -1048 | -1048 | -961 | -1293 | -1293 | -1293 | -1293 | -1293 | -1293 | -1293 | -1293 |
| | | X48 | -545 | -545 | -545 | -499 | -449 | -404 | -715 | -715 | -715 | -715 | -715 | -694 | -883 | -883 | -883 | -883 | -883 | -883 | -883 | -883 |
| | | 48-S | -488 | -488 | -488 | -442 | -396 | -356 | -641 | -641 | -641 | -641 | -641 | -612 | -791 | -791 | -791 | -791 | -791 | -791 | -791 | -791 |
| | 110 | X80 | -839 | -839 | -823 | -766 | -687 | -619 | -1099 | -1099 | -1099 | -1099 | -1099 | -1056 | -1356 | -1356 | -1356 | -1356 | -1356 | -1356 | -1356 | -1356 |
| | | X48 | -574 | -574 | -574 | -545 | -495 | -447 | -750 | -750 | -750 | -750 | -750 | -750 | -926 | -926 | -926 | -926 | -926 | -926 | -926 | -926 |
| | | 48-S | -514 | -514 | -514 | -483 | -438 | -394 | -672 | -672 | -672 | -672 | -672 | -672 | -829 | -829 | -829 | -829 | -829 | -829 | -829 | -829 |
| 115 | X80 | -879 | -879 | -879 | -830 | -753 | -678 | -1150 | -1150 | -1150 | -1150 | -1150 | -1150 | -1419 | -1419 | -1419 | -1419 | -1419 | -1419 | -1419 | -1419 | |
| | X48 | -601 | -601 | -601 | -589 | -537 | -490 | -785 | -785 | -785 | -785 | -785 | -785 | -968 | -968 | -968 | -968 | -968 | -968 | -968 | -968 | |
| | 48-S | -538 | -538 | -538 | -522 | -475 | -432 | -704 | -704 | -704 | -704 | -704 | -704 | -868 | -868 | -868 | -868 | -868 | -868 | -868 | -868 | |
| 120 | X80 | -919 | -919 | -919 | -896 | -815 | -741 | -1203 | -1203 | -1203 | -1203 | -1203 | -1203 | -1482 | -1482 | -1482 | -1482 | -1482 | -1482 | -1482 | -1482 | |
| | X48 | -628 | -628 | -628 | -628 | -580 | -535 | -821 | -821 | -821 | -821 | -821 | -821 | -1011 | -1011 | -1011 | -1011 | -1011 | -1011 | -1011 | -1011 | |
| | 48-S | -562 | -562 | -562 | -562 | -514 | -472 | -736 | -736 | -736 | -736 | -736 | -736 | -906 | -906 | -906 | -906 | -906 | -906 | -906 | -906 | |
| 130 | X80 | -999 | -999 | -999 | -999 | -942 | -873 | -1305 | -1305 | -1305 | -1305 | -1305 | -1305 | -1608 | -1608 | -1608 | -1608 | -1608 | -1608 | -1608 | -1608 | |
| | X48 | -682 | -682 | -682 | -682 | -669 | -621 | -891 | -891 | -891 | -891 | -891 | -891 | -1097 | -1097 | -1097 | -1097 | -1097 | -1097 | -1097 | -1097 | |
| | 48-S | -611 | -611 | -611 | -611 | -593 | -550 | -798 | -798 | -798 | -798 | -798 | -798 | -983 | -983 | -983 | -983 | -983 | -983 | -983 | -983 | |
| 140 | X80 | -1080 | -1080 | -1080 | -1080 | -1076 | -1000 | -1408 | -1408 | -1408 | -1408 | -1408 | -1408 | -1733 | -1733 | -1733 | -1733 | -1733 | -1733 | -1733 | -1733 | |
| | X48 | -737 | -737 | -737 | -737 | -737 | -711 | -961 | -961 | -961 | -961 | -961 | -961 | -1182 | -1182 | -1182 | -1182 | -1182 | -1182 | -1182 | -1182 | |
| | 48-S | -661 | -661 | -661 | -661 | -661 | -630 | -861 | -861 | -861 | -861 | -861 | -861 | -1059 | -1059 | -1059 | -1059 | -1059 | -1059 | -1059 | -1059 | |
| 150 | X80 | -1159 | -1159 | -1159 | -1159 | -1159 | -1129 | -1510 | -1510 | -1510 | -1510 | -1510 | -1510 | -1859 | -1859 | -1859 | -1859 | -1859 | -1859 | -1859 | -1859 | |
| | X48 | -791 | -791 | -791 | -791 | -791 | -791 | -1030 | -1030 | -1030 | -1030 | -1030 | -1030 | -1268 | -1268 | -1268 | -1268 | -1268 | -1268 | -1268 | -1268 | |
| | 48-S | -709 | -709 | -709 | -709 | -709 | -709 | -923 | -923 | -923 | -923 | -923 | -923 | -1136 | -1136 | -1136 | -1136 | -1136 | -1136 | -1136 | -1136 | |

| Exposure | Table 1.1.1: Maximum Downforce (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------|---------------------------|-----|-----|-----|------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| D | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 374 | 478 | 622 | 743 | 848 | 942 | 311 | 432 | 613 | 743 | 848 | 942 | 252 | 350 | 497 | 644 | 839 | 942 |
| | | X48 | 262 | 358 | 466 | 537 | 612 | 680 | 213 | 295 | 419 | 537 | 612 | 680 | 172 | 239 | 339 | 440 | 573 | 680 |
| | | 48-S | 250 | 345 | 423 | 474 | 540 | 600 | 191 | 264 | 375 | 474 | 540 | 600 | 154 | 214 | 304 | 394 | 513 | 600 |
| | 90 | X80 | 369 | 478 | 622 | 743 | 848 | 942 | 294 | 407 | 578 | 743 | 848 | 942 | 238 | 330 | 468 | 607 | 791 | 942 |
| | | X48 | 251 | 348 | 466 | 537 | 612 | 680 | 201 | 278 | 395 | 512 | 612 | 680 | 162 | 225 | 320 | 414 | 540 | 666 |
| | | 48-S | 235 | 327 | 423 | 474 | 540 | 600 | 180 | 249 | 354 | 459 | 540 | 600 | 145 | 202 | 287 | 371 | 484 | 597 |
| | 100 | X80 | 399 | 509 | 651 | 779 | 848 | 942 | 307 | 398 | 551 | 704 | 848 | 942 | 249 | 323 | 447 | 572 | 710 | 876 |
| | | X48 | 272 | 352 | 487 | 555 | 612 | 680 | 209 | 272 | 376 | 481 | 598 | 680 | 170 | 220 | 305 | 390 | 485 | 598 |
| | | 48-S | 246 | 318 | 437 | 492 | 540 | 600 | 188 | 243 | 337 | 431 | 535 | 600 | 152 | 197 | 274 | 350 | 435 | 536 |
| | 105 | X80 | 415 | 520 | 669 | 792 | 851 | 942 | 318 | 398 | 543 | 689 | 835 | 942 | 258 | 323 | 441 | 560 | 678 | 834 |
| | | X48 | 284 | 356 | 486 | 564 | 614 | 680 | 217 | 272 | 371 | 471 | 570 | 680 | 176 | 220 | 301 | 382 | 463 | 569 |
| | | 48-S | 254 | 319 | 435 | 499 | 542 | 600 | 194 | 243 | 332 | 422 | 511 | 600 | 158 | 197 | 270 | 342 | 415 | 510 |
| 110 | X80 | 427 | 519 | 687 | 805 | 870 | 942 | 328 | 398 | 537 | 676 | 815 | 942 | 266 | 323 | 436 | 549 | 662 | 795 | |
| | X48 | 292 | 355 | 479 | 572 | 627 | 680 | 224 | 272 | 367 | 462 | 557 | 669 | 182 | 220 | 297 | 374 | 452 | 543 | |
| | 48-S | 262 | 318 | 429 | 507 | 555 | 600 | 201 | 243 | 329 | 414 | 499 | 599 | 163 | 198 | 267 | 336 | 405 | 486 | |
| 115 | X80 | 439 | 519 | 692 | 817 | 890 | 942 | 337 | 398 | 531 | 664 | 797 | 936 | 274 | 323 | 431 | 539 | 647 | 760 | |
| | X48 | 300 | 355 | 473 | 580 | 634 | 680 | 230 | 272 | 362 | 453 | 544 | 639 | 187 | 221 | 294 | 368 | 441 | 519 | |
| | 48-S | 269 | 318 | 424 | 514 | 562 | 600 | 206 | 243 | 325 | 406 | 487 | 573 | 167 | 198 | 264 | 330 | 396 | 465 | |
| 120 | X80 | 450 | 519 | 685 | 830 | 902 | 953 | 345 | 398 | 525 | 652 | 779 | 907 | 280 | 323 | 427 | 530 | 634 | 737 | |
| | X48 | 307 | 355 | 468 | 581 | 642 | 689 | 235 | 272 | 358 | 445 | 532 | 619 | 191 | 221 | 291 | 362 | 432 | 503 | |
| | 48-S | 275 | 318 | 419 | 521 | 569 | 607 | 211 | 243 | 321 | 399 | 477 | 555 | 171 | 198 | 261 | 324 | 387 | 451 | |
| 130 | X80 | 479 | 526 | 679 | 832 | 928 | 994 | 368 | 404 | 521 | 639 | 756 | 873 | 299 | 328 | 424 | 519 | 615 | 710 | |
| | X48 | 327 | 359 | 464 | 568 | 659 | 707 | 251 | 276 | 356 | 436 | 516 | 596 | 204 | 224 | 289 | 354 | 419 | 484 | |
| | 48-S | 293 | 322 | 416 | 509 | 584 | 627 | 225 | 247 | 319 | 391 | 462 | 534 | 183 | 201 | 259 | 317 | 376 | 434 | |
| 140 | X80 | 503 | 532 | 674 | 815 | 954 | 1017 | 387 | 409 | 518 | 627 | 735 | 844 | 315 | 333 | 421 | 510 | 599 | 687 | |
| | X48 | 344 | 364 | 460 | 557 | 653 | 723 | 264 | 279 | 353 | 428 | 502 | 576 | 215 | 227 | 287 | 348 | 408 | 469 | |
| | 48-S | 308 | 326 | 412 | 499 | 585 | 641 | 237 | 250 | 317 | 383 | 450 | 516 | 192 | 204 | 258 | 312 | 366 | 420 | |
| 150 | X80 | 534 | 545 | 677 | 809 | 940 | 1044 | 411 | 419 | 520 | 622 | 723 | 825 | 334 | 341 | 423 | 506 | 589 | 671 | |
| | X48 | 364 | 372 | 462 | 552 | 642 | 732 | 280 | 286 | 355 | 424 | 494 | 563 | 228 | 232 | 289 | 345 | 401 | 458 | |
| | 48-S | 327 | 333 | 414 | 495 | 575 | 656 | 251 | 256 | 318 | 380 | 442 | 504 | 204 | 208 | 259 | 309 | 360 | 410 | |

| Exposure | Table 1.12: Maximum Shear (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------------|---|-----------|---------------------------|----|----|----|----|---------------------------|----|----|----|----|---------------------------|----|----|----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| D | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS 0° TO 7° | 85 | X80 | 9 | 36 | 59 | 78 | 89 | 99 | 7 | 33 | 58 | 78 | 89 | 99 | 6 | 26 | 47 | 68 | 88 | 99 |
| | | X48 | 6 | 27 | 44 | 56 | 64 | 71 | 5 | 22 | 40 | 56 | 64 | 71 | 4 | 18 | 32 | 46 | 60 | 71 |
| | | 48-S | 6 | 26 | 40 | 50 | 57 | 63 | 4 | 20 | 36 | 50 | 57 | 63 | 4 | 16 | 29 | 41 | 54 | 63 |
| | 90 | X80 | 8 | 36 | 59 | 78 | 89 | 99 | 7 | 31 | 55 | 78 | 89 | 99 | 5 | 25 | 44 | 64 | 83 | 99 |
| | | X48 | 6 | 26 | 44 | 56 | 64 | 71 | 5 | 21 | 37 | 54 | 64 | 71 | 4 | 17 | 30 | 43 | 57 | 70 |
| | | 48-S | 5 | 25 | 40 | 50 | 57 | 63 | 4 | 19 | 33 | 48 | 57 | 63 | 3 | 15 | 27 | 39 | 51 | 63 |
| | 100 | X80 | 8 | 35 | 58 | 78 | 89 | 99 | 6 | 28 | 49 | 70 | 89 | 99 | 5 | 22 | 40 | 57 | 75 | 92 |
| | | X48 | 5 | 24 | 43 | 56 | 64 | 71 | 4 | 19 | 33 | 48 | 63 | 71 | 3 | 15 | 27 | 39 | 51 | 63 |
| | | 48-S | 5 | 22 | 39 | 49 | 57 | 63 | 4 | 17 | 30 | 43 | 56 | 63 | 3 | 14 | 24 | 35 | 46 | 56 |
| | 105 | X80 | 8 | 34 | 57 | 77 | 89 | 99 | 6 | 26 | 47 | 67 | 87 | 99 | 5 | 21 | 38 | 54 | 71 | 88 |
| | | X48 | 5 | 23 | 42 | 55 | 64 | 71 | 4 | 18 | 32 | 46 | 60 | 71 | 3 | 15 | 26 | 37 | 48 | 60 |
| | | 48-S | 5 | 21 | 37 | 49 | 57 | 63 | 4 | 16 | 29 | 41 | 54 | 63 | 3 | 13 | 23 | 33 | 43 | 54 |
| 110 | X80 | 7 | 33 | 57 | 76 | 89 | 99 | 5 | 25 | 44 | 64 | 83 | 99 | 4 | 20 | 36 | 52 | 68 | 84 | |
| | X48 | 5 | 22 | 40 | 54 | 64 | 71 | 4 | 17 | 30 | 44 | 57 | 70 | 3 | 14 | 25 | 35 | 46 | 57 | |
| | 48-S | 4 | 20 | 36 | 48 | 57 | 63 | 3 | 15 | 27 | 39 | 51 | 63 | 3 | 12 | 22 | 32 | 41 | 51 | |
| 115 | X80 | 7 | 31 | 55 | 75 | 89 | 99 | 5 | 24 | 42 | 61 | 80 | 98 | 4 | 19 | 35 | 50 | 65 | 80 | |
| | X48 | 5 | 21 | 38 | 53 | 64 | 71 | 4 | 16 | 29 | 42 | 54 | 67 | 3 | 13 | 24 | 34 | 44 | 55 | |
| | 48-S | 4 | 19 | 34 | 47 | 56 | 63 | 3 | 15 | 26 | 37 | 49 | 60 | 3 | 12 | 21 | 30 | 40 | 49 | |
| 120 | X80 | 7 | 30 | 53 | 74 | 88 | 99 | 5 | 23 | 41 | 58 | 76 | 94 | 4 | 19 | 33 | 48 | 62 | 77 | |
| | X48 | 4 | 20 | 36 | 52 | 63 | 71 | 3 | 16 | 28 | 40 | 52 | 64 | 3 | 13 | 23 | 32 | 42 | 52 | |
| | 48-S | 4 | 18 | 32 | 47 | 56 | 63 | 3 | 14 | 25 | 36 | 47 | 58 | 2 | 11 | 20 | 29 | 38 | 47 | |
| 130 | X80 | 6 | 27 | 49 | 70 | 86 | 99 | 5 | 21 | 38 | 54 | 70 | 87 | 4 | 17 | 30 | 44 | 57 | 71 | |
| | X48 | 4 | 19 | 33 | 48 | 61 | 70 | 3 | 14 | 26 | 37 | 48 | 59 | 3 | 12 | 21 | 30 | 39 | 48 | |
| | 48-S | 4 | 17 | 30 | 43 | 54 | 62 | 3 | 13 | 23 | 33 | 43 | 53 | 2 | 10 | 19 | 27 | 35 | 43 | |
| 140 | X80 | 6 | 25 | 45 | 65 | 85 | 97 | 4 | 20 | 35 | 50 | 65 | 81 | 3 | 16 | 28 | 41 | 53 | 66 | |
| | X48 | 4 | 17 | 31 | 44 | 58 | 69 | 3 | 13 | 24 | 34 | 45 | 55 | 2 | 11 | 19 | 28 | 36 | 45 | |
| | 48-S | 3 | 16 | 28 | 40 | 52 | 61 | 3 | 12 | 21 | 31 | 40 | 49 | 2 | 10 | 17 | 25 | 32 | 40 | |
| 150 | X80 | 5 | 24 | 42 | 61 | 79 | 95 | 4 | 18 | 32 | 47 | 61 | 75 | 3 | 15 | 26 | 38 | 50 | 61 | |
| | X48 | 4 | 16 | 29 | 41 | 54 | 67 | 3 | 12 | 22 | 32 | 42 | 51 | 2 | 10 | 18 | 26 | 34 | 42 | |
| | 48-S | 3 | 14 | 26 | 37 | 48 | 60 | 2 | 11 | 20 | 29 | 37 | 46 | 2 | 9 | 16 | 23 | 30 | 37 | |

| Exposure B | | Table 1.13: Maximum Span Length (in.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------|---|-----|----|----|----|----|-----|-----|----|----|----|----|---------------------------|-----|----|----|----|----|-----|-----|----|----|----|----|---------------------------|----|----|----|----|----|----|--|--|--|--|--|
| | | Roof Wind Pressure Zone 1 | | | | | | | | | | | | Roof Wind Pressure Zone 2 | | | | | | | | | | | | Roof Wind Pressure Zone 3 | | | | | | | | | | | |
| | | Roof Snow Load (psf) | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | |
| Ultimate Wind Speed, V (mph) | Rail Type | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | | | | | | |
| 85 | X80 | 128 | 119 | 98 | 81 | 71 | 64 | 128 | 119 | 98 | 81 | 71 | 64 | 113 | 113 | 98 | 81 | 71 | 64 | 113 | 113 | 98 | 81 | 71 | 64 | 78 | 78 | 78 | 66 | 58 | 52 | 64 | | | | | |
| | X48 | 96 | 89 | 78 | 66 | 58 | 52 | 90 | 89 | 78 | 66 | 58 | 52 | 78 | 78 | 78 | 66 | 58 | 52 | 78 | 78 | 78 | 66 | 58 | 52 | 70 | 70 | 67 | 56 | 49 | 44 | 52 | | | | | |
| | 48-S | 92 | 82 | 67 | 56 | 49 | 44 | 85 | 82 | 67 | 56 | 49 | 44 | 70 | 70 | 67 | 56 | 49 | 44 | 70 | 70 | 67 | 56 | 49 | 44 | 70 | 70 | 67 | 56 | 49 | 44 | 44 | | | | | |
| 90 | X80 | 128 | 119 | 98 | 81 | 71 | 64 | 127 | 119 | 98 | 81 | 71 | 64 | 107 | 107 | 98 | 81 | 71 | 64 | 107 | 107 | 98 | 81 | 71 | 64 | 74 | 74 | 74 | 66 | 58 | 52 | 64 | | | | | |
| | X48 | 96 | 89 | 78 | 66 | 58 | 52 | 87 | 87 | 78 | 66 | 58 | 52 | 74 | 74 | 74 | 66 | 58 | 52 | 74 | 74 | 74 | 66 | 58 | 52 | 66 | 66 | 66 | 56 | 49 | 44 | 52 | | | | | |
| | 48-S | 92 | 82 | 67 | 56 | 49 | 44 | 81 | 81 | 67 | 56 | 49 | 44 | 66 | 66 | 66 | 56 | 49 | 44 | 66 | 66 | 66 | 56 | 49 | 44 | 66 | 66 | 66 | 56 | 49 | 44 | 44 | | | | | |
| 100 | X80 | 127 | 118 | 98 | 81 | 71 | 64 | 117 | 117 | 98 | 81 | 71 | 64 | 117 | 117 | 98 | 81 | 71 | 64 | 96 | 96 | 96 | 81 | 71 | 64 | 96 | 96 | 96 | 81 | 71 | 64 | 64 | | | | | |
| | X48 | 95 | 89 | 78 | 66 | 58 | 52 | 80 | 80 | 78 | 66 | 58 | 52 | 66 | 66 | 66 | 56 | 49 | 44 | 66 | 66 | 66 | 56 | 49 | 44 | 66 | 66 | 66 | 56 | 49 | 44 | 52 | | | | | |
| | 48-S | 92 | 81 | 67 | 56 | 49 | 44 | 72 | 72 | 67 | 56 | 49 | 44 | 59 | 59 | 59 | 49 | 44 | 44 | 59 | 59 | 59 | 49 | 44 | 44 | 59 | 59 | 59 | 49 | 44 | 44 | 44 | | | | | |
| 105 | X80 | 124 | 117 | 98 | 81 | 71 | 64 | 111 | 111 | 98 | 81 | 71 | 64 | 92 | 92 | 92 | 81 | 71 | 64 | 92 | 92 | 92 | 81 | 71 | 64 | 63 | 63 | 63 | 56 | 49 | 44 | 64 | | | | | |
| | X48 | 93 | 88 | 77 | 66 | 58 | 52 | 77 | 77 | 77 | 66 | 58 | 52 | 63 | 63 | 63 | 56 | 49 | 44 | 63 | 63 | 63 | 56 | 49 | 44 | 63 | 63 | 63 | 56 | 49 | 44 | 52 | | | | | |
| | 48-S | 90 | 80 | 66 | 56 | 49 | 44 | 69 | 69 | 66 | 56 | 49 | 44 | 56 | 56 | 56 | 46 | 39 | 34 | 56 | 56 | 56 | 46 | 39 | 34 | 56 | 56 | 56 | 46 | 39 | 34 | 44 | | | | | |
| 110 | X80 | 122 | 116 | 97 | 81 | 71 | 64 | 106 | 106 | 97 | 81 | 71 | 64 | 106 | 106 | 97 | 81 | 71 | 64 | 87 | 87 | 87 | 71 | 64 | 64 | 87 | 87 | 87 | 71 | 64 | 64 | 64 | | | | | |
| | X48 | 91 | 87 | 76 | 66 | 58 | 52 | 73 | 73 | 73 | 66 | 58 | 52 | 60 | 60 | 60 | 50 | 43 | 38 | 60 | 60 | 60 | 50 | 43 | 38 | 60 | 60 | 60 | 50 | 43 | 38 | 52 | | | | | |
| | 48-S | 87 | 78 | 65 | 56 | 49 | 44 | 66 | 66 | 65 | 56 | 49 | 44 | 54 | 54 | 54 | 44 | 37 | 32 | 54 | 54 | 54 | 44 | 37 | 32 | 54 | 54 | 54 | 44 | 37 | 32 | 44 | | | | | |
| 115 | X80 | 120 | 114 | 96 | 81 | 71 | 64 | 102 | 102 | 96 | 81 | 71 | 64 | 84 | 84 | 84 | 71 | 64 | 64 | 84 | 84 | 84 | 71 | 64 | 64 | 57 | 57 | 57 | 49 | 42 | 37 | 64 | | | | | |
| | X48 | 88 | 86 | 75 | 66 | 58 | 52 | 70 | 70 | 70 | 66 | 58 | 52 | 57 | 57 | 57 | 49 | 42 | 37 | 57 | 57 | 57 | 49 | 42 | 37 | 57 | 57 | 57 | 49 | 42 | 37 | 52 | | | | | |
| | 48-S | 83 | 77 | 64 | 56 | 49 | 44 | 63 | 63 | 63 | 56 | 49 | 44 | 51 | 51 | 51 | 42 | 35 | 30 | 51 | 51 | 51 | 42 | 35 | 30 | 51 | 51 | 51 | 42 | 35 | 30 | 44 | | | | | |
| 120 | X80 | 118 | 113 | 95 | 81 | 71 | 64 | 97 | 97 | 95 | 81 | 71 | 64 | 80 | 80 | 80 | 71 | 64 | 64 | 80 | 80 | 80 | 71 | 64 | 64 | 55 | 55 | 55 | 47 | 40 | 35 | 64 | | | | | |
| | X48 | 86 | 85 | 74 | 65 | 58 | 52 | 67 | 67 | 67 | 65 | 58 | 52 | 55 | 55 | 55 | 47 | 40 | 35 | 55 | 55 | 55 | 47 | 40 | 35 | 55 | 55 | 55 | 47 | 40 | 35 | 52 | | | | | |
| | 48-S | 80 | 75 | 64 | 56 | 49 | 44 | 60 | 60 | 60 | 56 | 49 | 44 | 49 | 49 | 49 | 40 | 33 | 28 | 49 | 49 | 49 | 40 | 33 | 28 | 49 | 49 | 49 | 40 | 33 | 28 | 44 | | | | | |
| 130 | X80 | 114 | 110 | 93 | 81 | 71 | 64 | 90 | 90 | 90 | 81 | 71 | 64 | 74 | 74 | 74 | 71 | 64 | 64 | 74 | 74 | 74 | 71 | 64 | 64 | 51 | 51 | 51 | 43 | 36 | 31 | 64 | | | | | |
| | X48 | 81 | 81 | 72 | 64 | 58 | 52 | 62 | 62 | 62 | 62 | 58 | 52 | 51 | 51 | 51 | 43 | 36 | 31 | 51 | 51 | 51 | 43 | 36 | 31 | 51 | 51 | 51 | 43 | 36 | 31 | 51 | | | | | |
| | 48-S | 73 | 73 | 62 | 55 | 49 | 44 | 55 | 55 | 55 | 55 | 49 | 44 | 45 | 45 | 45 | 36 | 29 | 24 | 45 | 45 | 45 | 36 | 29 | 24 | 45 | 45 | 45 | 36 | 29 | 24 | 44 | | | | | |
| 140 | X80 | 110 | 108 | 91 | 80 | 71 | 64 | 83 | 83 | 83 | 80 | 71 | 64 | 69 | 69 | 69 | 71 | 64 | 64 | 69 | 69 | 69 | 71 | 64 | 64 | 47 | 47 | 47 | 39 | 32 | 27 | 64 | | | | | |
| | X48 | 76 | 76 | 69 | 62 | 57 | 52 | 57 | 57 | 57 | 57 | 57 | 52 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 39 | 32 | 27 | 47 | | | | | |
| | 48-S | 68 | 68 | 60 | 54 | 49 | 44 | 51 | 51 | 51 | 51 | 49 | 44 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 39 | 32 | 27 | 42 | | | | | |
| 150 | X80 | 103 | 103 | 89 | 79 | 71 | 64 | 78 | 78 | 78 | 78 | 71 | 64 | 64 | 64 | 64 | 71 | 64 | 64 | 64 | 64 | 64 | 71 | 64 | 64 | 44 | 44 | 44 | 36 | 29 | 24 | 64 | | | | | |
| | X48 | 71 | 71 | 67 | 61 | 56 | 52 | 53 | 53 | 53 | 53 | 53 | 52 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 36 | 29 | 24 | 44 | | | | | |
| | 48-S | 63 | 63 | 59 | 53 | 48 | 44 | 48 | 48 | 48 | 48 | 48 | 44 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 36 | 29 | 24 | 39 | | | | | |

| Exposure | Table 1.14: Maximum Uplift (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|-------------------|--|-----------|---------------------------|------|------|------|------|---------------------------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|-------|------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS > 7° TO 27° | 85 | X80 | -304 | -283 | -233 | -194 | -170 | -153 | -562 | -522 | -430 | -359 | -314 | -283 | -755 | -755 | -652 | -544 | -476 | -429 |
| | | X48 | -228 | -212 | -186 | -158 | -138 | -125 | -397 | -391 | -343 | -292 | -256 | -230 | -522 | -522 | -520 | -443 | -388 | -349 |
| | | 48-S | -220 | -194 | -160 | -134 | -117 | -106 | -376 | -359 | -295 | -248 | -217 | -196 | -466 | -466 | -448 | -376 | -329 | -297 |
| | 90 | X80 | -345 | -321 | -264 | -220 | -193 | -174 | -633 | -591 | -486 | -405 | -355 | -319 | -804 | -804 | -735 | -613 | -537 | -483 |
| | | X48 | -259 | -240 | -211 | -179 | -157 | -141 | -431 | -431 | -388 | -330 | -289 | -260 | -555 | -555 | -555 | -499 | -437 | -394 |
| | | 48-S | -250 | -220 | -181 | -152 | -133 | -120 | -401 | -401 | -334 | -280 | -246 | -221 | -496 | -496 | -496 | -424 | -371 | -334 |
| | 100 | X80 | -436 | -406 | -336 | -280 | -245 | -221 | -729 | -729 | -609 | -508 | -445 | -401 | -901 | -901 | -901 | -764 | -669 | -603 |
| | | X48 | -326 | -304 | -267 | -228 | -200 | -180 | -501 | -501 | -484 | -414 | -362 | -326 | -621 | -621 | -621 | -621 | -545 | -491 |
| | | 48-S | -315 | -278 | -229 | -194 | -170 | -153 | -450 | -450 | -417 | -352 | -308 | -277 | -555 | -555 | -555 | -529 | -463 | -417 |
| | 105 | X80 | -476 | -448 | -374 | -312 | -273 | -246 | -768 | -768 | -674 | -562 | -492 | -443 | -949 | -949 | -949 | -845 | -740 | -666 |
| | | X48 | -357 | -335 | -293 | -254 | -222 | -200 | -531 | -531 | -529 | -458 | -401 | -361 | -653 | -653 | -653 | -653 | -603 | -543 |
| | | 48-S | -344 | -305 | -253 | -216 | -189 | -170 | -474 | -474 | -456 | -389 | -341 | -307 | -584 | -584 | -584 | -584 | -512 | -461 |
| 110 | X80 | -515 | -488 | -410 | -344 | -301 | -271 | -809 | -809 | -740 | -620 | -543 | -489 | -998 | -998 | -998 | -931 | -815 | -734 | |
| | X48 | -386 | -365 | -319 | -280 | -245 | -221 | -559 | -559 | -559 | -505 | -443 | -398 | -686 | -686 | -686 | -686 | -664 | -598 | |
| | 48-S | -368 | -330 | -275 | -238 | -208 | -187 | -499 | -499 | -497 | -429 | -376 | -338 | -614 | -614 | -614 | -614 | -564 | -508 | |
| 115 | X80 | -557 | -532 | -448 | -379 | -332 | -299 | -849 | -849 | -803 | -680 | -596 | -536 | -1045 | -1045 | -1045 | -1045 | -992 | -803 | |
| | X48 | -412 | -398 | -347 | -306 | -270 | -243 | -585 | -585 | -585 | -549 | -485 | -437 | -718 | -718 | -718 | -718 | -718 | -654 | |
| | 48-S | -387 | -358 | -300 | -262 | -230 | -207 | -523 | -523 | -523 | -471 | -412 | -371 | -642 | -642 | -642 | -642 | -617 | -556 | |
| 120 | X80 | -599 | -575 | -484 | -415 | -363 | -327 | -889 | -889 | -869 | -744 | -651 | -586 | -1094 | -1094 | -1094 | -1094 | -974 | -877 | |
| | X48 | -437 | -431 | -374 | -331 | -296 | -266 | -613 | -613 | -613 | -594 | -531 | -478 | -751 | -751 | -751 | -751 | -751 | -714 | |
| | 48-S | -405 | -384 | -324 | -285 | -251 | -226 | -547 | -547 | -547 | -511 | -451 | -406 | -672 | -672 | -672 | -672 | -672 | -607 | |
| 130 | X80 | -686 | -666 | -562 | -491 | -430 | -387 | -968 | -968 | -968 | -877 | -767 | -691 | -1189 | -1189 | -1189 | -1189 | -1147 | -1033 | |
| | X48 | -490 | -490 | -431 | -383 | -349 | -316 | -666 | -666 | -666 | -666 | -622 | -563 | -816 | -816 | -816 | -816 | -816 | -816 | |
| | 48-S | -443 | -439 | -373 | -331 | -298 | -268 | -595 | -595 | -595 | -590 | -531 | -478 | -730 | -730 | -730 | -730 | -730 | -715 | |
| 140 | X80 | -777 | -760 | -643 | -567 | -504 | -454 | -1047 | -1047 | -1047 | -1008 | -895 | -806 | -1285 | -1285 | -1285 | -1285 | -1285 | -1203 | |
| | X48 | -538 | -538 | -491 | -439 | -401 | -370 | -720 | -720 | -720 | -720 | -712 | -657 | -881 | -881 | -881 | -881 | -881 | -881 | |
| | 48-S | -480 | -480 | -426 | -379 | -345 | -314 | -644 | -644 | -644 | -644 | -613 | -558 | -788 | -788 | -788 | -788 | -788 | -788 | |
| 150 | X80 | -838 | -838 | -724 | -642 | -581 | -523 | -1126 | -1126 | -1126 | -1126 | -1031 | -928 | -1380 | -1380 | -1380 | -1380 | -1380 | -1380 | |
| | X48 | -578 | -578 | -550 | -494 | -453 | -420 | -773 | -773 | -773 | -773 | -773 | -746 | -945 | -945 | -945 | -945 | -945 | -945 | |
| | 48-S | -516 | -516 | -478 | -428 | -391 | -362 | -691 | -691 | -691 | -691 | -691 | -642 | -846 | -846 | -846 | -846 | -846 | -846 | |

| Exposure B | | Table 1.15: Maximum Downforce (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | |
|----------------------|------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|
| | | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | |
| | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | 368 | 459 | 530 | 569 | 635 | 706 | 368 | 459 | 530 | 569 | 635 | 706 | 326 | 438 | 530 | 569 | 635 | 706 |
| | X48 | 276 | 344 | 423 | 464 | 518 | 575 | 260 | 344 | 423 | 464 | 518 | 575 | 226 | 303 | 423 | 464 | 518 | 575 |
| | 48-S | 266 | 316 | 364 | 394 | 440 | 488 | 246 | 316 | 364 | 394 | 440 | 488 | 201 | 270 | 364 | 394 | 440 | 488 |
| 90 | X80 | 368 | 459 | 530 | 569 | 635 | 706 | 367 | 459 | 530 | 569 | 635 | 706 | 308 | 413 | 530 | 569 | 635 | 706 |
| | X48 | 276 | 344 | 423 | 464 | 518 | 575 | 249 | 335 | 423 | 464 | 518 | 575 | 213 | 285 | 401 | 464 | 518 | 575 |
| | 48-S | 266 | 316 | 364 | 394 | 440 | 488 | 232 | 312 | 364 | 394 | 440 | 488 | 190 | 255 | 358 | 394 | 440 | 488 |
| 100 | X80 | 377 | 465 | 537 | 575 | 635 | 706 | 347 | 460 | 537 | 575 | 635 | 706 | 286 | 378 | 528 | 575 | 635 | 706 |
| | X48 | 282 | 349 | 427 | 469 | 518 | 575 | 239 | 316 | 427 | 469 | 518 | 575 | 197 | 261 | 364 | 467 | 518 | 575 |
| | 48-S | 273 | 319 | 367 | 398 | 440 | 488 | 215 | 284 | 367 | 398 | 440 | 488 | 176 | 233 | 325 | 398 | 440 | 488 |
| 105 | X80 | 399 | 481 | 554 | 589 | 635 | 706 | 357 | 457 | 554 | 589 | 635 | 706 | 293 | 376 | 519 | 589 | 635 | 706 |
| | X48 | 299 | 360 | 435 | 480 | 518 | 575 | 247 | 316 | 435 | 480 | 518 | 575 | 202 | 259 | 357 | 456 | 518 | 575 |
| | 48-S | 288 | 327 | 374 | 408 | 440 | 488 | 220 | 282 | 374 | 408 | 440 | 488 | 180 | 231 | 319 | 407 | 440 | 488 |
| 110 | X80 | 422 | 497 | 570 | 605 | 641 | 706 | 367 | 457 | 570 | 605 | 641 | 706 | 302 | 375 | 512 | 605 | 641 | 706 |
| | X48 | 316 | 372 | 443 | 493 | 522 | 575 | 254 | 315 | 430 | 493 | 522 | 575 | 208 | 258 | 352 | 446 | 522 | 575 |
| | 48-S | 301 | 337 | 382 | 418 | 443 | 488 | 226 | 282 | 382 | 418 | 443 | 488 | 186 | 231 | 315 | 399 | 443 | 488 |
| 115 | X80 | 447 | 515 | 584 | 621 | 655 | 706 | 379 | 458 | 584 | 621 | 655 | 706 | 312 | 377 | 507 | 621 | 655 | 706 |
| | X48 | 330 | 386 | 452 | 501 | 534 | 575 | 262 | 316 | 425 | 501 | 534 | 575 | 214 | 259 | 348 | 438 | 528 | 575 |
| | 48-S | 310 | 346 | 391 | 430 | 453 | 488 | 234 | 282 | 380 | 430 | 453 | 488 | 192 | 231 | 312 | 392 | 453 | 488 |
| 120 | X80 | 472 | 533 | 597 | 638 | 670 | 706 | 390 | 459 | 597 | 638 | 670 | 706 | 321 | 377 | 502 | 627 | 670 | 706 |
| | X48 | 344 | 399 | 462 | 509 | 546 | 575 | 269 | 316 | 421 | 509 | 546 | 575 | 220 | 259 | 345 | 431 | 517 | 575 |
| | 48-S | 319 | 356 | 399 | 438 | 464 | 488 | 240 | 283 | 376 | 438 | 464 | 488 | 197 | 232 | 309 | 385 | 462 | 488 |
| 130 | X80 | 523 | 570 | 626 | 675 | 702 | 732 | 414 | 464 | 604 | 675 | 702 | 732 | 340 | 381 | 497 | 612 | 702 | 732 |
| | X48 | 374 | 419 | 481 | 527 | 569 | 597 | 285 | 319 | 416 | 512 | 569 | 597 | 233 | 262 | 341 | 420 | 499 | 578 |
| | 48-S | 338 | 376 | 416 | 454 | 486 | 507 | 255 | 285 | 372 | 454 | 486 | 507 | 209 | 234 | 305 | 376 | 447 | 507 |
| 140 | X80 | 577 | 607 | 656 | 704 | 736 | 763 | 438 | 471 | 601 | 704 | 736 | 763 | 360 | 387 | 494 | 601 | 708 | 763 |
| | X48 | 399 | 429 | 501 | 545 | 586 | 622 | 301 | 323 | 413 | 502 | 586 | 622 | 247 | 265 | 339 | 412 | 485 | 559 |
| | 48-S | 357 | 383 | 434 | 470 | 504 | 528 | 269 | 289 | 369 | 449 | 504 | 528 | 221 | 237 | 303 | 369 | 435 | 500 |
| 150 | X80 | 610 | 633 | 686 | 732 | 773 | 796 | 462 | 480 | 601 | 723 | 773 | 796 | 380 | 394 | 494 | 594 | 694 | 794 |
| | X48 | 421 | 437 | 521 | 563 | 603 | 640 | 317 | 329 | 413 | 496 | 580 | 640 | 260 | 270 | 339 | 407 | 475 | 544 |
| | 48-S | 376 | 391 | 453 | 487 | 520 | 551 | 284 | 295 | 369 | 444 | 519 | 551 | 233 | 242 | 303 | 364 | 426 | 487 |

| Exposure | Table 1.16: Maximum Shear (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| ROOFS > 7° TO 27° | 85 | X80 | 35 | 148 | 216 | 259 | 296 | 329 | 329 | 35 | 148 | 216 | 259 | 296 | 329 | 31 | 141 | 216 | 259 | 296 | 329 |
| | | X48 | 26 | 111 | 173 | 211 | 241 | 268 | 268 | 25 | 111 | 173 | 211 | 241 | 268 | 21 | 97 | 173 | 211 | 241 | 268 |
| | | 48-S | 25 | 101 | 149 | 180 | 205 | 228 | 228 | 23 | 101 | 149 | 180 | 205 | 228 | 19 | 87 | 149 | 180 | 205 | 228 |
| | 90 | X80 | 35 | 148 | 216 | 259 | 296 | 329 | 329 | 35 | 148 | 216 | 259 | 296 | 329 | 29 | 133 | 216 | 259 | 296 | 329 |
| | | X48 | 26 | 111 | 173 | 211 | 241 | 268 | 268 | 24 | 108 | 173 | 211 | 241 | 268 | 20 | 92 | 163 | 211 | 241 | 268 |
| | | 48-S | 25 | 101 | 149 | 180 | 205 | 228 | 228 | 22 | 100 | 149 | 180 | 205 | 228 | 18 | 82 | 146 | 180 | 205 | 228 |
| | 100 | X80 | 35 | 147 | 216 | 259 | 296 | 329 | 329 | 32 | 145 | 216 | 259 | 296 | 329 | 26 | 119 | 213 | 259 | 296 | 329 |
| | | X48 | 26 | 110 | 172 | 211 | 241 | 268 | 268 | 22 | 100 | 172 | 211 | 241 | 268 | 18 | 82 | 147 | 211 | 241 | 268 |
| | | 48-S | 25 | 101 | 148 | 180 | 205 | 228 | 228 | 20 | 90 | 148 | 180 | 205 | 228 | 16 | 74 | 131 | 180 | 205 | 228 |
| | 105 | X80 | 34 | 145 | 216 | 259 | 296 | 329 | 329 | 30 | 138 | 216 | 259 | 296 | 329 | 25 | 114 | 203 | 259 | 296 | 329 |
| | | X48 | 25 | 109 | 170 | 211 | 241 | 268 | 268 | 21 | 96 | 170 | 211 | 241 | 268 | 17 | 78 | 139 | 201 | 241 | 268 |
| | | 48-S | 25 | 99 | 146 | 180 | 205 | 228 | 228 | 19 | 85 | 146 | 180 | 205 | 228 | 15 | 70 | 125 | 179 | 205 | 228 |
| 110 | X80 | 33 | 144 | 215 | 259 | 296 | 329 | 329 | 29 | 132 | 215 | 259 | 296 | 329 | 24 | 109 | 193 | 259 | 296 | 329 | |
| | X48 | 25 | 108 | 167 | 211 | 241 | 268 | 268 | 20 | 91 | 162 | 211 | 241 | 268 | 16 | 75 | 133 | 191 | 241 | 268 | |
| | 48-S | 24 | 97 | 144 | 180 | 205 | 228 | 228 | 18 | 81 | 144 | 180 | 205 | 228 | 15 | 67 | 119 | 171 | 205 | 228 | |
| 115 | X80 | 33 | 142 | 213 | 259 | 296 | 329 | 329 | 28 | 126 | 213 | 259 | 296 | 329 | 23 | 104 | 185 | 259 | 296 | 329 | |
| | X48 | 24 | 106 | 165 | 209 | 241 | 268 | 268 | 19 | 87 | 155 | 209 | 241 | 268 | 16 | 71 | 127 | 183 | 239 | 268 | |
| | 48-S | 23 | 96 | 143 | 180 | 205 | 228 | 228 | 17 | 78 | 139 | 180 | 205 | 228 | 14 | 64 | 114 | 164 | 205 | 228 | |
| 120 | X80 | 32 | 141 | 211 | 259 | 296 | 329 | 329 | 27 | 121 | 211 | 259 | 296 | 329 | 22 | 100 | 177 | 255 | 296 | 329 | |
| | X48 | 23 | 105 | 163 | 207 | 241 | 268 | 268 | 18 | 83 | 149 | 207 | 241 | 268 | 15 | 68 | 122 | 175 | 228 | 268 | |
| | 48-S | 22 | 94 | 141 | 178 | 205 | 228 | 228 | 16 | 75 | 133 | 178 | 205 | 228 | 13 | 61 | 109 | 157 | 204 | 228 | |
| 130 | X80 | 31 | 137 | 206 | 259 | 296 | 329 | 329 | 25 | 112 | 199 | 259 | 296 | 329 | 20 | 92 | 164 | 235 | 296 | 329 | |
| | X48 | 22 | 101 | 158 | 202 | 240 | 268 | 268 | 17 | 77 | 137 | 197 | 240 | 268 | 14 | 63 | 112 | 161 | 211 | 260 | |
| | 48-S | 20 | 90 | 137 | 175 | 205 | 228 | 228 | 15 | 69 | 122 | 175 | 205 | 228 | 12 | 56 | 100 | 144 | 188 | 228 | |
| 140 | X80 | 30 | 134 | 201 | 256 | 296 | 329 | 329 | 23 | 104 | 185 | 256 | 296 | 329 | 19 | 85 | 152 | 218 | 285 | 329 | |
| | X48 | 21 | 95 | 154 | 198 | 236 | 268 | 268 | 16 | 71 | 127 | 183 | 236 | 268 | 13 | 58 | 104 | 150 | 195 | 241 | |
| | 48-S | 19 | 85 | 133 | 171 | 203 | 228 | 228 | 14 | 64 | 114 | 163 | 203 | 228 | 12 | 52 | 93 | 134 | 175 | 216 | |
| 150 | X80 | 28 | 128 | 197 | 251 | 296 | 329 | 329 | 21 | 97 | 172 | 248 | 296 | 329 | 18 | 80 | 142 | 204 | 266 | 328 | |
| | X48 | 19 | 88 | 149 | 193 | 231 | 265 | 265 | 15 | 66 | 118 | 170 | 222 | 265 | 12 | 55 | 97 | 140 | 182 | 225 | |
| | 48-S | 17 | 79 | 130 | 167 | 199 | 228 | 228 | 13 | 59 | 106 | 152 | 199 | 228 | 11 | 49 | 87 | 125 | 163 | 201 | |

| Exposure C | | Table 1.17: Maximum Span Length (in.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------|---|-----|----|----|----|----|-----|-----|----|----|----|----|---------------------------|----|----|----|----|----|----|----|----|----|----|----|---------------------------|----|----|----|----|----|--|--|--|--|--|--|
| | | Roof Wind Pressure Zone 1 | | | | | | | | | | | | Roof Wind Pressure Zone 2 | | | | | | | | | | | | Roof Wind Pressure Zone 3 | | | | | | | | | | | |
| | | Roof Snow Load (psf) | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | | Roof Snow Load (psf) | | | | | | | | | | | |
| Ultimate Wind Speed, V (mph) | Rail Type | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | | | | | | |
| 85 | X80 | 127 | 118 | 98 | 81 | 71 | 64 | 116 | 116 | 98 | 81 | 71 | 64 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | | | | | | |
| | X48 | 95 | 88 | 77 | 66 | 58 | 52 | 80 | 80 | 77 | 66 | 58 | 52 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | | | | | | |
| | 48-S | 91 | 81 | 67 | 56 | 49 | 44 | 72 | 72 | 67 | 56 | 49 | 44 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | | | | | | |
| 90 | X80 | 124 | 116 | 98 | 81 | 71 | 64 | 110 | 110 | 98 | 81 | 71 | 64 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | | | | | | |
| | X48 | 93 | 87 | 76 | 66 | 58 | 52 | 76 | 76 | 76 | 66 | 58 | 52 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | | | | | | |
| | 48-S | 89 | 79 | 66 | 56 | 49 | 44 | 68 | 68 | 66 | 56 | 49 | 44 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | | | | | | |
| 100 | X80 | 118 | 113 | 95 | 81 | 71 | 64 | 99 | 99 | 95 | 81 | 71 | 64 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | | | | | | |
| | X48 | 87 | 85 | 74 | 65 | 58 | 52 | 68 | 68 | 68 | 65 | 58 | 52 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | | | | | | |
| | 48-S | 81 | 76 | 64 | 56 | 49 | 44 | 61 | 61 | 61 | 56 | 49 | 44 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | | | |
| 105 | X80 | 116 | 112 | 94 | 81 | 71 | 64 | 94 | 94 | 94 | 81 | 71 | 64 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | | | | | | |
| | X48 | 84 | 84 | 73 | 64 | 58 | 52 | 65 | 65 | 65 | 64 | 58 | 52 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | | | | | | |
| | 48-S | 77 | 74 | 63 | 55 | 49 | 44 | 58 | 58 | 58 | 55 | 49 | 44 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | | | | | | |
| 110 | X80 | 114 | 110 | 93 | 81 | 71 | 64 | 90 | 90 | 90 | 81 | 71 | 64 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | | | | | | |
| | X48 | 81 | 81 | 72 | 64 | 58 | 52 | 62 | 62 | 62 | 62 | 58 | 52 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | | | | | | |
| | 48-S | 73 | 73 | 62 | 55 | 49 | 44 | 55 | 55 | 55 | 55 | 49 | 44 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | | | | | | |
| 115 | X80 | 111 | 109 | 92 | 81 | 71 | 64 | 86 | 86 | 86 | 81 | 71 | 64 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | | | | | | |
| | X48 | 78 | 78 | 70 | 63 | 57 | 52 | 59 | 59 | 59 | 59 | 57 | 52 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | | | | | | |
| | 48-S | 70 | 70 | 61 | 54 | 49 | 44 | 53 | 53 | 53 | 53 | 49 | 44 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | | | | | | |
| 120 | X80 | 109 | 107 | 91 | 80 | 71 | 64 | 82 | 82 | 82 | 80 | 71 | 64 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | | | | | | |
| | X48 | 75 | 75 | 69 | 62 | 56 | 52 | 56 | 56 | 56 | 56 | 56 | 52 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | | | | | | |
| | 48-S | 67 | 67 | 60 | 53 | 49 | 44 | 51 | 51 | 51 | 51 | 49 | 44 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | | | | | | |
| 130 | X80 | 100 | 100 | 88 | 78 | 71 | 64 | 76 | 76 | 76 | 76 | 71 | 64 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | | | | | | |
| | X48 | 69 | 69 | 67 | 60 | 55 | 51 | 52 | 52 | 52 | 52 | 52 | 51 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | | | | | | |
| | 48-S | 62 | 62 | 58 | 52 | 48 | 44 | 47 | 47 | 47 | 47 | 47 | 44 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | | | | | | |
| 140 | X80 | 93 | 93 | 86 | 77 | 70 | 64 | 70 | 70 | 70 | 70 | 70 | 64 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | | | | | | |
| | X48 | 64 | 64 | 64 | 58 | 54 | 50 | 48 | 48 | 48 | 48 | 48 | 48 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | | | | | | |
| | 48-S | 57 | 57 | 56 | 51 | 47 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | | | | | | |
| 150 | X80 | 87 | 87 | 83 | 75 | 68 | 64 | 66 | 66 | 66 | 66 | 66 | 64 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | | | | | | |
| | X48 | 60 | 60 | 60 | 57 | 53 | 49 | 45 | 45 | 45 | 45 | 45 | 45 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | | | | | | |
| | 48-S | 53 | 53 | 53 | 49 | 46 | 42 | 40 | 40 | 40 | 40 | 40 | 40 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | | | | | | |

| Exposure | Table 1.18: Maximum Uplift (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | | | | |
|----------|--|-----------|---------------------------|------|------|------|------|---------------------------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | | | |
| C | 85 | X80 | -440 | -410 | -339 | -283 | -248 | -223 | -732 | -732 | -616 | -513 | -449 | -405 | -906 | -906 | -906 | -906 | -773 | -773 | -676 | -609 | |
| | | X48 | -329 | -307 | -269 | -231 | -202 | -182 | -504 | -504 | -488 | -418 | -366 | -330 | -624 | -624 | -624 | -624 | -624 | -624 | -551 | -496 | |
| | | 48-S | -318 | -281 | -232 | -196 | -171 | -154 | -453 | -453 | -420 | -355 | -311 | -280 | -558 | -558 | -558 | -558 | -558 | -558 | -468 | -421 | |
| | 90 | X80 | -485 | -457 | -383 | -320 | -280 | -252 | -780 | -780 | -694 | -579 | -507 | -456 | -964 | -964 | -964 | -964 | -964 | -870 | -870 | -761 | -685 |
| | | X48 | -363 | -342 | -299 | -260 | -228 | -205 | -539 | -539 | -539 | -472 | -413 | -372 | -663 | -663 | -663 | -663 | -663 | -663 | -620 | -558 | |
| | | 48-S | -350 | -311 | -258 | -221 | -194 | -174 | -482 | -482 | -467 | -401 | -351 | -316 | -593 | -593 | -593 | -593 | -593 | -593 | -527 | -474 | |
| | 100 | X80 | -586 | -561 | -473 | -403 | -353 | -318 | -876 | -876 | -847 | -723 | -633 | -570 | -1078 | -1078 | -1078 | -1078 | -1078 | -1078 | -947 | -853 | |
| | | X48 | -429 | -420 | -366 | -323 | -288 | -259 | -604 | -604 | -604 | -579 | -516 | -464 | -740 | -740 | -740 | -740 | -740 | -740 | -740 | -695 | |
| | | 48-S | -400 | -376 | -316 | -278 | -244 | -220 | -540 | -540 | -540 | -498 | -438 | -394 | -662 | -662 | -662 | -662 | -662 | -662 | -655 | -590 | |
| | 105 | X80 | -638 | -615 | -519 | -448 | -392 | -353 | -922 | -922 | -922 | -799 | -699 | -630 | -1134 | -1134 | -1134 | -1134 | -1134 | -1134 | -1046 | -941 | |
| | | X48 | -460 | -460 | -400 | -354 | -320 | -288 | -635 | -635 | -635 | -632 | -570 | -513 | -778 | -778 | -778 | -778 | -778 | -778 | -778 | -767 | |
| | | 48-S | -422 | -409 | -346 | -305 | -271 | -244 | -568 | -568 | -568 | -544 | -484 | -436 | -696 | -696 | -696 | -696 | -696 | -696 | -696 | -651 | |
| 110 | X80 | -687 | -668 | -563 | -492 | -431 | -388 | -969 | -969 | -969 | -880 | -770 | -694 | -1191 | -1191 | -1191 | -1191 | -1191 | -1191 | -1151 | -1036 | | |
| | X48 | -490 | -490 | -432 | -384 | -349 | -316 | -667 | -667 | -667 | -667 | -624 | -565 | -817 | -817 | -817 | -817 | -817 | -817 | -817 | -817 | | |
| | 48-S | -443 | -440 | -374 | -331 | -298 | -269 | -596 | -596 | -596 | -592 | -533 | -480 | -731 | -731 | -731 | -731 | -731 | -731 | -731 | -717 | | |
| 115 | X80 | -741 | -725 | -611 | -538 | -475 | -427 | -1016 | -1016 | -1016 | -956 | -844 | -760 | -1247 | -1247 | -1247 | -1247 | -1247 | -1247 | -1247 | -1133 | | |
| | X48 | -522 | -522 | -468 | -417 | -380 | -348 | -698 | -698 | -698 | -698 | -676 | -619 | -855 | -855 | -855 | -855 | -855 | -855 | -855 | -855 | | |
| | 48-S | -466 | -466 | -405 | -360 | -327 | -296 | -625 | -625 | -625 | -625 | -582 | -526 | -765 | -765 | -765 | -765 | -765 | -765 | -765 | -765 | | |
| 120 | X80 | -789 | -777 | -658 | -581 | -518 | -467 | -1063 | -1063 | -1063 | -1034 | -922 | -830 | -1303 | -1303 | -1303 | -1303 | -1303 | -1303 | -1303 | -1237 | | |
| | X48 | -545 | -545 | -502 | -450 | -411 | -380 | -730 | -730 | -730 | -730 | -730 | -676 | -893 | -893 | -893 | -893 | -893 | -893 | -893 | -893 | | |
| | 48-S | -487 | -487 | -436 | -388 | -354 | -323 | -653 | -653 | -653 | -653 | -629 | -574 | -799 | -799 | -799 | -799 | -799 | -799 | -799 | -799 | | |
| 130 | X80 | -861 | -861 | -756 | -672 | -611 | -551 | -1155 | -1155 | -1155 | -1155 | -1082 | -976 | -1416 | -1416 | -1416 | -1416 | -1416 | -1416 | -1416 | -1416 | | |
| | X48 | -594 | -594 | -573 | -516 | -474 | -440 | -793 | -793 | -793 | -793 | -793 | -780 | -969 | -969 | -969 | -969 | -969 | -969 | -969 | -969 | | |
| | 48-S | -530 | -530 | -498 | -447 | -409 | -379 | -709 | -709 | -709 | -709 | -709 | -672 | -868 | -868 | -868 | -868 | -868 | -868 | -868 | -868 | | |
| 140 | X80 | -933 | -933 | -859 | -768 | -700 | -644 | -1249 | -1249 | -1249 | -1249 | -1237 | -1137 | -1528 | -1528 | -1528 | -1528 | -1528 | -1528 | -1528 | -1528 | | |
| | X48 | -642 | -642 | -642 | -587 | -541 | -504 | -856 | -856 | -856 | -856 | -856 | -856 | -1046 | -1046 | -1046 | -1046 | -1046 | -1046 | -1046 | -1046 | | |
| | 48-S | -574 | -574 | -563 | -509 | -467 | -435 | -766 | -766 | -766 | -766 | -766 | -766 | -936 | -936 | -936 | -936 | -936 | -936 | -936 | -936 | | |
| 150 | X80 | -1003 | -1003 | -961 | -863 | -790 | -733 | -1341 | -1341 | -1341 | -1341 | -1341 | -1295 | -1640 | -1640 | -1640 | -1640 | -1640 | -1640 | -1640 | -1640 | | |
| | X48 | -690 | -690 | -690 | -656 | -607 | -568 | -919 | -919 | -919 | -919 | -919 | -919 | -1122 | -1122 | -1122 | -1122 | -1122 | -1122 | -1122 | -1122 | | |
| | 48-S | -617 | -617 | -617 | -570 | -526 | -490 | -823 | -823 | -823 | -823 | -823 | -823 | -1005 | -1005 | -1005 | -1005 | -1005 | -1005 | -1005 | -1005 | | |

| Exposure | Table 1.19: Maximum Downforce (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | |
|----------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| C | 85 | X80 | 379 | 467 | 539 | 576 | 635 | 706 | 348 | 460 | 539 | 576 | 635 | 706 | 286 | 378 | 527 | 576 | 635 | 706 |
| | | X48 | 284 | 350 | 427 | 470 | 518 | 575 | 240 | 316 | 427 | 470 | 518 | 575 | 197 | 260 | 363 | 466 | 518 | 575 |
| | | 48-S | 274 | 320 | 368 | 399 | 440 | 488 | 215 | 284 | 368 | 399 | 440 | 488 | 176 | 233 | 325 | 399 | 440 | 488 |
| | 90 | X80 | 406 | 486 | 560 | 594 | 635 | 706 | 361 | 458 | 560 | 594 | 635 | 706 | 297 | 377 | 517 | 594 | 635 | 706 |
| | | X48 | 304 | 364 | 437 | 484 | 518 | 575 | 249 | 317 | 435 | 484 | 518 | 575 | 204 | 259 | 356 | 453 | 518 | 575 |
| | | 48-S | 294 | 330 | 377 | 411 | 440 | 488 | 223 | 283 | 377 | 411 | 440 | 488 | 183 | 232 | 318 | 405 | 440 | 488 |
| | 100 | X80 | 465 | 528 | 593 | 633 | 666 | 706 | 388 | 459 | 593 | 633 | 666 | 706 | 319 | 378 | 505 | 631 | 666 | 706 |
| | | X48 | 341 | 395 | 459 | 507 | 542 | 575 | 267 | 317 | 423 | 507 | 542 | 575 | 219 | 260 | 347 | 434 | 521 | 575 |
| | | 48-S | 317 | 353 | 397 | 436 | 461 | 488 | 239 | 283 | 378 | 436 | 461 | 488 | 196 | 232 | 310 | 388 | 461 | 488 |
| | 105 | X80 | 493 | 548 | 609 | 653 | 683 | 715 | 400 | 460 | 607 | 653 | 683 | 715 | 329 | 379 | 499 | 620 | 683 | 715 |
| | | X48 | 356 | 410 | 469 | 516 | 557 | 583 | 275 | 317 | 418 | 516 | 557 | 583 | 226 | 260 | 343 | 426 | 508 | 583 |
| | | 48-S | 326 | 364 | 406 | 445 | 473 | 495 | 246 | 283 | 374 | 445 | 473 | 495 | 202 | 233 | 307 | 381 | 455 | 495 |
| 110 | X80 | 523 | 570 | 626 | 675 | 702 | 732 | 413 | 463 | 603 | 675 | 702 | 732 | 340 | 381 | 496 | 611 | 702 | 732 | |
| | X48 | 373 | 419 | 481 | 527 | 569 | 597 | 284 | 319 | 415 | 511 | 569 | 597 | 233 | 261 | 340 | 419 | 498 | 577 | |
| | 48-S | 338 | 376 | 416 | 454 | 486 | 507 | 254 | 285 | 371 | 454 | 486 | 507 | 209 | 234 | 304 | 375 | 446 | 507 | |
| 115 | X80 | 556 | 594 | 644 | 693 | 723 | 751 | 429 | 468 | 602 | 693 | 723 | 751 | 352 | 385 | 495 | 605 | 716 | 751 | |
| | X48 | 391 | 427 | 493 | 537 | 579 | 612 | 295 | 322 | 414 | 506 | 579 | 612 | 242 | 264 | 339 | 415 | 491 | 566 | |
| | 48-S | 349 | 381 | 427 | 464 | 498 | 520 | 263 | 288 | 370 | 453 | 498 | 520 | 216 | 236 | 304 | 371 | 439 | 507 | |
| 120 | X80 | 584 | 614 | 661 | 709 | 743 | 769 | 442 | 472 | 600 | 709 | 743 | 769 | 364 | 388 | 494 | 600 | 705 | 769 | |
| | X48 | 403 | 431 | 504 | 548 | 589 | 627 | 304 | 324 | 412 | 501 | 589 | 627 | 249 | 266 | 339 | 411 | 483 | 556 | |
| | 48-S | 360 | 385 | 438 | 474 | 507 | 532 | 272 | 290 | 369 | 448 | 507 | 532 | 223 | 238 | 303 | 368 | 433 | 497 | |
| 130 | X80 | 623 | 638 | 698 | 743 | 786 | 810 | 472 | 484 | 602 | 721 | 786 | 810 | 388 | 398 | 495 | 593 | 690 | 788 | |
| | X48 | 430 | 440 | 529 | 571 | 610 | 647 | 324 | 332 | 413 | 495 | 576 | 647 | 266 | 272 | 339 | 406 | 473 | 539 | |
| | 48-S | 384 | 393 | 460 | 494 | 526 | 557 | 290 | 297 | 370 | 443 | 515 | 557 | 238 | 244 | 304 | 363 | 423 | 483 | |
| 140 | X80 | 662 | 662 | 737 | 778 | 818 | 853 | 501 | 501 | 607 | 717 | 818 | 853 | 412 | 412 | 499 | 589 | 680 | 770 | |
| | X48 | 455 | 455 | 551 | 594 | 632 | 667 | 344 | 344 | 416 | 491 | 567 | 642 | 282 | 282 | 341 | 403 | 465 | 527 | |
| | 48-S | 407 | 407 | 483 | 515 | 546 | 576 | 308 | 308 | 372 | 440 | 507 | 575 | 253 | 253 | 306 | 361 | 416 | 472 | |
| 150 | X80 | 702 | 702 | 776 | 814 | 852 | 890 | 532 | 532 | 614 | 716 | 819 | 890 | 437 | 437 | 505 | 589 | 674 | 758 | |
| | X48 | 483 | 483 | 557 | 618 | 654 | 689 | 364 | 364 | 420 | 491 | 561 | 631 | 299 | 299 | 345 | 403 | 461 | 518 | |
| | 48-S | 432 | 432 | 498 | 537 | 567 | 595 | 326 | 326 | 376 | 439 | 502 | 565 | 268 | 268 | 309 | 361 | 413 | 464 | |

| Exposure | Ultimate Wind Speed, V (mph) | Rail Type | Table 1.20: Maximum Shear (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | |
|----------|------------------------------|-----------|---|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|----|-----|-----|-----|-----|-----|
| | | | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| C | 85 | X80 | 35 | 147 | 216 | 259 | 296 | 329 | 329 | 32 | 145 | 216 | 259 | 296 | 329 | 26 | 119 | 212 | 259 | 296 | 329 |
| | | X48 | 26 | 110 | 172 | 211 | 241 | 268 | 268 | 22 | 99 | 172 | 211 | 241 | 268 | 18 | 82 | 146 | 210 | 241 | 268 |
| | | 48-S | 25 | 101 | 148 | 180 | 205 | 228 | 228 | 20 | 89 | 148 | 180 | 205 | 228 | 16 | 73 | 130 | 180 | 205 | 228 |
| | 90 | X80 | 34 | 145 | 216 | 259 | 296 | 329 | 329 | 30 | 137 | 216 | 259 | 296 | 329 | 25 | 112 | 200 | 259 | 296 | 329 |
| | | X48 | 25 | 109 | 169 | 211 | 241 | 268 | 268 | 21 | 94 | 168 | 211 | 241 | 268 | 17 | 77 | 138 | 198 | 241 | 268 |
| | | 48-S | 24 | 99 | 146 | 180 | 205 | 228 | 228 | 19 | 84 | 146 | 180 | 205 | 228 | 15 | 69 | 123 | 177 | 205 | 228 |
| | 100 | X80 | 32 | 141 | 211 | 259 | 296 | 329 | 329 | 27 | 123 | 211 | 259 | 296 | 329 | 22 | 101 | 180 | 259 | 296 | 329 |
| | | X48 | 24 | 106 | 164 | 208 | 241 | 268 | 268 | 19 | 85 | 151 | 208 | 241 | 268 | 15 | 69 | 123 | 178 | 232 | 268 |
| | | 48-S | 22 | 94 | 141 | 179 | 205 | 228 | 228 | 17 | 76 | 135 | 179 | 205 | 228 | 14 | 62 | 110 | 159 | 205 | 228 |
| | 105 | X80 | 32 | 139 | 209 | 259 | 296 | 329 | 329 | 26 | 117 | 208 | 259 | 296 | 329 | 21 | 96 | 171 | 246 | 296 | 329 |
| | | X48 | 23 | 104 | 161 | 205 | 241 | 268 | 268 | 18 | 81 | 143 | 205 | 241 | 268 | 15 | 66 | 118 | 169 | 221 | 268 |
| | | 48-S | 21 | 92 | 139 | 177 | 205 | 228 | 228 | 16 | 72 | 128 | 177 | 205 | 228 | 13 | 59 | 105 | 151 | 197 | 228 |
| | 110 | X80 | 31 | 137 | 206 | 259 | 296 | 329 | 329 | 25 | 112 | 199 | 259 | 296 | 329 | 20 | 92 | 163 | 235 | 296 | 329 |
| | | X48 | 22 | 101 | 158 | 202 | 240 | 268 | 268 | 17 | 77 | 137 | 197 | 240 | 268 | 14 | 63 | 112 | 161 | 210 | 259 |
| | | 48-S | 20 | 90 | 137 | 175 | 205 | 228 | 228 | 15 | 69 | 122 | 175 | 205 | 228 | 12 | 56 | 100 | 144 | 188 | 228 |
| 115 | X80 | 30 | 136 | 203 | 257 | 296 | 329 | 329 | 23 | 107 | 190 | 257 | 296 | 329 | 19 | 88 | 156 | 225 | 293 | 329 | |
| | X48 | 21 | 97 | 156 | 200 | 237 | 268 | 268 | 16 | 73 | 131 | 188 | 237 | 268 | 13 | 60 | 107 | 154 | 201 | 248 | |
| | 48-S | 19 | 87 | 135 | 172 | 204 | 228 | 228 | 14 | 66 | 117 | 168 | 204 | 228 | 12 | 54 | 96 | 138 | 180 | 222 | |
| 120 | X80 | 30 | 133 | 201 | 255 | 296 | 329 | 329 | 22 | 102 | 182 | 255 | 296 | 329 | 19 | 84 | 150 | 216 | 281 | 329 | |
| | X48 | 21 | 93 | 153 | 197 | 235 | 268 | 268 | 15 | 70 | 125 | 180 | 235 | 268 | 13 | 58 | 103 | 148 | 193 | 238 | |
| | 48-S | 18 | 83 | 133 | 170 | 202 | 228 | 228 | 14 | 63 | 112 | 161 | 202 | 228 | 11 | 52 | 92 | 132 | 172 | 213 | |
| 130 | X80 | 27 | 125 | 195 | 249 | 296 | 329 | 329 | 21 | 95 | 168 | 242 | 296 | 329 | 17 | 78 | 138 | 199 | 260 | 320 | |
| | X48 | 19 | 86 | 148 | 192 | 229 | 263 | 263 | 14 | 65 | 115 | 166 | 217 | 263 | 12 | 53 | 95 | 136 | 178 | 219 | |
| | 48-S | 17 | 77 | 129 | 166 | 198 | 226 | 226 | 13 | 58 | 103 | 149 | 194 | 226 | 10 | 48 | 85 | 122 | 159 | 196 | |
| 140 | X80 | 25 | 116 | 190 | 244 | 290 | 329 | 329 | 19 | 88 | 156 | 225 | 290 | 329 | 16 | 72 | 128 | 185 | 241 | 297 | |
| | X48 | 18 | 80 | 142 | 186 | 224 | 257 | 257 | 13 | 60 | 107 | 154 | 201 | 248 | 11 | 49 | 88 | 126 | 165 | 203 | |
| | 48-S | 16 | 71 | 124 | 161 | 194 | 222 | 222 | 12 | 54 | 96 | 138 | 180 | 222 | 10 | 44 | 79 | 113 | 148 | 182 | |
| 150 | X80 | 24 | 108 | 184 | 238 | 285 | 326 | 326 | 18 | 82 | 146 | 210 | 273 | 326 | 15 | 67 | 120 | 172 | 225 | 277 | |
| | X48 | 16 | 74 | 132 | 181 | 218 | 252 | 252 | 12 | 56 | 100 | 144 | 187 | 231 | 10 | 46 | 82 | 118 | 154 | 190 | |
| | 48-S | 15 | 66 | 118 | 157 | 189 | 218 | 218 | 11 | 50 | 89 | 129 | 168 | 207 | 9 | 41 | 73 | 106 | 138 | 170 | |

| Exposure | Table 1.21: Maximum Span Length - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------|---|-----------|---------------------------|-----|----|----|----|---------------------------|-----|-----|----|----|---------------------------|----|----|----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| D | 85 | X80 | 122 | 116 | 97 | 81 | 71 | 64 | 107 | 107 | 97 | 81 | 71 | 64 | 88 | 88 | 88 | 81 | 71 | 64 |
| | | X48 | 92 | 87 | 76 | 66 | 58 | 52 | 74 | 74 | 74 | 66 | 58 | 52 | 60 | 60 | 60 | 60 | 60 | 58 |
| | | 48-S | 87 | 78 | 65 | 56 | 49 | 44 | 66 | 66 | 65 | 56 | 49 | 44 | 54 | 54 | 54 | 54 | 54 | 49 |
| | 90 | X80 | 119 | 114 | 96 | 81 | 71 | 64 | 101 | 101 | 96 | 81 | 71 | 64 | 83 | 83 | 83 | 81 | 71 | 64 |
| | | X48 | 88 | 85 | 74 | 66 | 58 | 52 | 70 | 70 | 70 | 66 | 58 | 52 | 57 | 57 | 57 | 57 | 57 | 52 |
| | | 48-S | 83 | 77 | 64 | 56 | 49 | 44 | 62 | 62 | 62 | 56 | 49 | 44 | 51 | 51 | 51 | 51 | 51 | 44 |
| | 100 | X80 | 114 | 111 | 93 | 81 | 71 | 64 | 91 | 91 | 91 | 81 | 71 | 64 | 75 | 75 | 75 | 75 | 71 | 64 |
| | | X48 | 82 | 82 | 72 | 64 | 58 | 52 | 62 | 62 | 62 | 62 | 58 | 52 | 51 | 51 | 51 | 51 | 51 | 51 |
| | | 48-S | 74 | 73 | 62 | 55 | 49 | 44 | 56 | 56 | 56 | 55 | 49 | 44 | 46 | 46 | 46 | 46 | 46 | 44 |
| | 105 | X80 | 112 | 109 | 92 | 81 | 71 | 64 | 86 | 86 | 86 | 81 | 71 | 64 | 71 | 71 | 71 | 71 | 71 | 64 |
| | | X48 | 79 | 79 | 70 | 63 | 57 | 52 | 59 | 59 | 59 | 59 | 57 | 52 | 49 | 49 | 49 | 49 | 49 | 49 |
| | | 48-S | 70 | 70 | 61 | 54 | 49 | 44 | 53 | 53 | 53 | 53 | 49 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| 110 | X80 | 109 | 107 | 91 | 80 | 71 | 64 | 82 | 82 | 82 | 80 | 71 | 64 | 68 | 68 | 68 | 68 | 68 | 64 | |
| | X48 | 75 | 75 | 69 | 62 | 57 | 52 | 57 | 57 | 57 | 57 | 57 | 52 | 46 | 46 | 46 | 46 | 46 | 46 | |
| | 48-S | 67 | 67 | 60 | 53 | 49 | 44 | 51 | 51 | 51 | 51 | 49 | 44 | 42 | 42 | 42 | 42 | 42 | 42 | |
| 115 | X80 | 104 | 104 | 89 | 79 | 71 | 64 | 79 | 79 | 79 | 79 | 71 | 64 | 65 | 65 | 65 | 65 | 65 | 64 | |
| | X48 | 72 | 72 | 68 | 61 | 56 | 52 | 54 | 54 | 54 | 54 | 54 | 52 | 44 | 44 | 44 | 44 | 44 | 44 | |
| | 48-S | 64 | 64 | 59 | 53 | 48 | 44 | 48 | 48 | 48 | 48 | 48 | 44 | 40 | 40 | 40 | 40 | 40 | 40 | |
| 120 | X80 | 100 | 100 | 88 | 78 | 71 | 64 | 76 | 76 | 76 | 76 | 71 | 64 | 62 | 62 | 62 | 62 | 62 | 62 | |
| | X48 | 69 | 69 | 67 | 60 | 55 | 51 | 52 | 52 | 52 | 52 | 52 | 51 | 43 | 43 | 43 | 43 | 43 | 43 | |
| | 48-S | 61 | 61 | 58 | 52 | 48 | 44 | 46 | 46 | 46 | 46 | 46 | 44 | 38 | 38 | 38 | 38 | 38 | 38 | |
| 130 | X80 | 92 | 92 | 85 | 76 | 70 | 64 | 70 | 70 | 70 | 70 | 70 | 64 | 57 | 57 | 57 | 57 | 57 | 57 | |
| | X48 | 63 | 63 | 63 | 58 | 54 | 50 | 48 | 48 | 48 | 48 | 48 | 48 | 39 | 39 | 39 | 39 | 39 | 39 | |
| | 48-S | 57 | 57 | 56 | 50 | 46 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 35 | 35 | 35 | 35 | 35 | 35 | |
| 140 | X80 | 85 | 85 | 83 | 74 | 68 | 63 | 65 | 65 | 65 | 65 | 65 | 63 | 53 | 53 | 53 | 53 | 53 | 53 | |
| | X48 | 59 | 59 | 59 | 56 | 52 | 49 | 44 | 44 | 44 | 44 | 44 | 44 | 36 | 36 | 36 | 36 | 36 | 36 | |
| | 48-S | 53 | 53 | 53 | 49 | 45 | 42 | 40 | 40 | 40 | 40 | 40 | 40 | 33 | 33 | 33 | 33 | 33 | 33 | |
| 150 | X80 | 80 | 80 | 80 | 72 | 67 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | |
| | X48 | 55 | 55 | 55 | 55 | 51 | 48 | 41 | 41 | 41 | 41 | 41 | 41 | 34 | 34 | 34 | 34 | 34 | 34 | |
| | 48-S | 49 | 49 | 49 | 48 | 44 | 41 | 37 | 37 | 37 | 37 | 37 | 37 | 30 | 30 | 30 | 30 | 30 | 30 | |

| Exposure | Table 1.22: Maximum Uplift (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------|--|-----------|---------------------------|-------|------|------|------|-------|---------------------------|-------|-------|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | | Roof Wind Pressure Zone 2 | | | | | | Roof Wind Pressure Zone 3 | | | | | |
| | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| D | 85 | X80 | -511 | -484 | -407 | -341 | -298 | -269 | -804 | -804 | -733 | -614 | -538 | -484 | -993 | -993 | -993 | -921 | -807 | -726 |
| | | X48 | -383 | -363 | -317 | -278 | -243 | -219 | -556 | -556 | -556 | -500 | -438 | -394 | -683 | -683 | -683 | -683 | -657 | -592 |
| | | 48-S | -366 | -328 | -273 | -236 | -206 | -186 | -496 | -496 | -492 | -425 | -372 | -335 | -335 | -611 | -611 | -611 | -611 | -558 |
| | 90 | X80 | -563 | -538 | -453 | -384 | -336 | -303 | -856 | -856 | -815 | -692 | -606 | -545 | -1055 | -1055 | -1055 | -1036 | -907 | -817 |
| | | X48 | -416 | -403 | -351 | -309 | -274 | -247 | -590 | -590 | -590 | -557 | -493 | -444 | -725 | -725 | -725 | -725 | -725 | -666 |
| | | 48-S | -390 | -361 | -303 | -266 | -233 | -210 | -527 | -527 | -527 | -479 | -419 | -377 | -648 | -648 | -648 | -648 | -628 | -565 |
| | 100 | X80 | -677 | -657 | -554 | -484 | -423 | -381 | -959 | -959 | -959 | -862 | -755 | -680 | -1179 | -1179 | -1179 | -1179 | -1127 | -1015 |
| | | X48 | -484 | -484 | -426 | -378 | -344 | -311 | -660 | -660 | -660 | -660 | -613 | -554 | -808 | -808 | -808 | -808 | -808 | -808 |
| | | 48-S | -439 | -433 | -369 | -326 | -293 | -264 | -590 | -590 | -590 | -581 | -522 | -470 | -723 | -723 | -723 | -723 | -723 | -702 |
| | 105 | X80 | -736 | -719 | -606 | -533 | -470 | -423 | -1010 | -1010 | -1010 | -947 | -834 | -751 | -1239 | -1239 | -1239 | -1239 | -1239 | -1120 |
| | | X48 | -519 | -519 | -464 | -414 | -377 | -345 | -694 | -694 | -694 | -694 | -669 | -612 | -850 | -850 | -850 | -850 | -850 | -850 |
| | | 48-S | -463 | -463 | -402 | -357 | -324 | -293 | -621 | -621 | -621 | -621 | -576 | -520 | -760 | -760 | -760 | -760 | -760 | -760 |
| 110 | X80 | -787 | -775 | -656 | -579 | -516 | -464 | -1061 | -1061 | -1061 | -1031 | -918 | -827 | -1301 | -1301 | -1301 | -1301 | -1301 | -1233 | |
| | X48 | -544 | -544 | -500 | -448 | -409 | -378 | -729 | -729 | -729 | -729 | -728 | -674 | -892 | -892 | -892 | -892 | -892 | -892 | |
| | 48-S | -486 | -486 | -434 | -387 | -352 | -321 | -652 | -652 | -652 | -652 | -627 | -572 | -798 | -798 | -798 | -798 | -798 | -798 | |
| 115 | X80 | -828 | -828 | -711 | -629 | -568 | -511 | -1111 | -1111 | -1111 | -1111 | -1005 | -905 | -1362 | -1362 | -1362 | -1362 | -1362 | -1348 | |
| | X48 | -571 | -571 | -540 | -485 | -444 | -412 | -763 | -763 | -763 | -763 | -763 | -730 | -933 | -933 | -933 | -933 | -933 | -933 | |
| | 48-S | -510 | -510 | -469 | -420 | -383 | -354 | -683 | -683 | -683 | -683 | -678 | -626 | -835 | -835 | -835 | -835 | -835 | -835 | |
| 120 | X80 | -866 | -866 | -764 | -679 | -617 | -557 | -1163 | -1163 | -1163 | -1163 | -1093 | -988 | -1423 | -1423 | -1423 | -1423 | -1423 | -1423 | |
| | X48 | -597 | -597 | -578 | -521 | -479 | -445 | -798 | -798 | -798 | -798 | -798 | -788 | -974 | -974 | -974 | -974 | -974 | -974 | |
| | 48-S | -534 | -534 | -503 | -451 | -413 | -383 | -714 | -714 | -714 | -714 | -714 | -679 | -872 | -872 | -872 | -872 | -872 | -872 | |
| 130 | X80 | -943 | -943 | -874 | -781 | -713 | -658 | -1263 | -1263 | -1263 | -1263 | -1260 | -1162 | -1545 | -1545 | -1545 | -1545 | -1545 | -1545 | |
| | X48 | -649 | -649 | -649 | -596 | -550 | -513 | -865 | -865 | -865 | -865 | -865 | -865 | -1057 | -1057 | -1057 | -1057 | -1057 | -1057 | |
| | 48-S | -580 | -580 | -573 | -517 | -476 | -443 | -775 | -775 | -775 | -775 | -775 | -775 | -947 | -947 | -947 | -947 | -947 | -947 | |
| 140 | X80 | -1022 | -1022 | -988 | -889 | -815 | -757 | -1364 | -1364 | -1364 | -1364 | -1364 | -1333 | -1668 | -1668 | -1668 | -1668 | -1668 | -1668 | |
| | X48 | -702 | -702 | -702 | -675 | -625 | -585 | -934 | -934 | -934 | -934 | -934 | -934 | -1140 | -1140 | -1140 | -1140 | -1140 | -1140 | |
| | 48-S | -628 | -628 | -628 | -586 | -541 | -505 | -836 | -836 | -836 | -836 | -836 | -836 | -1021 | -1021 | -1021 | -1021 | -1021 | -1021 | |
| 150 | X80 | -1097 | -1097 | -1097 | -996 | -917 | -854 | -1465 | -1465 | -1465 | -1465 | -1465 | -1465 | -1790 | -1790 | -1790 | -1790 | -1790 | -1790 | |
| | X48 | -754 | -754 | -754 | -751 | -699 | -657 | -1002 | -1002 | -1002 | -1002 | -1002 | -1002 | -1223 | -1223 | -1223 | -1223 | -1223 | -1223 | |
| | 48-S | -674 | -674 | -674 | -654 | -607 | -568 | -898 | -898 | -898 | -898 | -898 | -898 | -1096 | -1096 | -1096 | -1096 | -1096 | -1096 | |

ROOFS >7° TO 27°

| Exposure | Table 1.23: Maximum Downforce (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| D | 85 | X80 | 421 | 496 | 569 | 604 | 640 | 706 | 368 | 458 | 569 | 604 | 640 | 706 | 302 | 377 | 514 | 604 | 640 | 706 |
| | | X48 | 315 | 372 | 443 | 492 | 521 | 575 | 254 | 316 | 431 | 492 | 521 | 575 | 208 | 259 | 353 | 447 | 521 | 575 |
| | | 48-S | 301 | 336 | 382 | 418 | 443 | 488 | 227 | 283 | 382 | 418 | 443 | 488 | 186 | 232 | 316 | 400 | 443 | 488 |
| | 90 | X80 | 452 | 519 | 586 | 625 | 658 | 706 | 382 | 458 | 586 | 625 | 658 | 706 | 314 | 377 | 506 | 625 | 658 | 706 |
| | | X48 | 334 | 388 | 454 | 503 | 536 | 575 | 263 | 316 | 425 | 503 | 536 | 575 | 216 | 259 | 348 | 437 | 526 | 575 |
| | | 48-S | 313 | 348 | 392 | 432 | 456 | 488 | 235 | 283 | 380 | 432 | 456 | 488 | 193 | 232 | 311 | 391 | 456 | 488 |
| | 100 | X80 | 519 | 567 | 623 | 671 | 699 | 730 | 412 | 464 | 605 | 671 | 699 | 730 | 339 | 382 | 498 | 614 | 699 | 730 |
| | | X48 | 371 | 418 | 479 | 525 | 568 | 594 | 284 | 319 | 417 | 514 | 568 | 594 | 233 | 262 | 342 | 421 | 501 | 581 |
| | | 48-S | 336 | 374 | 415 | 453 | 484 | 505 | 254 | 285 | 372 | 453 | 484 | 505 | 208 | 234 | 306 | 377 | 449 | 505 |
| | 105 | X80 | 551 | 590 | 641 | 690 | 719 | 748 | 426 | 467 | 602 | 690 | 719 | 748 | 350 | 384 | 495 | 606 | 690 | 748 |
| | | X48 | 388 | 426 | 491 | 536 | 577 | 609 | 293 | 321 | 414 | 506 | 577 | 609 | 240 | 263 | 339 | 415 | 491 | 567 |
| | | 48-S | 347 | 380 | 425 | 462 | 497 | 518 | 262 | 287 | 370 | 453 | 497 | 518 | 215 | 236 | 304 | 372 | 440 | 508 |
| 110 | X80 | 582 | 613 | 660 | 708 | 742 | 768 | 441 | 471 | 600 | 708 | 742 | 768 | 363 | 388 | 493 | 599 | 697 | 790 | |
| | X48 | 403 | 430 | 504 | 547 | 588 | 626 | 303 | 324 | 412 | 501 | 588 | 626 | 248 | 266 | 338 | 411 | 483 | 556 | |
| | 48-S | 359 | 384 | 437 | 473 | 507 | 532 | 271 | 290 | 369 | 448 | 507 | 532 | 222 | 238 | 303 | 368 | 432 | 497 | |
| 115 | X80 | 604 | 631 | 681 | 726 | 766 | 790 | 458 | 478 | 601 | 724 | 766 | 790 | 377 | 393 | 495 | 596 | 697 | 790 | |
| | X48 | 417 | 435 | 517 | 560 | 600 | 637 | 314 | 328 | 413 | 497 | 582 | 637 | 258 | 269 | 339 | 408 | 477 | 547 | |
| | 48-S | 372 | 389 | 449 | 484 | 517 | 547 | 281 | 294 | 369 | 445 | 517 | 547 | 231 | 241 | 303 | 365 | 427 | 489 | |
| 120 | X80 | 625 | 639 | 701 | 745 | 788 | 812 | 473 | 484 | 602 | 720 | 788 | 812 | 389 | 398 | 495 | 592 | 689 | 786 | |
| | X48 | 431 | 441 | 531 | 572 | 611 | 648 | 325 | 332 | 413 | 494 | 575 | 648 | 267 | 273 | 339 | 405 | 472 | 538 | |
| | 48-S | 385 | 394 | 462 | 495 | 528 | 558 | 291 | 297 | 369 | 442 | 514 | 558 | 239 | 244 | 304 | 363 | 422 | 482 | |
| 130 | X80 | 668 | 668 | 743 | 783 | 824 | 860 | 506 | 506 | 608 | 717 | 824 | 860 | 416 | 416 | 500 | 589 | 679 | 768 | |
| | X48 | 460 | 460 | 552 | 598 | 635 | 671 | 347 | 347 | 417 | 491 | 566 | 641 | 285 | 285 | 342 | 403 | 464 | 526 | |
| | 48-S | 411 | 411 | 487 | 519 | 549 | 579 | 311 | 311 | 373 | 440 | 506 | 573 | 255 | 255 | 306 | 361 | 416 | 471 | |
| 140 | X80 | 711 | 711 | 786 | 823 | 861 | 898 | 539 | 539 | 616 | 717 | 818 | 898 | 443 | 443 | 506 | 590 | 673 | 756 | |
| | X48 | 489 | 489 | 558 | 625 | 660 | 694 | 369 | 369 | 422 | 491 | 560 | 629 | 303 | 303 | 346 | 403 | 460 | 517 | |
| | 48-S | 437 | 437 | 499 | 543 | 572 | 600 | 330 | 330 | 378 | 440 | 502 | 563 | 271 | 271 | 310 | 361 | 412 | 463 | |
| 150 | X80 | 756 | 756 | 827 | 864 | 900 | 935 | 572 | 572 | 627 | 721 | 815 | 910 | 470 | 470 | 515 | 593 | 670 | 748 | |
| | X48 | 519 | 519 | 568 | 652 | 686 | 719 | 392 | 392 | 429 | 493 | 558 | 623 | 322 | 322 | 352 | 405 | 458 | 511 | |
| | 48-S | 464 | 464 | 508 | 568 | 595 | 622 | 351 | 351 | 384 | 442 | 500 | 557 | 288 | 288 | 315 | 363 | 410 | 458 | |

| Exposure | Table 1.24: Maximum Shear (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| D | 85 | X80 | 33 | 144 | 215 | 259 | 296 | 329 | 29 | 133 | 215 | 259 | 296 | 329 | 24 | 109 | 194 | 259 | 296 | 329 |
| | | X48 | 25 | 108 | 168 | 211 | 241 | 268 | 20 | 92 | 163 | 211 | 241 | 268 | 16 | 75 | 134 | 192 | 241 | 268 |
| | | 48-S | 24 | 97 | 144 | 180 | 205 | 228 | 18 | 82 | 144 | 180 | 205 | 228 | 15 | 67 | 120 | 172 | 205 | 228 |
| | 90 | X80 | 33 | 142 | 213 | 259 | 296 | 329 | 28 | 125 | 213 | 259 | 296 | 329 | 23 | 103 | 184 | 259 | 296 | 329 |
| | | X48 | 24 | 106 | 165 | 209 | 241 | 268 | 19 | 86 | 154 | 209 | 241 | 268 | 16 | 71 | 126 | 181 | 237 | 268 |
| | | 48-S | 23 | 95 | 142 | 180 | 205 | 228 | 17 | 77 | 138 | 180 | 205 | 228 | 14 | 63 | 113 | 162 | 205 | 228 |
| | 100 | X80 | 31 | 138 | 207 | 259 | 296 | 329 | 25 | 113 | 201 | 259 | 296 | 329 | 20 | 93 | 165 | 237 | 296 | 329 |
| | | X48 | 22 | 101 | 159 | 203 | 241 | 268 | 17 | 78 | 138 | 199 | 241 | 268 | 14 | 64 | 113 | 163 | 212 | 262 |
| | | 48-S | 20 | 91 | 137 | 175 | 205 | 228 | 15 | 69 | 123 | 175 | 205 | 228 | 13 | 57 | 101 | 146 | 190 | 228 |
| | 105 | X80 | 31 | 136 | 204 | 258 | 296 | 329 | 24 | 107 | 191 | 258 | 296 | 329 | 19 | 88 | 157 | 226 | 295 | 329 |
| | | X48 | 22 | 98 | 156 | 200 | 238 | 268 | 16 | 74 | 131 | 189 | 238 | 268 | 13 | 61 | 108 | 155 | 202 | 250 |
| | | 48-S | 19 | 87 | 135 | 173 | 205 | 228 | 15 | 66 | 118 | 169 | 205 | 228 | 12 | 54 | 97 | 139 | 181 | 223 |
| 110 | X80 | 30 | 133 | 201 | 255 | 296 | 329 | 23 | 103 | 182 | 255 | 296 | 329 | 19 | 84 | 150 | 216 | 282 | 329 | |
| | X48 | 21 | 94 | 153 | 197 | 235 | 268 | 15 | 70 | 125 | 180 | 235 | 268 | 13 | 58 | 103 | 148 | 193 | 238 | |
| | 48-S | 18 | 84 | 133 | 170 | 202 | 228 | 14 | 63 | 112 | 161 | 202 | 228 | 11 | 52 | 92 | 132 | 173 | 213 | |
| 115 | X80 | 28 | 129 | 198 | 252 | 296 | 329 | 22 | 98 | 175 | 251 | 296 | 329 | 18 | 81 | 144 | 207 | 270 | 329 | |
| | X48 | 20 | 89 | 150 | 194 | 232 | 265 | 15 | 67 | 120 | 172 | 225 | 265 | 12 | 55 | 98 | 141 | 185 | 228 | |
| | 48-S | 18 | 80 | 131 | 168 | 200 | 228 | 13 | 60 | 107 | 154 | 200 | 228 | 11 | 49 | 88 | 127 | 165 | 204 | |
| 120 | X80 | 27 | 124 | 195 | 249 | 295 | 329 | 21 | 94 | 167 | 241 | 295 | 329 | 17 | 77 | 138 | 198 | 258 | 319 | |
| | X48 | 19 | 86 | 147 | 191 | 229 | 263 | 14 | 64 | 115 | 165 | 215 | 263 | 12 | 53 | 94 | 135 | 177 | 218 | |
| | 48-S | 17 | 76 | 128 | 166 | 198 | 226 | 13 | 58 | 103 | 148 | 193 | 226 | 10 | 47 | 84 | 121 | 158 | 195 | |
| 130 | X80 | 25 | 115 | 189 | 243 | 289 | 329 | 19 | 87 | 154 | 222 | 289 | 329 | 16 | 71 | 127 | 183 | 238 | 294 | |
| | X48 | 17 | 79 | 140 | 185 | 223 | 257 | 13 | 59 | 106 | 152 | 199 | 245 | 11 | 49 | 87 | 125 | 163 | 201 | |
| | 48-S | 15 | 70 | 124 | 161 | 193 | 221 | 12 | 53 | 95 | 136 | 178 | 219 | 10 | 44 | 78 | 112 | 146 | 180 | |
| 140 | X80 | 23 | 106 | 183 | 237 | 283 | 324 | 18 | 81 | 143 | 206 | 269 | 324 | 15 | 66 | 118 | 170 | 221 | 273 | |
| | X48 | 16 | 73 | 130 | 180 | 217 | 251 | 12 | 55 | 98 | 141 | 184 | 227 | 10 | 45 | 81 | 116 | 151 | 187 | |
| | 48-S | 14 | 65 | 116 | 156 | 188 | 217 | 11 | 49 | 88 | 126 | 165 | 203 | 9 | 41 | 72 | 104 | 135 | 167 | |
| 150 | X80 | 22 | 99 | 177 | 231 | 277 | 318 | 17 | 75 | 134 | 192 | 251 | 310 | 14 | 62 | 110 | 158 | 206 | 255 | |
| | X48 | 15 | 68 | 121 | 174 | 211 | 245 | 11 | 51 | 92 | 132 | 172 | 212 | 9 | 42 | 75 | 108 | 141 | 174 | |
| | 48-S | 13 | 61 | 109 | 152 | 183 | 212 | 10 | 46 | 82 | 118 | 154 | 190 | 8 | 38 | 67 | 97 | 126 | 156 | |

| Exposure | Table 1.25: Maximum Span Length (in.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|------------|---|-----------|---------------------------|-----|----|----|----|---------------------------|-----|-----|----|----|---------------------------|-----|-----|-----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| B | 85 | X80 | 124 | 114 | 92 | 77 | 67 | 60 | 124 | 114 | 92 | 77 | 67 | 60 | 124 | 114 | 92 | 77 | 67 | 60 |
| | | X48 | 93 | 88 | 75 | 65 | 57 | 52 | 93 | 88 | 75 | 65 | 57 | 52 | 93 | 88 | 75 | 65 | 57 | 52 |
| | | 48-S | 90 | 78 | 64 | 55 | 48 | 43 | 90 | 78 | 64 | 55 | 48 | 43 | 90 | 78 | 64 | 55 | 48 | 43 |
| | 90 | X80 | 121 | 113 | 92 | 77 | 67 | 60 | 121 | 113 | 92 | 77 | 67 | 60 | 121 | 113 | 92 | 77 | 67 | 60 |
| | | X48 | 91 | 87 | 74 | 65 | 57 | 52 | 91 | 87 | 74 | 65 | 57 | 52 | 91 | 87 | 74 | 65 | 57 | 52 |
| | | 48-S | 87 | 76 | 63 | 55 | 48 | 43 | 87 | 76 | 63 | 55 | 48 | 43 | 87 | 76 | 63 | 55 | 48 | 43 |
| | 100 | X80 | 117 | 110 | 91 | 77 | 67 | 60 | 117 | 110 | 91 | 77 | 67 | 60 | 117 | 110 | 91 | 77 | 67 | 60 |
| | | X48 | 88 | 85 | 72 | 64 | 57 | 52 | 88 | 85 | 72 | 64 | 57 | 52 | 88 | 85 | 72 | 64 | 57 | 52 |
| | | 48-S | 85 | 74 | 62 | 54 | 48 | 43 | 84 | 74 | 62 | 54 | 48 | 43 | 84 | 74 | 62 | 54 | 48 | 43 |
| | 105 | X80 | 113 | 106 | 89 | 77 | 67 | 60 | 113 | 106 | 89 | 77 | 67 | 60 | 113 | 106 | 89 | 77 | 67 | 60 |
| | | X48 | 85 | 82 | 70 | 63 | 57 | 52 | 85 | 82 | 70 | 63 | 57 | 52 | 85 | 82 | 70 | 63 | 57 | 52 |
| | | 48-S | 81 | 71 | 60 | 53 | 48 | 43 | 80 | 71 | 60 | 53 | 48 | 43 | 80 | 71 | 60 | 53 | 48 | 43 |
| 110 | X80 | 111 | 104 | 88 | 77 | 67 | 60 | 111 | 104 | 88 | 77 | 67 | 60 | 111 | 104 | 88 | 77 | 67 | 60 | |
| | X48 | 83 | 80 | 69 | 62 | 56 | 52 | 83 | 80 | 69 | 62 | 56 | 52 | 83 | 80 | 69 | 62 | 56 | 52 | |
| | 48-S | 78 | 69 | 59 | 53 | 48 | 43 | 76 | 69 | 59 | 53 | 48 | 43 | 76 | 69 | 59 | 53 | 48 | 43 | |
| 115 | X80 | 109 | 102 | 86 | 76 | 67 | 60 | 109 | 102 | 86 | 76 | 67 | 60 | 109 | 102 | 86 | 76 | 67 | 60 | |
| | X48 | 81 | 78 | 68 | 61 | 56 | 51 | 81 | 78 | 68 | 61 | 56 | 51 | 81 | 78 | 68 | 61 | 56 | 51 | |
| | 48-S | 75 | 68 | 58 | 52 | 47 | 43 | 73 | 68 | 58 | 52 | 47 | 43 | 73 | 68 | 58 | 52 | 47 | 43 | |
| 120 | X80 | 106 | 101 | 85 | 75 | 67 | 60 | 106 | 101 | 85 | 75 | 67 | 60 | 106 | 101 | 85 | 75 | 67 | 60 | |
| | X48 | 80 | 76 | 67 | 60 | 55 | 51 | 78 | 76 | 67 | 60 | 55 | 51 | 78 | 76 | 67 | 60 | 55 | 51 | |
| | 48-S | 72 | 66 | 57 | 51 | 47 | 43 | 70 | 66 | 57 | 51 | 47 | 43 | 70 | 66 | 57 | 51 | 47 | 43 | |
| 130 | X80 | 103 | 97 | 83 | 74 | 67 | 60 | 103 | 97 | 83 | 74 | 67 | 60 | 103 | 97 | 83 | 74 | 67 | 60 | |
| | X48 | 76 | 73 | 64 | 58 | 54 | 50 | 72 | 72 | 64 | 58 | 54 | 50 | 72 | 72 | 64 | 58 | 54 | 50 | |
| | 48-S | 68 | 63 | 55 | 50 | 46 | 42 | 64 | 63 | 55 | 50 | 46 | 42 | 64 | 63 | 55 | 50 | 46 | 42 | |
| 140 | X80 | 99 | 93 | 80 | 72 | 66 | 60 | 97 | 93 | 80 | 72 | 66 | 60 | 97 | 93 | 80 | 72 | 66 | 60 | |
| | X48 | 71 | 70 | 62 | 56 | 52 | 49 | 67 | 67 | 62 | 56 | 52 | 49 | 67 | 67 | 62 | 56 | 52 | 49 | |
| | 48-S | 63 | 61 | 54 | 49 | 45 | 42 | 60 | 60 | 54 | 49 | 45 | 42 | 60 | 60 | 54 | 49 | 45 | 42 | |
| 150 | X80 | 96 | 90 | 78 | 70 | 64 | 60 | 90 | 90 | 78 | 70 | 64 | 60 | 90 | 90 | 78 | 70 | 64 | 60 | |
| | X48 | 67 | 66 | 60 | 55 | 51 | 48 | 62 | 62 | 60 | 55 | 51 | 48 | 62 | 62 | 60 | 55 | 51 | 48 | |
| | 48-S | 60 | 58 | 52 | 47 | 44 | 41 | 56 | 56 | 52 | 47 | 44 | 41 | 56 | 56 | 52 | 47 | 44 | 41 | |

ROOFS > 27° TO 45°

| Exposure | Table 1.26: Maximum Uplift (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|------------|--|-----------|---------------------------|------|------|------|------|---------------------------|------|------|------|------|---------------------------|------|------|------|------|------|------|------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| B | 85 | X80 | -330 | -305 | -245 | -205 | -179 | -161 | -393 | -363 | -292 | -243 | -213 | -192 | -393 | -363 | -292 | -243 | -213 | -192 |
| | | X48 | -247 | -235 | -201 | -174 | -153 | -137 | -294 | -280 | -239 | -207 | -182 | -164 | -294 | -280 | -239 | -207 | -182 | -164 |
| | | 48-S | -239 | -207 | -171 | -146 | -128 | -115 | -284 | -246 | -204 | -173 | -152 | -137 | -284 | -246 | -204 | -173 | -152 | -137 |
| | 90 | X80 | -367 | -341 | -279 | -233 | -204 | -183 | -434 | -403 | -330 | -275 | -241 | -217 | -434 | -403 | -330 | -275 | -241 | -217 |
| | | X48 | -275 | -264 | -225 | -198 | -174 | -156 | -325 | -312 | -266 | -234 | -205 | -185 | -325 | -312 | -266 | -234 | -205 | -185 |
| | | 48-S | -265 | -230 | -192 | -166 | -145 | -131 | -314 | -272 | -227 | -196 | -172 | -154 | -314 | -272 | -227 | -196 | -172 | -154 |
| | 100 | X80 | -447 | -419 | -346 | -293 | -256 | -231 | -528 | -494 | -408 | -345 | -302 | -272 | -528 | -494 | -408 | -345 | -302 | -272 |
| | | X48 | -335 | -325 | -276 | -244 | -218 | -197 | -396 | -384 | -326 | -288 | -258 | -232 | -396 | -384 | -326 | -288 | -258 | -232 |
| | | 48-S | -323 | -281 | -236 | -208 | -183 | -164 | -378 | -332 | -279 | -245 | -216 | -194 | -378 | -332 | -279 | -245 | -216 | -194 |
| | 105 | X80 | -478 | -450 | -375 | -324 | -284 | -256 | -566 | -533 | -444 | -384 | -336 | -303 | -566 | -533 | -444 | -384 | -336 | -303 |
| | | X48 | -358 | -347 | -297 | -264 | -241 | -218 | -424 | -411 | -352 | -313 | -285 | -258 | -424 | -411 | -352 | -313 | -285 | -258 |
| | | 48-S | -341 | -300 | -255 | -225 | -202 | -182 | -399 | -355 | -302 | -267 | -240 | -216 | -399 | -355 | -302 | -267 | -240 | -216 |
| 110 | X80 | -519 | -490 | -410 | -359 | -315 | -283 | -614 | -578 | -485 | -425 | -372 | -335 | -614 | -578 | -485 | -425 | -372 | -335 | |
| | X48 | -389 | -376 | -324 | -289 | -264 | -242 | -460 | -444 | -383 | -342 | -311 | -285 | -460 | -444 | -383 | -342 | -311 | -285 | |
| | 48-S | -365 | -325 | -278 | -247 | -224 | -202 | -421 | -384 | -329 | -292 | -265 | -239 | -421 | -384 | -329 | -292 | -265 | -239 | |
| 115 | X80 | -559 | -527 | -444 | -391 | -346 | -311 | -658 | -621 | -524 | -461 | -407 | -367 | -658 | -621 | -524 | -461 | -407 | -367 | |
| | X48 | -418 | -402 | -349 | -313 | -286 | -265 | -491 | -474 | -412 | -369 | -337 | -312 | -491 | -474 | -412 | -369 | -337 | -312 | |
| | 48-S | -386 | -349 | -300 | -267 | -244 | -222 | -441 | -411 | -354 | -315 | -287 | -261 | -441 | -411 | -354 | -315 | -287 | -261 | |
| 120 | X80 | -600 | -566 | -480 | -424 | -378 | -340 | -707 | -668 | -566 | -500 | -446 | -401 | -707 | -668 | -566 | -500 | -446 | -401 | |
| | X48 | -449 | -430 | -375 | -337 | -309 | -287 | -519 | -507 | -443 | -398 | -365 | -338 | -519 | -507 | -443 | -398 | -365 | -338 | |
| | 48-S | -407 | -374 | -323 | -289 | -263 | -243 | -463 | -441 | -381 | -341 | -311 | -286 | -463 | -441 | -381 | -341 | -311 | -286 | |
| 130 | X80 | -684 | -645 | -552 | -490 | -446 | -403 | -807 | -760 | -651 | -578 | -526 | -475 | -807 | -760 | -651 | -578 | -526 | -475 | |
| | X48 | -506 | -485 | -428 | -388 | -357 | -332 | -566 | -566 | -505 | -457 | -421 | -392 | -566 | -566 | -505 | -457 | -421 | -392 | |
| | 48-S | -450 | -423 | -370 | -333 | -305 | -283 | -505 | -499 | -436 | -392 | -359 | -334 | -505 | -499 | -436 | -392 | -359 | -334 | |
| 140 | X80 | -772 | -725 | -627 | -560 | -511 | -471 | -884 | -851 | -736 | -658 | -600 | -553 | -884 | -851 | -736 | -658 | -600 | -553 | |
| | X48 | -554 | -541 | -483 | -440 | -406 | -380 | -611 | -611 | -567 | -516 | -477 | -446 | -611 | -611 | -567 | -516 | -477 | -446 | |
| | 48-S | -492 | -473 | -418 | -378 | -348 | -324 | -546 | -546 | -490 | -444 | -409 | -381 | -546 | -546 | -490 | -444 | -409 | -381 | |
| 150 | X80 | -859 | -805 | -703 | -632 | -579 | -537 | -952 | -945 | -825 | -742 | -679 | -630 | -952 | -945 | -825 | -742 | -679 | -630 | |
| | X48 | -600 | -597 | -537 | -492 | -457 | -428 | -657 | -657 | -630 | -578 | -536 | -503 | -657 | -657 | -630 | -578 | -536 | -503 | |
| | 48-S | -535 | -523 | -466 | -424 | -392 | -366 | -587 | -587 | -547 | -498 | -460 | -430 | -587 | -587 | -547 | -498 | -460 | -430 | |

ROOFS >27° TO 45°

| Exposure | Table 1.27: Maximum Downforce (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | |
|------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| B | 85 | X80 | 404 | 457 | 497 | 522 | 552 | 601 | 404 | 457 | 497 | 522 | 552 | 601 | 404 | 457 | 497 | 522 | 552 | 601 |
| | | X48 | 303 | 352 | 407 | 445 | 471 | 512 | 303 | 352 | 407 | 445 | 471 | 512 | 303 | 352 | 407 | 445 | 471 | 512 |
| | | 48-S | 292 | 309 | 347 | 372 | 393 | 428 | 292 | 309 | 347 | 372 | 393 | 428 | 292 | 309 | 347 | 372 | 393 | 428 |
| | 90 | X80 | 434 | 476 | 519 | 541 | 568 | 601 | 434 | 476 | 519 | 541 | 568 | 601 | 434 | 476 | 519 | 541 | 568 | 601 |
| | | X48 | 325 | 368 | 418 | 460 | 484 | 512 | 325 | 368 | 418 | 460 | 484 | 512 | 325 | 368 | 418 | 460 | 484 | 512 |
| | | 48-S | 313 | 321 | 357 | 385 | 405 | 428 | 313 | 321 | 357 | 385 | 405 | 428 | 313 | 321 | 357 | 385 | 405 | 428 |
| | 100 | X80 | 477 | 504 | 544 | 569 | 592 | 619 | 477 | 504 | 544 | 569 | 592 | 619 | 477 | 504 | 544 | 569 | 592 | 619 |
| | | X48 | 357 | 391 | 435 | 475 | 505 | 528 | 357 | 391 | 435 | 475 | 505 | 528 | 357 | 391 | 435 | 475 | 505 | 528 |
| | | 48-S | 345 | 338 | 372 | 404 | 422 | 441 | 341 | 338 | 372 | 404 | 422 | 441 | 341 | 338 | 372 | 404 | 422 | 441 |
| | 105 | X80 | 532 | 540 | 575 | 606 | 625 | 648 | 532 | 540 | 575 | 606 | 625 | 648 | 532 | 540 | 575 | 606 | 625 | 648 |
| | | X48 | 399 | 416 | 456 | 494 | 529 | 552 | 399 | 416 | 456 | 494 | 529 | 552 | 399 | 416 | 456 | 494 | 529 | 552 |
| | | 48-S | 380 | 360 | 391 | 421 | 445 | 462 | 376 | 360 | 391 | 421 | 445 | 462 | 376 | 360 | 391 | 421 | 445 | 462 |
| 110 | X80 | 565 | 561 | 593 | 628 | 644 | 666 | 565 | 561 | 593 | 628 | 644 | 666 | 565 | 561 | 593 | 628 | 644 | 666 | |
| | X48 | 423 | 430 | 469 | 505 | 540 | 568 | 423 | 430 | 469 | 505 | 540 | 568 | 423 | 430 | 469 | 505 | 540 | 568 | |
| | 48-S | 397 | 373 | 402 | 431 | 459 | 474 | 388 | 373 | 402 | 431 | 459 | 474 | 388 | 373 | 402 | 431 | 459 | 474 | |
| 115 | X80 | 601 | 583 | 614 | 647 | 666 | 685 | 601 | 583 | 614 | 647 | 666 | 685 | 601 | 583 | 614 | 647 | 666 | 685 | |
| | X48 | 450 | 445 | 482 | 518 | 552 | 584 | 448 | 445 | 482 | 518 | 552 | 584 | 448 | 445 | 482 | 518 | 552 | 584 | |
| | 48-S | 415 | 386 | 415 | 443 | 470 | 488 | 403 | 386 | 415 | 443 | 470 | 488 | 403 | 386 | 415 | 443 | 470 | 488 | |
| 120 | X80 | 636 | 605 | 633 | 665 | 688 | 705 | 636 | 605 | 633 | 665 | 688 | 705 | 636 | 605 | 633 | 665 | 688 | 705 | |
| | X48 | 476 | 460 | 496 | 530 | 563 | 594 | 467 | 460 | 496 | 530 | 563 | 594 | 467 | 460 | 496 | 530 | 563 | 594 | |
| | 48-S | 432 | 400 | 427 | 454 | 480 | 503 | 416 | 400 | 427 | 454 | 480 | 503 | 416 | 400 | 427 | 454 | 480 | 503 | |
| 130 | X80 | 710 | 669 | 674 | 703 | 733 | 748 | 710 | 669 | 674 | 703 | 733 | 748 | 710 | 669 | 674 | 703 | 733 | 748 | |
| | X48 | 525 | 504 | 523 | 556 | 587 | 617 | 498 | 498 | 523 | 556 | 587 | 617 | 498 | 498 | 523 | 556 | 587 | 617 | |
| | 48-S | 467 | 439 | 452 | 477 | 502 | 526 | 444 | 439 | 452 | 477 | 502 | 526 | 444 | 439 | 452 | 477 | 502 | 526 | |
| 140 | X80 | 788 | 740 | 718 | 743 | 770 | 795 | 768 | 740 | 718 | 743 | 770 | 795 | 768 | 740 | 718 | 743 | 770 | 795 | |
| | X48 | 565 | 552 | 552 | 583 | 612 | 641 | 531 | 531 | 552 | 583 | 612 | 641 | 531 | 531 | 552 | 583 | 612 | 641 | |
| | 48-S | 503 | 482 | 478 | 501 | 524 | 547 | 474 | 474 | 478 | 501 | 524 | 547 | 474 | 474 | 478 | 501 | 524 | 547 | |
| 150 | X80 | 864 | 809 | 761 | 783 | 808 | 834 | 815 | 809 | 761 | 783 | 808 | 834 | 815 | 809 | 761 | 783 | 808 | 834 | |
| | X48 | 603 | 600 | 581 | 610 | 638 | 665 | 563 | 563 | 581 | 610 | 638 | 665 | 563 | 563 | 581 | 610 | 638 | 665 | |
| | 48-S | 537 | 525 | 504 | 526 | 548 | 569 | 503 | 503 | 504 | 526 | 548 | 569 | 503 | 503 | 504 | 526 | 548 | 569 | |

ROOFS >27° TO 45°

| Exposure | Table 1.28: Maximum Shear (lb.) - Wind Exposure B Condition | | | | | | | | | | | | | | | | | | | | |
|------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| B | 85 | X80 | 46 | 193 | 276 | 331 | 379 | 420 | 420 | 46 | 193 | 276 | 331 | 379 | 420 | 46 | 193 | 276 | 331 | 379 | 420 |
| | | X48 | 34 | 149 | 226 | 283 | 323 | 359 | 359 | 34 | 149 | 226 | 283 | 323 | 359 | 34 | 149 | 226 | 283 | 323 | 359 |
| | | 48-S | 33 | 131 | 193 | 236 | 270 | 300 | 300 | 33 | 131 | 193 | 236 | 270 | 300 | 33 | 131 | 193 | 236 | 270 | 300 |
| | 90 | X80 | 45 | 190 | 276 | 331 | 379 | 420 | 420 | 45 | 190 | 276 | 331 | 379 | 420 | 45 | 190 | 276 | 331 | 379 | 420 |
| | | X48 | 34 | 147 | 223 | 282 | 323 | 359 | 359 | 34 | 147 | 223 | 282 | 323 | 359 | 34 | 147 | 223 | 282 | 323 | 359 |
| | | 48-S | 32 | 128 | 190 | 236 | 270 | 300 | 300 | 32 | 128 | 190 | 236 | 270 | 300 | 32 | 128 | 190 | 236 | 270 | 300 |
| | 100 | X80 | 43 | 185 | 272 | 331 | 379 | 420 | 420 | 43 | 185 | 272 | 331 | 379 | 420 | 43 | 185 | 272 | 331 | 379 | 420 |
| | | X48 | 33 | 144 | 218 | 277 | 323 | 359 | 359 | 33 | 144 | 218 | 277 | 323 | 359 | 33 | 144 | 218 | 277 | 323 | 359 |
| | | 48-S | 31 | 124 | 186 | 235 | 270 | 300 | 300 | 31 | 124 | 186 | 235 | 270 | 300 | 31 | 124 | 186 | 235 | 270 | 300 |
| | 105 | X80 | 42 | 180 | 266 | 331 | 379 | 420 | 420 | 42 | 180 | 266 | 331 | 379 | 420 | 42 | 180 | 266 | 331 | 379 | 420 |
| | | X48 | 31 | 138 | 211 | 270 | 321 | 359 | 359 | 31 | 138 | 211 | 270 | 321 | 359 | 31 | 138 | 211 | 270 | 321 | 359 |
| | | 48-S | 30 | 120 | 181 | 230 | 270 | 300 | 300 | 30 | 120 | 181 | 230 | 270 | 300 | 30 | 120 | 181 | 230 | 270 | 300 |
| 110 | X80 | 41 | 176 | 263 | 331 | 379 | 420 | 420 | 41 | 176 | 263 | 331 | 379 | 420 | 41 | 176 | 263 | 331 | 379 | 420 | |
| | X48 | 31 | 135 | 208 | 267 | 317 | 359 | 359 | 31 | 135 | 208 | 267 | 317 | 359 | 31 | 135 | 208 | 267 | 317 | 359 | |
| | 48-S | 29 | 117 | 178 | 228 | 270 | 300 | 300 | 28 | 117 | 178 | 228 | 270 | 300 | 28 | 117 | 178 | 228 | 270 | 300 | |
| 115 | X80 | 40 | 173 | 259 | 329 | 379 | 420 | 420 | 40 | 173 | 259 | 329 | 379 | 420 | 40 | 173 | 259 | 329 | 379 | 420 | |
| | X48 | 30 | 132 | 204 | 263 | 313 | 358 | 358 | 30 | 132 | 204 | 263 | 313 | 358 | 30 | 132 | 204 | 263 | 313 | 358 | |
| | 48-S | 28 | 115 | 175 | 225 | 267 | 300 | 300 | 27 | 115 | 175 | 225 | 267 | 300 | 27 | 115 | 175 | 225 | 267 | 300 | |
| 120 | X80 | 40 | 170 | 256 | 325 | 379 | 420 | 420 | 40 | 170 | 256 | 325 | 379 | 420 | 40 | 170 | 256 | 325 | 379 | 420 | |
| | X48 | 30 | 129 | 200 | 259 | 310 | 354 | 354 | 29 | 129 | 200 | 259 | 310 | 354 | 29 | 129 | 200 | 259 | 310 | 354 | |
| | 48-S | 27 | 112 | 172 | 222 | 264 | 300 | 300 | 26 | 112 | 172 | 222 | 264 | 300 | 26 | 112 | 172 | 222 | 264 | 300 | |
| 130 | X80 | 38 | 163 | 249 | 318 | 377 | 420 | 420 | 38 | 163 | 249 | 318 | 377 | 420 | 38 | 163 | 249 | 318 | 377 | 420 | |
| | X48 | 28 | 123 | 193 | 252 | 302 | 347 | 347 | 27 | 122 | 193 | 252 | 302 | 347 | 27 | 122 | 193 | 252 | 302 | 347 | |
| | 48-S | 25 | 107 | 167 | 216 | 258 | 296 | 296 | 24 | 107 | 167 | 216 | 258 | 296 | 24 | 107 | 167 | 216 | 258 | 296 | |
| 140 | X80 | 37 | 157 | 242 | 311 | 370 | 420 | 420 | 36 | 157 | 242 | 311 | 370 | 420 | 36 | 157 | 242 | 311 | 370 | 420 | |
| | X48 | 26 | 117 | 186 | 244 | 294 | 339 | 339 | 25 | 113 | 186 | 244 | 294 | 339 | 25 | 113 | 186 | 244 | 294 | 339 | |
| | 48-S | 23 | 102 | 161 | 210 | 252 | 290 | 290 | 22 | 101 | 161 | 210 | 252 | 290 | 22 | 101 | 161 | 210 | 252 | 290 | |
| 150 | X80 | 35 | 151 | 235 | 304 | 363 | 416 | 416 | 34 | 151 | 235 | 304 | 363 | 416 | 34 | 151 | 235 | 304 | 363 | 416 | |
| | X48 | 25 | 112 | 180 | 237 | 287 | 332 | 332 | 23 | 105 | 180 | 237 | 287 | 332 | 23 | 105 | 180 | 237 | 287 | 332 | |
| | 48-S | 22 | 98 | 156 | 204 | 246 | 284 | 284 | 21 | 94 | 156 | 204 | 246 | 284 | 21 | 94 | 156 | 204 | 246 | 284 | |

ROOFS >27° TO 45°

| Exposure C | Table 1.29: Maximum Span Length (in.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | |
|----------------------|---|-----------|---------------------------|----|----|----|----|---------------------------|-----|----|----|----|---------------------------|-----|-----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | 115 | 108 | 90 | 77 | 67 | 60 | 115 | 108 | 90 | 77 | 67 | 60 | 115 | 108 | 90 | 77 | 67 | 60 |
| | X48 | 86 | 84 | 71 | 63 | 57 | 52 | 86 | 84 | 71 | 63 | 57 | 52 | 86 | 84 | 71 | 63 | 57 | 52 |
| | 48-S | 83 | 72 | 61 | 54 | 48 | 43 | 83 | 72 | 61 | 54 | 48 | 43 | 83 | 72 | 61 | 54 | 48 | 43 |
| 90 | X80 | 112 | 106 | 88 | 77 | 67 | 60 | 112 | 106 | 88 | 77 | 67 | 60 | 112 | 106 | 88 | 77 | 67 | 60 |
| | X48 | 84 | 82 | 70 | 62 | 57 | 52 | 84 | 82 | 70 | 62 | 57 | 52 | 84 | 82 | 70 | 62 | 57 | 52 |
| | 48-S | 80 | 71 | 60 | 53 | 48 | 43 | 79 | 71 | 60 | 53 | 48 | 43 | 79 | 71 | 60 | 53 | 48 | 43 |
| 100 | X80 | 109 | 103 | 86 | 76 | 67 | 60 | 109 | 103 | 86 | 76 | 67 | 60 | 109 | 103 | 86 | 76 | 67 | 60 |
| | X48 | 81 | 78 | 68 | 61 | 56 | 52 | 79 | 78 | 68 | 61 | 56 | 52 | 79 | 78 | 68 | 61 | 56 | 52 |
| | 48-S | 75 | 68 | 58 | 52 | 47 | 43 | 71 | 68 | 58 | 52 | 47 | 43 | 71 | 68 | 58 | 52 | 47 | 43 |
| 105 | X80 | 105 | 99 | 84 | 75 | 67 | 60 | 105 | 99 | 84 | 75 | 67 | 60 | 105 | 99 | 84 | 75 | 67 | 60 |
| | X48 | 78 | 75 | 66 | 59 | 54 | 50 | 75 | 75 | 66 | 59 | 54 | 50 | 75 | 75 | 66 | 59 | 54 | 50 |
| | 48-S | 70 | 65 | 57 | 51 | 46 | 43 | 67 | 65 | 57 | 51 | 46 | 43 | 67 | 65 | 57 | 51 | 46 | 43 |
| 110 | X80 | 103 | 97 | 83 | 74 | 67 | 60 | 103 | 97 | 83 | 74 | 67 | 60 | 103 | 97 | 83 | 74 | 67 | 60 |
| | X48 | 76 | 73 | 64 | 58 | 54 | 50 | 72 | 72 | 64 | 58 | 54 | 50 | 72 | 72 | 64 | 58 | 54 | 50 |
| | 48-S | 67 | 63 | 55 | 50 | 46 | 42 | 64 | 63 | 55 | 50 | 46 | 42 | 64 | 63 | 55 | 50 | 46 | 42 |
| 115 | X80 | 100 | 94 | 81 | 73 | 66 | 60 | 99 | 94 | 81 | 73 | 66 | 60 | 99 | 94 | 81 | 73 | 66 | 60 |
| | X48 | 73 | 71 | 63 | 57 | 53 | 49 | 69 | 69 | 63 | 57 | 53 | 49 | 69 | 69 | 63 | 57 | 53 | 49 |
| | 48-S | 65 | 62 | 54 | 49 | 45 | 42 | 61 | 61 | 54 | 49 | 45 | 42 | 61 | 61 | 54 | 49 | 45 | 42 |
| 120 | X80 | 99 | 92 | 80 | 72 | 65 | 60 | 95 | 92 | 80 | 72 | 65 | 60 | 95 | 92 | 80 | 72 | 65 | 60 |
| | X48 | 70 | 69 | 62 | 56 | 52 | 49 | 66 | 66 | 62 | 56 | 52 | 49 | 66 | 66 | 62 | 56 | 52 | 49 |
| | 48-S | 62 | 60 | 53 | 48 | 44 | 41 | 59 | 59 | 53 | 48 | 44 | 41 | 59 | 59 | 53 | 48 | 44 | 41 |
| 130 | X80 | 94 | 88 | 77 | 70 | 64 | 59 | 88 | 88 | 77 | 70 | 64 | 59 | 88 | 88 | 77 | 70 | 64 | 59 |
| | X48 | 65 | 65 | 59 | 54 | 50 | 47 | 61 | 61 | 59 | 54 | 50 | 47 | 61 | 61 | 59 | 54 | 50 | 47 |
| | 48-S | 58 | 57 | 51 | 47 | 43 | 40 | 54 | 54 | 51 | 47 | 43 | 40 | 54 | 54 | 51 | 47 | 43 | 40 |
| 140 | X80 | 88 | 84 | 75 | 68 | 62 | 58 | 82 | 82 | 75 | 68 | 62 | 58 | 82 | 82 | 75 | 68 | 62 | 58 |
| | X48 | 61 | 61 | 56 | 52 | 49 | 46 | 56 | 56 | 56 | 52 | 49 | 46 | 56 | 56 | 56 | 52 | 49 | 46 |
| | 48-S | 54 | 54 | 49 | 45 | 42 | 39 | 50 | 50 | 49 | 45 | 42 | 39 | 50 | 50 | 49 | 45 | 42 | 39 |
| 150 | X80 | 82 | 81 | 72 | 66 | 61 | 57 | 76 | 76 | 72 | 66 | 61 | 57 | 76 | 76 | 72 | 66 | 61 | 57 |
| | X48 | 57 | 57 | 54 | 50 | 47 | 45 | 53 | 53 | 53 | 50 | 47 | 45 | 53 | 53 | 53 | 50 | 47 | 45 |
| | 48-S | 51 | 51 | 47 | 44 | 41 | 38 | 47 | 47 | 47 | 44 | 41 | 38 | 47 | 47 | 47 | 44 | 41 | 38 |

ROOFS >27' TO 45'

| Exposure | Table 1.30: Maximum Uplift (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | |
|----------|--|-----------|---------------------------|------|------|------|------|---------------------------|-------|-------|-------|------|---------------------------|------|-------|-------|-------|------|------|------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| C | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | -445 | -418 | -346 | -296 | -259 | -233 | -276 | -526 | -494 | -410 | -350 | -307 | -276 | -526 | -494 | -410 | -350 | -307 | -276 |
| | X48 | -333 | -324 | -276 | -245 | -221 | -199 | -235 | -394 | -383 | -326 | -289 | -262 | -235 | -394 | -383 | -326 | -289 | -262 | -235 |
| | 48-S | -322 | -279 | -236 | -208 | -185 | -166 | -197 | -381 | -331 | -279 | -246 | -219 | -197 | -381 | -331 | -279 | -246 | -219 | -197 |
| 90 | X80 | -492 | -463 | -387 | -336 | -294 | -264 | -311 | -579 | -545 | -455 | -395 | -346 | -311 | -579 | -545 | -455 | -395 | -346 | -311 |
| | X48 | -369 | -357 | -306 | -273 | -248 | -226 | -265 | -434 | -420 | -360 | -321 | -292 | -265 | -434 | -420 | -360 | -321 | -292 | -265 |
| | 48-S | -350 | -309 | -263 | -233 | -209 | -189 | -222 | -405 | -363 | -309 | -274 | -246 | -222 | -405 | -363 | -309 | -274 | -246 | -222 |
| 100 | X80 | -595 | -562 | -473 | -416 | -367 | -331 | -389 | -700 | -661 | -556 | -490 | -432 | -389 | -700 | -661 | -556 | -490 | -432 | -389 |
| | X48 | -446 | -429 | -372 | -333 | -304 | -282 | -332 | -511 | -505 | -438 | -392 | -358 | -332 | -511 | -505 | -438 | -392 | -358 | -332 |
| | 48-S | -412 | -372 | -320 | -285 | -259 | -236 | -277 | -455 | -438 | -376 | -335 | -305 | -277 | -455 | -438 | -376 | -335 | -305 | -277 |
| 105 | X80 | -633 | -598 | -509 | -451 | -406 | -366 | -432 | -748 | -706 | -601 | -532 | -479 | -432 | -748 | -706 | -601 | -532 | -479 | -432 |
| | X48 | -474 | -452 | -397 | -358 | -328 | -305 | -360 | -539 | -534 | -469 | -422 | -388 | -360 | -539 | -534 | -469 | -422 | -388 | -360 |
| | 48-S | -424 | -393 | -342 | -307 | -280 | -260 | -307 | -480 | -465 | -404 | -362 | -331 | -307 | -480 | -465 | -404 | -362 | -331 | -307 |
| 110 | X80 | -687 | -647 | -554 | -492 | -448 | -404 | -476 | -809 | -762 | -653 | -580 | -527 | -476 | -809 | -762 | -653 | -580 | -527 | -476 |
| | X48 | -508 | -487 | -430 | -389 | -358 | -334 | -393 | -567 | -567 | -506 | -458 | -422 | -393 | -567 | -567 | -506 | -458 | -422 | -393 |
| | 48-S | -451 | -424 | -371 | -334 | -306 | -284 | -360 | -506 | -500 | -437 | -393 | -360 | -335 | -506 | -500 | -437 | -393 | -360 | -335 |
| 115 | X80 | -737 | -693 | -597 | -532 | -485 | -443 | -521 | -857 | -814 | -702 | -626 | -570 | -521 | -857 | -814 | -702 | -626 | -570 | -521 |
| | X48 | -535 | -519 | -461 | -419 | -387 | -361 | -424 | -593 | -593 | -542 | -492 | -454 | -424 | -593 | -593 | -542 | -492 | -454 | -424 |
| | 48-S | -475 | -453 | -399 | -360 | -331 | -308 | -389 | -529 | -529 | -468 | -423 | -389 | -362 | -529 | -529 | -468 | -423 | -389 | -362 |
| 120 | X80 | -789 | -740 | -641 | -574 | -524 | -484 | -570 | -898 | -871 | -754 | -675 | -616 | -570 | -898 | -871 | -754 | -675 | -616 | -570 |
| | X48 | -562 | -552 | -493 | -449 | -416 | -389 | -457 | -621 | -621 | -580 | -529 | -489 | -457 | -621 | -621 | -580 | -529 | -489 | -457 |
| | 48-S | -500 | -482 | -427 | -387 | -356 | -332 | -391 | -554 | -554 | -502 | -455 | -419 | -391 | -554 | -554 | -502 | -455 | -419 | -391 |
| 130 | X80 | -885 | -835 | -732 | -659 | -604 | -561 | -661 | -979 | -979 | -861 | -776 | -711 | -661 | -979 | -979 | -861 | -776 | -711 | -661 |
| | X48 | -618 | -618 | -557 | -512 | -476 | -447 | -526 | -676 | -676 | -656 | -602 | -560 | -526 | -676 | -676 | -656 | -602 | -560 | -526 |
| | 48-S | -550 | -541 | -484 | -442 | -409 | -382 | -481 | -604 | -604 | -569 | -520 | -481 | -450 | -604 | -604 | -569 | -520 | -481 | -450 |
| 140 | X80 | -966 | -932 | -824 | -747 | -688 | -641 | -752 | -1058 | -1058 | -966 | -876 | -807 | -752 | -1058 | -1058 | -966 | -876 | -807 | -752 |
| | X48 | -672 | -672 | -623 | -576 | -538 | -507 | -594 | -729 | -729 | -729 | -675 | -630 | -594 | -729 | -729 | -729 | -675 | -630 | -594 |
| | 48-S | -599 | -599 | -542 | -498 | -463 | -435 | -510 | -652 | -652 | -635 | -584 | -543 | -510 | -652 | -652 | -635 | -584 | -543 | -510 |
| 150 | X80 | -1047 | -1027 | -917 | -837 | -774 | -723 | -848 | -1138 | -1138 | -1075 | -980 | -907 | -848 | -1138 | -1138 | -1075 | -980 | -907 | -848 |
| | X48 | -723 | -723 | -688 | -640 | -600 | -567 | -704 | -783 | -783 | -783 | -750 | -704 | -665 | -783 | -783 | -750 | -704 | -665 | -665 |
| | 48-S | -646 | -646 | -600 | -555 | -518 | -488 | -607 | -700 | -700 | -700 | -650 | -607 | -572 | -700 | -700 | -650 | -607 | -572 | -572 |

ROOFS >27° TO 45°

| Exposure | Table 1.31: Maximum Downforce (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | | |
|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| C | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| ROOFS >27° TO 45° | 85 | X80 | 502 | 520 | 558 | 585 | 607 | 632 | 502 | 520 | 558 | 585 | 607 | 632 | 502 | 520 | 558 | 585 | 607 | 632 |
| | | X48 | 376 | 403 | 445 | 483 | 518 | 539 | 376 | 403 | 445 | 483 | 518 | 539 | 376 | 403 | 445 | 483 | 518 | 539 |
| | | 48-S | 363 | 348 | 380 | 412 | 433 | 450 | 363 | 348 | 380 | 412 | 433 | 450 | 363 | 348 | 380 | 412 | 433 | 450 |
| | 90 | X80 | 540 | 545 | 580 | 611 | 630 | 652 | 540 | 545 | 580 | 611 | 630 | 652 | 540 | 545 | 580 | 611 | 630 | 652 |
| | | X48 | 405 | 420 | 459 | 497 | 532 | 556 | 405 | 420 | 459 | 497 | 532 | 556 | 405 | 420 | 459 | 497 | 532 | 556 |
| | | 48-S | 384 | 363 | 394 | 424 | 449 | 465 | 378 | 363 | 394 | 424 | 449 | 465 | 378 | 363 | 394 | 424 | 449 | 465 |
| | 100 | X80 | 596 | 581 | 611 | 645 | 664 | 683 | 596 | 581 | 611 | 645 | 664 | 683 | 596 | 581 | 611 | 645 | 664 | 683 |
| | | X48 | 447 | 443 | 481 | 516 | 550 | 582 | 435 | 443 | 481 | 516 | 550 | 582 | 435 | 443 | 481 | 516 | 550 | 582 |
| | | 48-S | 413 | 385 | 413 | 441 | 468 | 487 | 388 | 385 | 413 | 441 | 468 | 487 | 388 | 385 | 413 | 441 | 468 | 487 |
| | 105 | X80 | 668 | 631 | 651 | 682 | 709 | 724 | 668 | 631 | 651 | 682 | 709 | 724 | 668 | 631 | 651 | 682 | 709 | 724 |
| | | X48 | 501 | 477 | 508 | 541 | 573 | 604 | 481 | 477 | 508 | 541 | 573 | 604 | 481 | 477 | 508 | 541 | 573 | 604 |
| | | 48-S | 447 | 415 | 438 | 464 | 489 | 514 | 429 | 415 | 438 | 464 | 489 | 514 | 429 | 415 | 438 | 464 | 489 | 514 |
| 110 | X80 | 711 | 670 | 675 | 704 | 734 | 748 | 711 | 670 | 675 | 704 | 734 | 748 | 711 | 670 | 675 | 704 | 734 | 748 | |
| | X48 | 526 | 504 | 524 | 556 | 587 | 617 | 498 | 498 | 524 | 556 | 587 | 617 | 498 | 498 | 524 | 556 | 587 | 617 | |
| | 48-S | 467 | 439 | 452 | 477 | 502 | 526 | 444 | 439 | 452 | 477 | 502 | 526 | 444 | 439 | 452 | 477 | 502 | 526 | |
| 115 | X80 | 757 | 712 | 701 | 727 | 756 | 776 | 749 | 712 | 701 | 727 | 756 | 776 | 749 | 712 | 701 | 727 | 756 | 776 | |
| | X48 | 550 | 534 | 541 | 572 | 602 | 631 | 519 | 519 | 541 | 572 | 602 | 631 | 519 | 519 | 541 | 572 | 602 | 631 | |
| | 48-S | 489 | 466 | 468 | 492 | 515 | 539 | 463 | 463 | 468 | 492 | 515 | 539 | 463 | 463 | 468 | 492 | 515 | 539 | |
| 120 | X80 | 803 | 753 | 726 | 751 | 778 | 804 | 776 | 753 | 726 | 751 | 778 | 804 | 776 | 753 | 726 | 751 | 778 | 804 | |
| | X48 | 572 | 562 | 558 | 588 | 617 | 646 | 537 | 537 | 558 | 588 | 617 | 646 | 537 | 537 | 558 | 588 | 617 | 646 | |
| | 48-S | 509 | 491 | 483 | 506 | 529 | 551 | 479 | 479 | 483 | 506 | 529 | 551 | 479 | 479 | 483 | 506 | 529 | 551 | |
| 130 | X80 | 886 | 836 | 778 | 799 | 823 | 848 | 833 | 833 | 778 | 799 | 823 | 848 | 833 | 833 | 778 | 799 | 823 | 848 | |
| | X48 | 618 | 618 | 593 | 621 | 648 | 675 | 575 | 575 | 593 | 621 | 648 | 675 | 575 | 575 | 593 | 621 | 648 | 675 | |
| | 48-S | 551 | 542 | 515 | 536 | 557 | 578 | 514 | 514 | 515 | 536 | 557 | 578 | 514 | 514 | 515 | 536 | 557 | 578 | |
| 140 | X80 | 956 | 922 | 832 | 850 | 871 | 894 | 893 | 893 | 832 | 850 | 871 | 894 | 893 | 893 | 832 | 850 | 871 | 894 | |
| | X48 | 665 | 665 | 629 | 655 | 681 | 706 | 615 | 615 | 628 | 655 | 681 | 706 | 615 | 615 | 628 | 655 | 681 | 706 | |
| | 48-S | 593 | 593 | 547 | 567 | 586 | 606 | 550 | 550 | 547 | 567 | 586 | 606 | 550 | 550 | 547 | 567 | 586 | 606 | |
| 150 | X80 | 1024 | 1005 | 897 | 901 | 920 | 940 | 950 | 950 | 897 | 901 | 920 | 940 | 950 | 950 | 897 | 901 | 920 | 940 | |
| | X48 | 707 | 707 | 673 | 689 | 713 | 737 | 654 | 654 | 673 | 689 | 713 | 737 | 654 | 654 | 673 | 689 | 713 | 737 | |
| | 48-S | 632 | 632 | 587 | 597 | 616 | 634 | 584 | 584 | 587 | 597 | 616 | 634 | 584 | 584 | 587 | 597 | 616 | 634 | |

| Exposure C | Table 1.32: Maximum Shear (lb.) - Wind Exposure C Condition | | | | | | | | | | | | | | | | | | |
|----------------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | |
| | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | 43 | 183 | 270 | 331 | 379 | 420 | 43 | 183 | 270 | 331 | 379 | 420 | 43 | 183 | 270 | 331 | 379 | 420 |
| | X48 | 32 | 141 | 215 | 274 | 323 | 359 | 32 | 141 | 215 | 274 | 323 | 359 | 32 | 141 | 215 | 274 | 323 | 359 |
| | 48-S | 31 | 122 | 184 | 233 | 270 | 300 | 31 | 122 | 184 | 233 | 270 | 300 | 31 | 122 | 184 | 233 | 270 | 300 |
| | X80 | 42 | 179 | 266 | 331 | 379 | 420 | 42 | 179 | 266 | 331 | 379 | 420 | 42 | 179 | 266 | 331 | 379 | 420 |
| | X48 | 31 | 138 | 210 | 269 | 320 | 359 | 31 | 138 | 210 | 269 | 320 | 359 | 31 | 138 | 210 | 269 | 320 | 359 |
| 90 | 48-S | 30 | 119 | 180 | 230 | 270 | 300 | 29 | 119 | 180 | 230 | 270 | 300 | 29 | 119 | 180 | 230 | 270 | 300 |
| | X80 | 40 | 173 | 260 | 329 | 379 | 420 | 40 | 173 | 260 | 329 | 379 | 420 | 40 | 173 | 260 | 329 | 379 | 420 |
| | X48 | 30 | 132 | 204 | 263 | 314 | 359 | 29 | 132 | 204 | 263 | 314 | 359 | 29 | 132 | 204 | 263 | 314 | 359 |
| | 48-S | 28 | 115 | 176 | 225 | 267 | 300 | 26 | 115 | 176 | 225 | 267 | 300 | 26 | 115 | 176 | 225 | 267 | 300 |
| | X80 | 39 | 167 | 253 | 322 | 379 | 420 | 39 | 167 | 253 | 322 | 379 | 420 | 39 | 167 | 253 | 322 | 379 | 420 |
| 100 | X48 | 29 | 126 | 197 | 256 | 306 | 351 | 28 | 126 | 197 | 256 | 306 | 351 | 28 | 126 | 197 | 256 | 306 | 351 |
| | 48-S | 26 | 110 | 170 | 219 | 261 | 299 | 25 | 110 | 170 | 219 | 261 | 299 | 25 | 110 | 170 | 219 | 261 | 299 |
| | X80 | 38 | 163 | 249 | 318 | 377 | 420 | 38 | 163 | 249 | 318 | 377 | 420 | 38 | 163 | 249 | 318 | 377 | 420 |
| | X48 | 28 | 123 | 193 | 251 | 302 | 347 | 27 | 121 | 193 | 251 | 302 | 347 | 27 | 121 | 193 | 251 | 302 | 347 |
| | 48-S | 25 | 107 | 167 | 216 | 258 | 295 | 24 | 107 | 167 | 216 | 258 | 295 | 24 | 107 | 167 | 216 | 258 | 295 |
| 105 | X80 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 |
| | X48 | 27 | 119 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 |
| | 48-S | 24 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 |
| | X80 | 37 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 |
| | X48 | 26 | 116 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 |
| 110 | 48-S | 23 | 102 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 |
| | X80 | 35 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 |
| | X48 | 24 | 110 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 |
| | 48-S | 22 | 97 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 |
| | X80 | 33 | 143 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 |
| 115 | X48 | 23 | 103 | 170 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 |
| | 48-S | 20 | 92 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 |
| | X80 | 31 | 137 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 |
| | X48 | 21 | 96 | 163 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 |
| | 48-S | 19 | 86 | 142 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 |
| 120 | X80 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 |
| | X48 | 27 | 119 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 |
| | 48-S | 24 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 |
| | X80 | 37 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 |
| | X48 | 26 | 116 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 |
| 125 | 48-S | 23 | 102 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 |
| | X80 | 35 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 |
| | X48 | 24 | 110 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 |
| | 48-S | 22 | 97 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 |
| | X80 | 33 | 143 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 |
| 130 | X48 | 23 | 103 | 170 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 |
| | 48-S | 20 | 92 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 |
| | X80 | 31 | 137 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 |
| | X48 | 21 | 96 | 163 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 |
| | 48-S | 19 | 86 | 142 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 |
| 135 | X80 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 |
| | X48 | 27 | 119 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 |
| | 48-S | 24 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 |
| | X80 | 37 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 |
| | X48 | 26 | 116 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 |
| 140 | 48-S | 23 | 102 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 | 22 | 99 | 160 | 209 | 251 | 288 |
| | X80 | 35 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 | 33 | 149 | 233 | 301 | 360 | 413 |
| | X48 | 24 | 110 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 | 23 | 102 | 177 | 234 | 284 | 329 |
| | 48-S | 22 | 97 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 | 20 | 92 | 154 | 202 | 244 | 281 |
| | X80 | 33 | 143 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 | 30 | 138 | 225 | 293 | 352 | 405 |
| 145 | X48 | 23 | 103 | 170 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 | 21 | 95 | 169 | 226 | 275 | 319 |
| | 48-S | 20 | 92 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 | 19 | 85 | 148 | 195 | 237 | 274 |
| | X80 | 31 | 137 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 | 28 | 129 | 217 | 285 | 344 | 396 |
| | X48 | 21 | 96 | 163 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 | 20 | 89 | 158 | 218 | 266 | 311 |
| | 48-S | 19 | 86 | 142 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 | 17 | 79 | 141 | 189 | 230 | 267 |
| 150 | X80 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 |
| | X48 | 27 | 119 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 | 26 | 116 | 189 | 247 | 297 | 342 |
| | 48-S | 24 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 | 23 | 104 | 163 | 212 | 254 | 292 |
| | X80 | 37 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 |
| | X48 | 26 | 116 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 |

ROOFS >27° TO 45°

| Exposure | Table 1.33: Maximum Span Length - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|------------|---|-----------|---------------------------|-----|----|----|----|----|---------------------------|-----|----|----|----|----|---------------------------|-----|----|----|----|----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | | Roof Wind Pressure Zone 2 | | | | | | Roof Wind Pressure Zone 3 | | | | | |
| | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | | Roof Snow Load (psf) | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| D | 85 | X80 | 111 | 105 | 88 | 77 | 67 | 60 | 111 | 105 | 88 | 77 | 67 | 60 | 111 | 105 | 88 | 77 | 67 | 60 |
| | | X48 | 83 | 80 | 69 | 62 | 56 | 52 | 83 | 80 | 69 | 62 | 56 | 52 | 83 | 80 | 69 | 62 | 56 | 52 |
| | | 48-S | 78 | 70 | 59 | 53 | 48 | 43 | 76 | 70 | 59 | 53 | 48 | 43 | 76 | 70 | 59 | 53 | 48 | 43 |
| | 90 | X80 | 108 | 102 | 86 | 76 | 67 | 60 | 108 | 102 | 86 | 76 | 67 | 60 | 108 | 102 | 86 | 76 | 67 | 60 |
| | | X48 | 81 | 78 | 68 | 61 | 55 | 51 | 81 | 78 | 68 | 61 | 55 | 51 | 81 | 78 | 68 | 61 | 55 | 51 |
| | | 48-S | 75 | 68 | 58 | 52 | 47 | 43 | 72 | 68 | 58 | 52 | 47 | 43 | 72 | 68 | 58 | 52 | 47 | 43 |
| | 100 | X80 | 105 | 99 | 84 | 74 | 67 | 60 | 105 | 99 | 84 | 74 | 67 | 60 | 105 | 99 | 84 | 74 | 67 | 60 |
| | | X48 | 78 | 75 | 66 | 59 | 54 | 50 | 73 | 73 | 66 | 59 | 54 | 50 | 73 | 73 | 66 | 59 | 54 | 50 |
| | | 48-S | 70 | 65 | 57 | 51 | 46 | 43 | 65 | 65 | 57 | 51 | 46 | 43 | 65 | 65 | 57 | 51 | 46 | 43 |
| | 105 | X80 | 101 | 95 | 82 | 73 | 66 | 60 | 100 | 95 | 82 | 73 | 66 | 60 | 100 | 95 | 82 | 73 | 66 | 60 |
| | | X48 | 73 | 71 | 63 | 57 | 53 | 49 | 69 | 69 | 63 | 57 | 53 | 49 | 69 | 69 | 63 | 57 | 53 | 49 |
| | | 48-S | 65 | 62 | 54 | 49 | 45 | 42 | 62 | 62 | 54 | 49 | 45 | 42 | 62 | 62 | 54 | 49 | 45 | 42 |
| 110 | X80 | 99 | 93 | 80 | 72 | 65 | 60 | 95 | 93 | 80 | 72 | 65 | 60 | 95 | 93 | 80 | 72 | 65 | 60 | |
| | X48 | 70 | 69 | 62 | 56 | 52 | 49 | 66 | 66 | 62 | 56 | 52 | 49 | 66 | 66 | 62 | 56 | 52 | 49 | |
| | 48-S | 63 | 60 | 53 | 48 | 45 | 41 | 59 | 59 | 53 | 48 | 45 | 41 | 59 | 59 | 53 | 48 | 45 | 41 | |
| 115 | X80 | 97 | 90 | 79 | 71 | 65 | 60 | 91 | 90 | 79 | 71 | 65 | 60 | 91 | 90 | 79 | 71 | 65 | 60 | |
| | X48 | 68 | 67 | 60 | 55 | 51 | 48 | 63 | 63 | 60 | 55 | 51 | 48 | 63 | 63 | 60 | 55 | 51 | 48 | |
| | 48-S | 60 | 59 | 52 | 47 | 44 | 41 | 56 | 56 | 52 | 47 | 44 | 41 | 56 | 56 | 52 | 47 | 44 | 41 | |
| 120 | X80 | 93 | 88 | 77 | 70 | 64 | 59 | 88 | 88 | 77 | 70 | 64 | 59 | 88 | 88 | 77 | 70 | 64 | 59 | |
| | X48 | 65 | 65 | 59 | 54 | 50 | 47 | 60 | 60 | 59 | 54 | 50 | 47 | 60 | 60 | 59 | 54 | 50 | 47 | |
| | 48-S | 58 | 57 | 51 | 47 | 43 | 40 | 54 | 54 | 51 | 47 | 43 | 40 | 54 | 54 | 51 | 47 | 43 | 40 | |
| 130 | X80 | 87 | 84 | 74 | 67 | 62 | 58 | 81 | 81 | 74 | 67 | 62 | 58 | 81 | 81 | 74 | 67 | 62 | 58 | |
| | X48 | 60 | 60 | 56 | 52 | 49 | 46 | 56 | 56 | 56 | 52 | 49 | 46 | 56 | 56 | 56 | 52 | 49 | 46 | |
| | 48-S | 54 | 54 | 49 | 45 | 42 | 39 | 50 | 50 | 49 | 45 | 42 | 39 | 50 | 50 | 49 | 45 | 42 | 39 | |
| 140 | X80 | 81 | 80 | 72 | 65 | 61 | 57 | 75 | 75 | 72 | 65 | 61 | 57 | 75 | 75 | 72 | 65 | 61 | 57 | |
| | X48 | 56 | 56 | 54 | 50 | 47 | 44 | 52 | 52 | 52 | 50 | 47 | 44 | 52 | 52 | 52 | 50 | 47 | 44 | |
| | 48-S | 50 | 50 | 47 | 43 | 40 | 38 | 46 | 46 | 46 | 43 | 40 | 38 | 46 | 46 | 46 | 43 | 40 | 38 | |
| 150 | X80 | 76 | 76 | 69 | 63 | 59 | 55 | 70 | 70 | 69 | 63 | 59 | 55 | 70 | 70 | 69 | 63 | 59 | 55 | |
| | X48 | 52 | 52 | 51 | 48 | 45 | 43 | 48 | 48 | 48 | 48 | 45 | 43 | 48 | 48 | 48 | 48 | 45 | 43 | |
| | 48-S | 47 | 47 | 45 | 42 | 39 | 37 | 43 | 43 | 43 | 42 | 39 | 37 | 43 | 43 | 43 | 42 | 39 | 37 | |

ROOFS >27° TO 45°

| Exposure | Table 1.34: Maximum Uplift (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|----------|--|-----------|---------------------------|-------|------|------|------|---------------------------|-------|-------|-------|-------|---------------------------|------|-------|-------|-------|-------|-------|------|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| D | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| 85 | X80 | -515 | -485 | -406 | -356 | -311 | -280 | -280 | -608 | -573 | -480 | -420 | -368 | -331 | -608 | -573 | -480 | -420 | -368 | -331 |
| | X48 | -385 | -372 | -321 | -286 | -261 | -239 | -239 | -455 | -440 | -379 | -338 | -308 | -282 | -455 | -440 | -379 | -338 | -308 | -282 |
| | 48-S | -362 | -322 | -276 | -244 | -222 | -200 | -200 | -419 | -381 | -325 | -289 | -262 | -236 | -419 | -381 | -325 | -289 | -262 | -236 |
| 90 | X80 | -568 | -536 | -452 | -398 | -352 | -317 | -317 | -667 | -630 | -531 | -468 | -414 | -372 | -667 | -630 | -531 | -468 | -414 | -372 |
| | X48 | -425 | -409 | -355 | -318 | -291 | -270 | -270 | -497 | -480 | -417 | -374 | -342 | -317 | -497 | -480 | -417 | -374 | -342 | -317 |
| | 48-S | -391 | -355 | -305 | -272 | -248 | -226 | -226 | -445 | -417 | -359 | -320 | -291 | -265 | -445 | -417 | -359 | -320 | -291 | -265 |
| 100 | X80 | -685 | -646 | -550 | -487 | -439 | -396 | -396 | -805 | -759 | -647 | -573 | -516 | -465 | -805 | -759 | -647 | -573 | -516 | -465 |
| | X48 | -513 | -489 | -429 | -387 | -355 | -330 | -330 | -559 | -559 | -504 | -455 | -417 | -388 | -559 | -559 | -504 | -455 | -417 | -388 |
| | 48-S | -458 | -425 | -370 | -331 | -303 | -281 | -281 | -499 | -499 | -434 | -389 | -356 | -330 | -499 | -499 | -434 | -389 | -356 | -330 |
| 105 | X80 | -728 | -685 | -590 | -526 | -479 | -437 | -437 | -852 | -808 | -695 | -620 | -565 | -515 | -852 | -808 | -695 | -620 | -565 | -515 |
| | X48 | -529 | -513 | -456 | -414 | -382 | -356 | -356 | -590 | -590 | -537 | -488 | -450 | -420 | -590 | -590 | -537 | -488 | -450 | -420 |
| | 48-S | -471 | -448 | -394 | -356 | -327 | -304 | -304 | -527 | -527 | -464 | -419 | -385 | -358 | -527 | -527 | -464 | -419 | -385 | -358 |
| 110 | X80 | -788 | -739 | -640 | -573 | -523 | -483 | -483 | -897 | -870 | -754 | -674 | -615 | -568 | -897 | -870 | -754 | -674 | -615 | -568 |
| | X48 | -562 | -552 | -492 | -449 | -415 | -388 | -388 | -620 | -620 | -579 | -528 | -489 | -457 | -620 | -620 | -579 | -528 | -489 | -457 |
| | 48-S | -500 | -482 | -426 | -386 | -356 | -332 | -332 | -554 | -554 | -501 | -454 | -419 | -390 | -554 | -554 | -501 | -454 | -419 | -390 |
| 115 | X80 | -845 | -790 | -688 | -618 | -566 | -525 | -525 | -939 | -927 | -808 | -726 | -664 | -616 | -939 | -927 | -808 | -726 | -664 | -616 |
| | X48 | -591 | -586 | -527 | -482 | -447 | -419 | -419 | -649 | -649 | -618 | -566 | -525 | -492 | -649 | -649 | -618 | -566 | -525 | -492 |
| | 48-S | -526 | -513 | -456 | -415 | -384 | -358 | -358 | -580 | -580 | -536 | -488 | -450 | -421 | -580 | -580 | -536 | -488 | -450 | -421 |
| 120 | X80 | -890 | -841 | -738 | -665 | -610 | -567 | -567 | -984 | -984 | -867 | -781 | -717 | -666 | -984 | -984 | -867 | -781 | -717 | -666 |
| | X48 | -621 | -621 | -562 | -516 | -480 | -450 | -450 | -679 | -679 | -660 | -607 | -564 | -530 | -679 | -679 | -660 | -607 | -564 | -530 |
| | 48-S | -553 | -545 | -488 | -445 | -412 | -386 | -386 | -606 | -606 | -573 | -523 | -485 | -453 | -606 | -606 | -573 | -523 | -485 | -453 |
| 130 | X80 | -979 | -946 | -838 | -760 | -701 | -653 | -653 | -1072 | -1072 | -985 | -894 | -824 | -768 | -1072 | -1072 | -985 | -894 | -824 | -768 |
| | X48 | -680 | -680 | -632 | -585 | -547 | -516 | -516 | -738 | -738 | -738 | -688 | -643 | -606 | -738 | -738 | -738 | -688 | -643 | -606 |
| | 48-S | -607 | -607 | -551 | -506 | -471 | -443 | -443 | -660 | -660 | -647 | -595 | -554 | -520 | -660 | -660 | -647 | -595 | -554 | -520 |
| 140 | X80 | -1067 | -1051 | -940 | -859 | -795 | -744 | -744 | -1158 | -1158 | -1101 | -1006 | -931 | -871 | -1158 | -1158 | -1101 | -1006 | -931 | -871 |
| | X48 | -735 | -735 | -704 | -655 | -616 | -582 | -582 | -796 | -796 | -796 | -768 | -721 | -682 | -796 | -796 | -796 | -768 | -721 | -682 |
| | 48-S | -657 | -657 | -614 | -569 | -532 | -501 | -501 | -712 | -712 | -712 | -666 | -623 | -587 | -712 | -712 | -712 | -666 | -623 | -587 |
| 150 | X80 | -1147 | -1147 | -1043 | -958 | -891 | -836 | -836 | -1245 | -1245 | -1222 | -1122 | -1044 | -980 | -1245 | -1245 | -1222 | -1122 | -1044 | -980 |
| | X48 | -789 | -789 | -775 | -726 | -685 | -650 | -650 | -855 | -855 | -855 | -850 | -802 | -761 | -855 | -855 | -855 | -850 | -802 | -761 |
| | 48-S | -706 | -706 | -678 | -631 | -593 | -561 | -561 | -765 | -765 | -765 | -739 | -694 | -657 | -765 | -765 | -765 | -739 | -694 | -657 |

ROOFS >27° TO 45°

| Exposure | Table 1.35: Maximum Downforce (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | |
|------------|---|-----------|---------------------------|------|-----|-----|------|---------------------------|------|------|-----|-----|---------------------------|------|------|------|-----|-----|------|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | |
| | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 |
| D | 85 | X80 | 562 | 559 | 592 | 626 | 643 | 664 | 562 | 559 | 592 | 626 | 643 | 664 | 562 | 559 | 592 | 626 | 643 | 664 |
| | | X48 | 421 | 429 | 468 | 504 | 539 | 566 | 421 | 429 | 468 | 504 | 539 | 566 | 421 | 429 | 468 | 504 | 539 | 566 |
| | | 48-S | 395 | 372 | 401 | 430 | 458 | 473 | 387 | 372 | 401 | 430 | 458 | 473 | 387 | 372 | 401 | 430 | 458 | 473 |
| | 90 | X80 | 606 | 587 | 616 | 650 | 670 | 688 | 606 | 587 | 616 | 650 | 670 | 688 | 606 | 587 | 616 | 650 | 670 | 688 |
| | | X48 | 454 | 447 | 484 | 520 | 553 | 585 | 451 | 447 | 484 | 520 | 553 | 585 | 451 | 447 | 484 | 520 | 553 | 585 |
| | | 48-S | 417 | 388 | 416 | 444 | 471 | 491 | 404 | 388 | 416 | 444 | 471 | 491 | 404 | 388 | 416 | 444 | 471 | 491 |
| | 100 | X80 | 670 | 632 | 652 | 683 | 710 | 725 | 670 | 632 | 652 | 683 | 710 | 725 | 670 | 632 | 652 | 683 | 710 | 725 |
| | | X48 | 502 | 478 | 508 | 542 | 574 | 605 | 466 | 466 | 508 | 542 | 574 | 605 | 466 | 466 | 508 | 542 | 574 | 605 |
| | | 48-S | 448 | 416 | 438 | 464 | 490 | 515 | 416 | 416 | 438 | 464 | 490 | 515 | 416 | 416 | 438 | 464 | 490 | 515 |
| | 105 | X80 | 752 | 707 | 698 | 725 | 753 | 773 | 746 | 707 | 698 | 725 | 753 | 773 | 746 | 707 | 698 | 725 | 753 | 773 |
| | | X48 | 547 | 530 | 539 | 570 | 601 | 630 | 517 | 517 | 539 | 570 | 601 | 630 | 517 | 517 | 539 | 570 | 601 | 630 |
| | | 48-S | 486 | 463 | 466 | 490 | 514 | 537 | 461 | 461 | 466 | 490 | 514 | 537 | 461 | 461 | 466 | 490 | 514 | 537 |
| | 110 | X80 | 800 | 751 | 725 | 749 | 776 | 802 | 774 | 751 | 725 | 749 | 776 | 802 | 774 | 751 | 725 | 749 | 776 | 802 |
| | | X48 | 571 | 560 | 557 | 587 | 616 | 645 | 535 | 535 | 557 | 587 | 616 | 645 | 535 | 535 | 557 | 587 | 616 | 645 |
| | | 48-S | 508 | 489 | 482 | 505 | 528 | 551 | 478 | 478 | 482 | 505 | 528 | 551 | 478 | 478 | 482 | 505 | 528 | 551 |
| 115 | X80 | 853 | 797 | 754 | 776 | 802 | 828 | 808 | 797 | 754 | 776 | 802 | 828 | 808 | 797 | 754 | 776 | 802 | 828 | |
| | X48 | 597 | 592 | 576 | 605 | 634 | 661 | 558 | 558 | 576 | 605 | 634 | 661 | 558 | 558 | 576 | 605 | 634 | 661 | |
| | 48-S | 531 | 518 | 500 | 522 | 544 | 565 | 498 | 498 | 500 | 522 | 544 | 565 | 498 | 498 | 500 | 522 | 544 | 565 | |
| 120 | X80 | 891 | 842 | 782 | 803 | 826 | 851 | 838 | 838 | 782 | 803 | 826 | 851 | 838 | 838 | 782 | 803 | 826 | 851 | |
| | X48 | 622 | 622 | 595 | 623 | 650 | 677 | 578 | 578 | 595 | 623 | 650 | 677 | 578 | 578 | 595 | 623 | 650 | 677 | |
| | 48-S | 554 | 545 | 517 | 538 | 559 | 580 | 516 | 516 | 517 | 538 | 559 | 580 | 516 | 516 | 517 | 538 | 559 | 580 | |
| 130 | X80 | 966 | 934 | 840 | 857 | 878 | 901 | 900 | 900 | 840 | 857 | 878 | 901 | 900 | 900 | 840 | 857 | 878 | 901 | |
| | X48 | 671 | 671 | 634 | 660 | 685 | 710 | 620 | 620 | 629 | 660 | 685 | 710 | 620 | 620 | 629 | 660 | 685 | 710 | |
| | 48-S | 599 | 599 | 552 | 571 | 590 | 610 | 554 | 554 | 552 | 571 | 590 | 610 | 554 | 554 | 552 | 571 | 590 | 610 | |
| 140 | X80 | 1043 | 1027 | 919 | 915 | 933 | 952 | 966 | 966 | 919 | 915 | 933 | 952 | 966 | 966 | 919 | 915 | 933 | 952 | |
| | X48 | 718 | 718 | 688 | 698 | 722 | 746 | 665 | 665 | 665 | 698 | 722 | 746 | 665 | 665 | 665 | 698 | 722 | 746 | |
| | 48-S | 642 | 642 | 600 | 606 | 624 | 642 | 594 | 594 | 594 | 606 | 624 | 642 | 594 | 594 | 594 | 606 | 624 | 642 | |
| 150 | X80 | 1111 | 1111 | 1009 | 972 | 987 | 1005 | 1028 | 1028 | 1009 | 972 | 987 | 1005 | 1028 | 1028 | 1009 | 972 | 987 | 1005 | |
| | X48 | 764 | 764 | 750 | 736 | 759 | 781 | 706 | 706 | 706 | 736 | 759 | 781 | 706 | 706 | 706 | 736 | 759 | 781 | |
| | 48-S | 683 | 683 | 656 | 640 | 657 | 674 | 632 | 632 | 632 | 640 | 657 | 674 | 632 | 632 | 632 | 640 | 657 | 674 | |

ROOFS >27° TO 45°

| Exposure | Table 1.36: Maximum Shear (lb.) - Wind Exposure D Condition | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Ultimate Wind Speed, V (mph) | Rail Type | Roof Wind Pressure Zone 1 | | | | | Roof Wind Pressure Zone 2 | | | | | Roof Wind Pressure Zone 3 | | | | | | | | |
| | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | Roof Snow Load (psf) | | | | | | | | |
| D | | | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | 0 | 10 | 20 | 30 | 40 | 50 | |
| ROOFS >27° TO 45° | 85 | X80 | 41 | 177 | 263 | 331 | 379 | 420 | 420 | 41 | 177 | 263 | 331 | 379 | 420 | 41 | 177 | 263 | 331 | 379 | 420 |
| | | X48 | 31 | 136 | 208 | 267 | 317 | 359 | 359 | 31 | 136 | 208 | 267 | 317 | 359 | 31 | 136 | 208 | 267 | 317 | 359 |
| | | 48-S | 29 | 117 | 179 | 228 | 270 | 300 | 300 | 28 | 117 | 179 | 228 | 270 | 300 | 28 | 117 | 179 | 228 | 270 | 300 |
| | 90 | X80 | 40 | 172 | 259 | 328 | 379 | 420 | 420 | 40 | 172 | 259 | 328 | 379 | 420 | 40 | 172 | 259 | 328 | 379 | 420 |
| | | X48 | 30 | 132 | 203 | 262 | 313 | 358 | 358 | 30 | 132 | 203 | 262 | 313 | 358 | 30 | 132 | 203 | 262 | 313 | 358 |
| | | 48-S | 28 | 114 | 175 | 224 | 266 | 300 | 300 | 27 | 114 | 175 | 224 | 266 | 300 | 27 | 114 | 175 | 224 | 266 | 300 |
| | 100 | X80 | 39 | 167 | 253 | 322 | 379 | 420 | 420 | 39 | 167 | 253 | 322 | 379 | 420 | 39 | 167 | 253 | 322 | 379 | 420 |
| | | X48 | 29 | 126 | 197 | 256 | 306 | 351 | 351 | 27 | 123 | 197 | 256 | 306 | 351 | 27 | 123 | 197 | 256 | 306 | 351 |
| | | 48-S | 26 | 110 | 170 | 219 | 261 | 299 | 299 | 24 | 110 | 170 | 219 | 261 | 299 | 24 | 110 | 170 | 219 | 261 | 299 |
| | 105 | X80 | 37 | 160 | 245 | 314 | 373 | 420 | 420 | 37 | 160 | 245 | 314 | 373 | 420 | 37 | 160 | 245 | 314 | 373 | 420 |
| | | X48 | 27 | 120 | 189 | 247 | 298 | 343 | 343 | 26 | 117 | 189 | 247 | 298 | 343 | 26 | 117 | 189 | 247 | 298 | 343 |
| | | 48-S | 24 | 105 | 164 | 213 | 255 | 292 | 292 | 23 | 104 | 164 | 213 | 255 | 292 | 23 | 104 | 164 | 213 | 255 | 292 |
| 110 | X80 | 37 | 156 | 241 | 310 | 369 | 420 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | 35 | 156 | 241 | 310 | 369 | 420 | |
| | X48 | 26 | 117 | 185 | 243 | 293 | 338 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | 24 | 111 | 185 | 243 | 293 | 338 | |
| | 48-S | 23 | 102 | 160 | 209 | 251 | 289 | 289 | 22 | 99 | 160 | 209 | 251 | 289 | 22 | 99 | 160 | 209 | 251 | 289 | |
| 115 | X80 | 36 | 152 | 236 | 305 | 364 | 417 | 417 | 34 | 152 | 236 | 305 | 364 | 417 | 34 | 152 | 236 | 305 | 364 | 417 | |
| | X48 | 25 | 113 | 181 | 238 | 288 | 333 | 333 | 23 | 107 | 181 | 238 | 288 | 333 | 23 | 107 | 181 | 238 | 288 | 333 | |
| | 48-S | 22 | 99 | 157 | 205 | 247 | 285 | 285 | 21 | 95 | 157 | 205 | 247 | 285 | 21 | 95 | 157 | 205 | 247 | 285 | |
| 120 | X80 | 35 | 149 | 232 | 301 | 360 | 413 | 413 | 33 | 148 | 232 | 301 | 360 | 413 | 33 | 148 | 232 | 301 | 360 | 413 | |
| | X48 | 24 | 110 | 177 | 233 | 283 | 328 | 328 | 22 | 102 | 177 | 233 | 283 | 328 | 22 | 102 | 177 | 233 | 283 | 328 | |
| | 48-S | 21 | 96 | 153 | 201 | 243 | 281 | 281 | 20 | 91 | 153 | 201 | 243 | 281 | 20 | 91 | 153 | 201 | 243 | 281 | |
| 130 | X80 | 32 | 142 | 223 | 292 | 351 | 403 | 403 | 30 | 137 | 223 | 292 | 351 | 403 | 30 | 137 | 223 | 292 | 351 | 403 | |
| | X48 | 22 | 102 | 169 | 224 | 274 | 318 | 318 | 21 | 94 | 167 | 224 | 274 | 318 | 21 | 94 | 167 | 224 | 274 | 318 | |
| | 48-S | 20 | 91 | 147 | 194 | 236 | 273 | 273 | 18 | 84 | 147 | 194 | 236 | 273 | 18 | 84 | 147 | 194 | 236 | 273 | |
| 140 | X80 | 30 | 135 | 215 | 283 | 341 | 394 | 394 | 28 | 127 | 215 | 283 | 341 | 394 | 28 | 127 | 215 | 283 | 341 | 394 | |
| | X48 | 21 | 94 | 161 | 216 | 264 | 308 | 308 | 19 | 87 | 156 | 216 | 264 | 308 | 19 | 87 | 156 | 216 | 264 | 308 | |
| | 48-S | 19 | 84 | 141 | 187 | 228 | 265 | 265 | 17 | 78 | 139 | 187 | 228 | 265 | 17 | 78 | 139 | 187 | 228 | 265 | |
| 150 | X80 | 28 | 128 | 207 | 274 | 332 | 385 | 385 | 26 | 119 | 207 | 274 | 332 | 385 | 26 | 119 | 207 | 274 | 332 | 385 | |
| | X48 | 19 | 88 | 154 | 207 | 255 | 299 | 299 | 18 | 81 | 145 | 207 | 255 | 299 | 18 | 81 | 145 | 207 | 255 | 299 | |
| | 48-S | 17 | 79 | 135 | 180 | 221 | 258 | 258 | 16 | 73 | 130 | 180 | 221 | 258 | 16 | 73 | 130 | 180 | 221 | 258 | |

| Table 2.1: CrossRail Section Properties | | | | |
|--|--|------------|------------|--------------------|
| | 48-S | X48 | X80 | (unit) |
| Cross Sectional Area (A) | 0.5433 | 0.7130 | 0.7770 | (in ²) |
| Moments of Inertia: | | | | |
| Vertical (Ix) | 0.2183 | 0.2518 | 0.8000 | (in ⁴) |
| Horizontal (Iy) | 0.1614 | 0.2306 | 0.1970 | (in ⁴) |
| Section Moduli: | | | | |
| Vertical (Sx) | 0.2229 | 0.2457 | 0.5290 | (in ³) |
| Horizontal (Sy) | 0.1910 | 0.2966 | 0.2514 | (in ³) |
| Material: | AL EN AW 6063-T66 AL 6005A-T61 AL 6005A-T5 AL 6005-T5 AL 6061-T6 | | | |
| Note: | Material selection is region dependent. Analysis based on worst-case. | | | |