



StrongSeam TS324 Roof System Comparisons



Dare to Compare?

Not all trapezoidal panels are the same. There are differences in metal gauges and finishes. Snap-together seams and mechanical seams. Different clips and accessories. All these variances lead up to differences in performance - and when it's your roof, performance matters.

Any competitor will tell you why their product is better - but ASTM E and UL numbers won't lie. The **MPI StrongSeam TS324® Trapezoidal Roofing System with Superior Seam Technology™ (SST™)** out-performs all other trapezoidal roofing systems in nearly every way. Take a look:

Industry Benchmark for Seam Performance

Industry leading StrongSeam TS324® * ASTM E 1592 Loads utilizing standard clips and TripleLok® seams (without rib seam utility clamps)

Seam 2 TripleLok® with SST - 4 ¼" MPS clips

Span	TS324 - TripleLok®	Brand "M"	Brand "B"	Brand "V"
2' 0"	85.5	79.0	68.0	65.0
5' 0"	42.8	40.8	31.0	39.0

Design load calculated using ASTM E 1592 tests and 1.7 safety factor.

Industry leading StrongSeam TS324* handles ASTM E 1592 highest design loads utilizing 8" wind clips (without seam clamps)

Seam 2 TripleLok® finished seam featuring SST™ using 8" wind clips are far superior to competing Double Lok seamed standing seam roofing systems. Other manufacturers desiring to meet the performance of the StrongSeam TS324® would be required to reduce their purlin spacings from 5'-0" to narrow as 3'-0". The similar purlin space reduction adjustment would be required to meet the StrongSeam TS324® performance at 2'-0". The roof purlin spacing will be adjusted to 1'-6" on center to equal the uplift performance of the StrongSeam TS324®.

Span	TS324 - TripleLok®	Brand "M"	Brand "B"	Brand "V"
2' 0"	105.5	79.0	68.0	65.0
5' 0"	51.9	40.8	31.0	39.0

Design load calculated using ASTM E 1592 tests and 1.7 safety factor.



Industry leading StrongSeam TS324* handles ASTM E 1592 highest design loads utilizing 8" wind clips (without seam clamps) - continued

Restated, Seam 2 TripleLok® finished seam featuring SST™ using 8" wind clips are far superior to competing Double Lok seamed standing seam roofing systems in terms of span performance.

StrongSeam TS324 - TripleLok®	Brand "M"	Brand "B"	Brand "V"
2' 0" span	1' 6" span	1' 6" est. span	1' 6" est. span
5' 0" span	3' 9" span	3' 0" span	3' 4" span

Industry leading StrongSeam TS324* easily handles ASTM E 1592 design loads utilizing QuadLok® seams in uplift roof system design performance over other double lock competitors.

Seam 3 QuadLok® The StrongSeam TS324® overall superior uplift performance of the QuadLok® finish seam at 5'-0" on center purlin spacings forces the competition to reduce their purlin framing spacing to as close as 3'-0" on center to match.

Span	TS324 - QuadLok®	Brand "M"	Brand "B"	Brand "V"
2' 0"	108.8	79.0	68.0	65.0
5' 0"	53.9	40.8	31.0	39.0

Design load calculated using ASTM E 1592 tests and 1.7 safety factor.

In harsh high wind velocity uplift zones, other competitors must adjust their purlin spacings to below 1'-0" whereas the StrongSeam TS324® can sustain the same load requirements at 2'-0" spacings.

Industry leading StrongSeam TS324* QuadLok® seam featuring 12" wind clips may handle the highest ASTM E 1592 loads within the industry at 5'-0" on center purlin spacings without the need for exterior utility wind clamps that other systems depend on to meet these stringent wind uplift mandates.

12" wind clip with StrongSeam TS324 QuadLok® featuring SST™ provides higher uplift loads than any other double lock roof systems without the expensive and aesthetic disadvantages of exterior mounted utility wind clamps (roof warts). The TS324® roof system featuring QuadLok® seams and patented high-capacity starter/rake plates assures strict higher edge/ corner zone engineering capabilities for success.

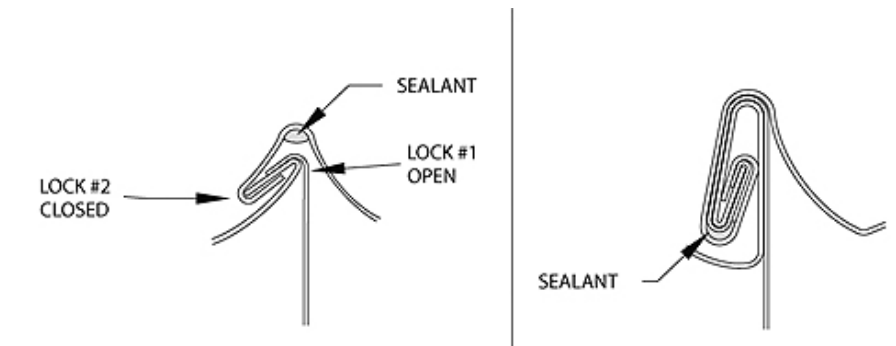
Span	TS324 - QuadLok® 12" windclip	Brand "M" 180 seam	Brand "B" 360 seam	Brand "V" 360 seam
2' 0"	183.3 psf	135.0 psf	104 psf	99 psf
5' 0"	84.4 psf	61.1 psf	42 psf	52 psf

Loads are shown with a safety factor of 1.7

SUPERIOR SEALANT PLACEMENT FOR WEATHERTIGHT PERFORMANCE

Compare sealant of Double Lock to QuadLok® Seam featuring SST™

Sealant seal isolated by seam configuration during uplift forces



SUPERIOR AIR/WATER INFILTRATION TEST PERFORMANCE

Compare RollLok® with SST™ Air and Water Infiltration with other SSR systems ASTM E 1680-95

Static Pressure Difference (PSF)	RollLok® Air Leakage Rate cfm/sq. ft.	Brand "M" Air Leakage Rate cfm/sq. ft.	Brand "B" Air Leakage Rate cfm/sq. ft.
6.24	0.0018	0.007	n/a
12.0	n/a	0.014	0.025
30.0	0.0042	n/a	n/a
40.0	0.0046	n/a	n/a

Note: TripleLok® and QuadLok® seams with SST™ will offer even better performance due to the progressively tighter seam configuration.

HIGHEST STATIC WATER INFILTRATION TEST PERFORMANCE

Compare TripleLok® with SST™ Static Water Penetration with other SSR systems
ASTM E 1646-95

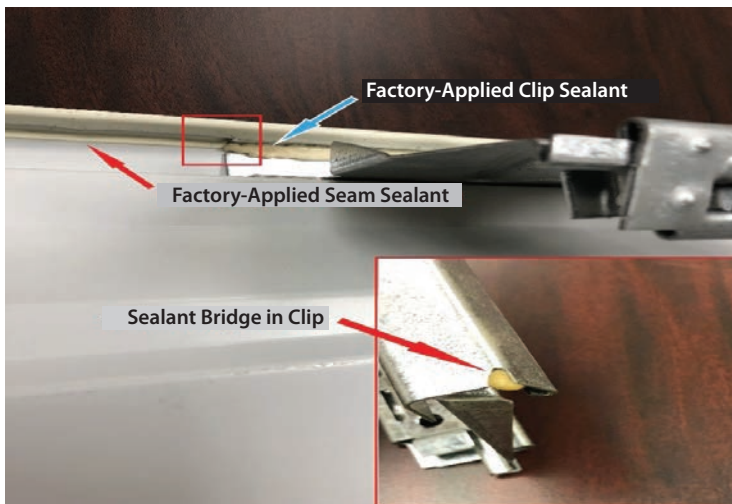
Static Pressure Difference (PSF)	TripleLok® Water Infiltration	Brand "M" Water Infiltration	Brand "B" Water Infiltration
6.24	NONE	NONE	NONE
12.0	n/a	NONE	NONE
30.0	NONE	n/a	n/a
40.0	NONE	n/a	n/a

Loads are shown with a safety factor of 1.7

PREMIER HYDROSTATIC WATER TEST PERFORMANCE

6" WATER HEAD TEST

MPI's StrongSeam TS324® Roofing System handles intense water downpours when properly seamed due to its **Hydro-Static Design** and sealant placement.





HIGHEST WIND UPLIFT PERFORMANCE

The best FM 4471 uplift values without exterior seam clamps using Superior Seam Technology SST™

4471 Roof Classification	Panel Gauge	Clip Length	Seam	Purlin Spacing
1-90	24	4"	TripleLok	5' 0"
1-105	24	4"	QuadLok	5' 0"
1-120	24	8"	QuadLok	5' 0"
1-120	22	4"	TripleLok	5' 0"
1-165	24	8"	QuadLok	2' 6"
1-180	22	8"	QuadLok	2' 6"

ASTM E 1592 Uplift Test Results

RollLok			
Purlin Spacing	Panel Gauge	Clip Length	Design Load
2' 0"	24	4"	61.1
5' 0"	24	4"	28.3
2' 0"	22	4"	57.2
5' 0"	22	4"	33.8

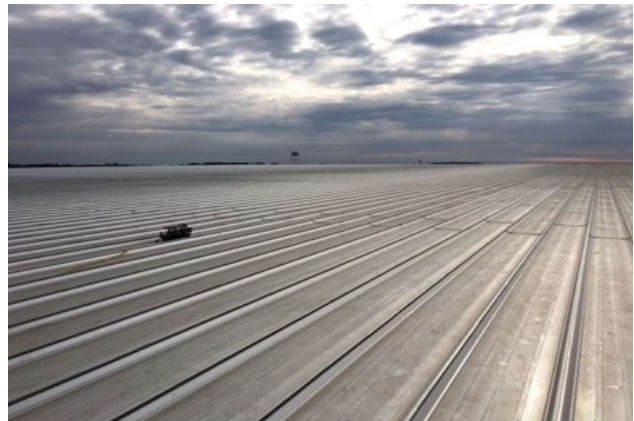
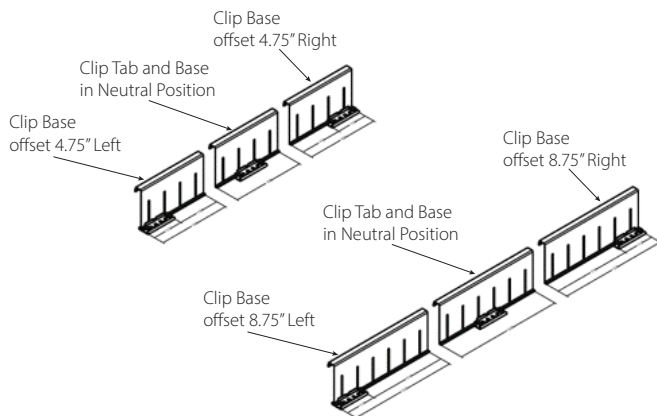
TripleLok			
Purlin Spacing	Panel Gauge	Clip Length	Design Load
2' 6"	24	4"	85.5
5' 0"	24	4"	42.8
2' 0"	22	4"	122.5
5' 0"	22	4"	44.0
2' 0"	24	8"	106.0
5' 0"	24	8"	51.9
2' 0"	24	12"	127.8
5' 0"	24	12"	61.5
2' 0"	24	16"	149.7
5' 0"	24	16"	71.2

QuadLok			
Purlin Spacing	Panel Gauge	Clip Length	Design Load
2' 0"	24	4"	108.8
5' 0"	24	4"	53.9
2' 0"	22	4"	157.5
5' 0"	22	4"	56.0
2' 0"	24	8"	144.8
5' 0"	24	8"	68.7
2' 0"	24	12"	183.3
5' 0"	24	12"	84.4

Design loads contain a safety factor calculated per AISI. Allowable wind uplift loads have NOT been increased by 33% as allowed by some codes when wind load controls. Test report values based on use of a BRS-approved seamer.

PATENTED WIND CLIPS AND THERMAL CYCLING SOLUTIONS

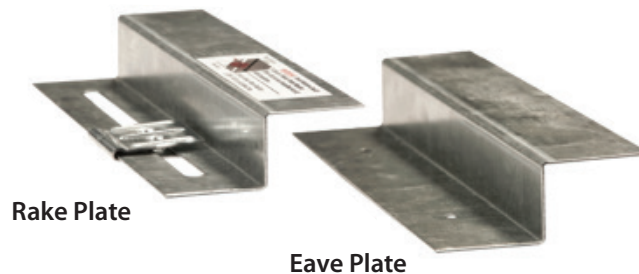
Strong Seam TS324® - 8", 12" or 16" Wind Clips provide more thermal expansion capabilities than other systems when coupled with the High-Capacity Starter or Rake plates with up to their 7" of thermal cycle travel. These patented system components were designed using **Superior Seam Technology™ -SST™** independently tested to be up to **4X stronger than current competitor** slotted shoulder fastener perimeter plates. Test component failures were limited to thermal cycle restriction of the retainer washer in lieu of perimeter plates fasteners rolling out slotted holes losing their positive mechanical attachment connection to the sub-structure resulting in possible catastrophic roof loss.



PERIMETER EDGE/CORNER ZONE INDUSTRY LEADERS

PATENTED HIGH-CAPACITY RAKE/STARTER AND PRE-PUNCHED EAVE PLATES

HIGH CAPACITY RAKE & EAVE PLATES



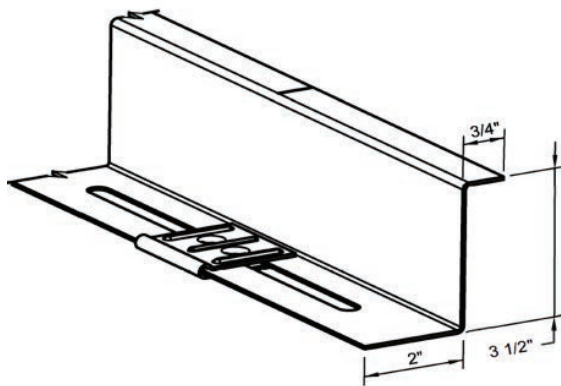
- Provides up to 7" of thermal cycle travel when used in conjunction with either the 8", 12" or 16" wind clips
- Eliminates need for dual type fasteners for roof perimeter attachment and opportunity for incorrect screw placement.
- Pre-punched holes in eave plates dictate required number fasteners used for proper attachment for maximum uplift performance.
- Rake /Starter plates provide opportunity for an out of square structures adjustment to allow the roof panels to begin straight and stay straight.
- Rake /Starter plates act as a full-length wind dam and/or continuous clip at high wind affected gable areas.
- 2" extended top and bottom flanges of rake/eave plates provide installers more stable attachment surface areas for better uplift capabilities.
- Unique clamping design of Rake/Starter retainer washers allows the roof to remain intact in lieu of current configurations that may allow catastrophic roof loss at failure.
- All components are formed from heavy 16-gauge G-90 galvanized steel construction for durability and maximum performance.

PERIMETER EDGE/CORNER ZONE INDUSTRY LEADERS

PATENTED HIGH-CAPACITY RAKE/STARTER AND PRE-PUNCHED EAVE PLATES

Sample of HC Starter Plate for 1/2" standoff roof system

- 16 ga., 50 ksi Galvanized Steel
- 10'-0" length
- Factory punched slots



Part No. SP-035
Weight - 12.96

- Provides continuous wind dam at critical gable/rake wind-up lift conditions.
- Allows installation "field forgiveness" for out of square structures to allow the installation of the roof panel to begin straight.
- Unique design will allow ultra long single slope roof runs of 500'-0" without expensive rafter step downs or requiring the panel system to float in both directions by mid-slope pinning.
- Several web component depths are available to match extended standoff clip heights to allow the installation of thicker energy efficient fiberglass blanket insulation systems as the panels are installed over secondary framing members to meet local energy codes, "Green Design" or attain LEEDS points

PANEL SEAM JOINERY

Consider the benefits of all three seams:

The selection of the complete **Strong Seam TS-324® standing seam roof system with SST™** for your current or next building project provides the highest performance, longevity and weather-ability in the industry.

Some of the High-Performance credentials of the Strong Seam TS324® roof system featuring SST™ :

- Florida High Velocity Wind Zones and Broward/Dade County ratings higher than other systems
- Highest FM classifications with longer spans using 24-gauge panels without using exterior mechanical seam clamps
- Higher ASTM E 1592 loads than others in the industry even those using mechanical seam clamps
- Superior weather tightness due to the **Triple-Lok®** and **Quad-Lok®** finish seam configurations
- Longer panel runs without fixing at center of span or using step in slope details
- Ability to compete with the snap-together SSR roof projects with same profile
- Highest performing High-Capacity Rake/Starter plates with the longest industry travel of up to 7" for thermal cycle expansion with utilized with 8", 12" or 16" wind clips

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* TS324® Roof System license and all data provided by
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