





JoistRite™ floor and roof framing products feature a revolutionary design that allows for simple, “trade-friendly” installation of heating, electrical, plumbing, and other trade pass-throughs with superior strength and dimensional stability.



 **StudRite™**

StudRite™ wall framing offers design flexibility and increased strength for interior and exterior wall framing while also offering “trade-friendly” technology.



 **TrussRite™**

TrussRite™ – Created from the AmKey System, TrussRite provides exceptional strength-to-weight ratio and is dimensionally stable, yet requires less bracing than conventional trusses.

MARINO\WARE is forging a strong future in the cold-formed steel construction framing industry with our new FrameRite Building Systems. As a leading developer of steel framing products, we have provided industry professionals with superior building materials and engineering capabilities for over 70 years. Today, our focus remains on quality, innovation and expert service as we continue to provide the trade with stronger, more efficient steel solutions.

 **FrameRite™**
Building Stronger With Steel.

FrameRite™ Building Systems
Building Stronger With Steel.

Marino\WARE is proud to introduce **FrameRite™** Building Systems, a revolutionary system of cold formed steel construction framing products designed to help you build stronger with steel.

FrameRite Building Systems have been specially engineered to offer maximum strength and outstanding span capacity. Created with the construction professional in mind, FrameRite Building Systems products have unique features built directly into their design, such as lip-reinforced knockouts for the passing of trades, which work to save labor and produce higher quality structures, while resulting in lower labor costs, speedier plan processing and more efficient construction overall.

Also included as part of the FrameRite Building Systems is DesignRite our premier series of design preparation and engineering services for steel-based structures. In all, FrameRite Building Systems products offer tremendous benefits to architects and engineers, contractors and builders – as well as to the individual homeowner.

MARINO★WARE

QUALITY AND SERVICE COUNT.

UNLOCK A WORLD OF DESIGN POSSIBILITIES

FrameRite Building Systems represent a new era in commercial and residential construction. These are products whose very design reduces labor and emphasizes flexibility, thereby freeing architects, engineers, contractors and builders from the constraints normally associated with traditional building materials.

The key to FrameRite Building Systems lies in its core components: JoistRite, StudRite and TrussRite. Each product can be integrated with all building materials to create floors, walls, roofs and other structures. When employed as a system, these products can be used to create an entire building. FrameRite Building System's 100% steel components are lightweight and extremely durable, and offer a sound alternative to wood, thereby reducing draw on the environment.

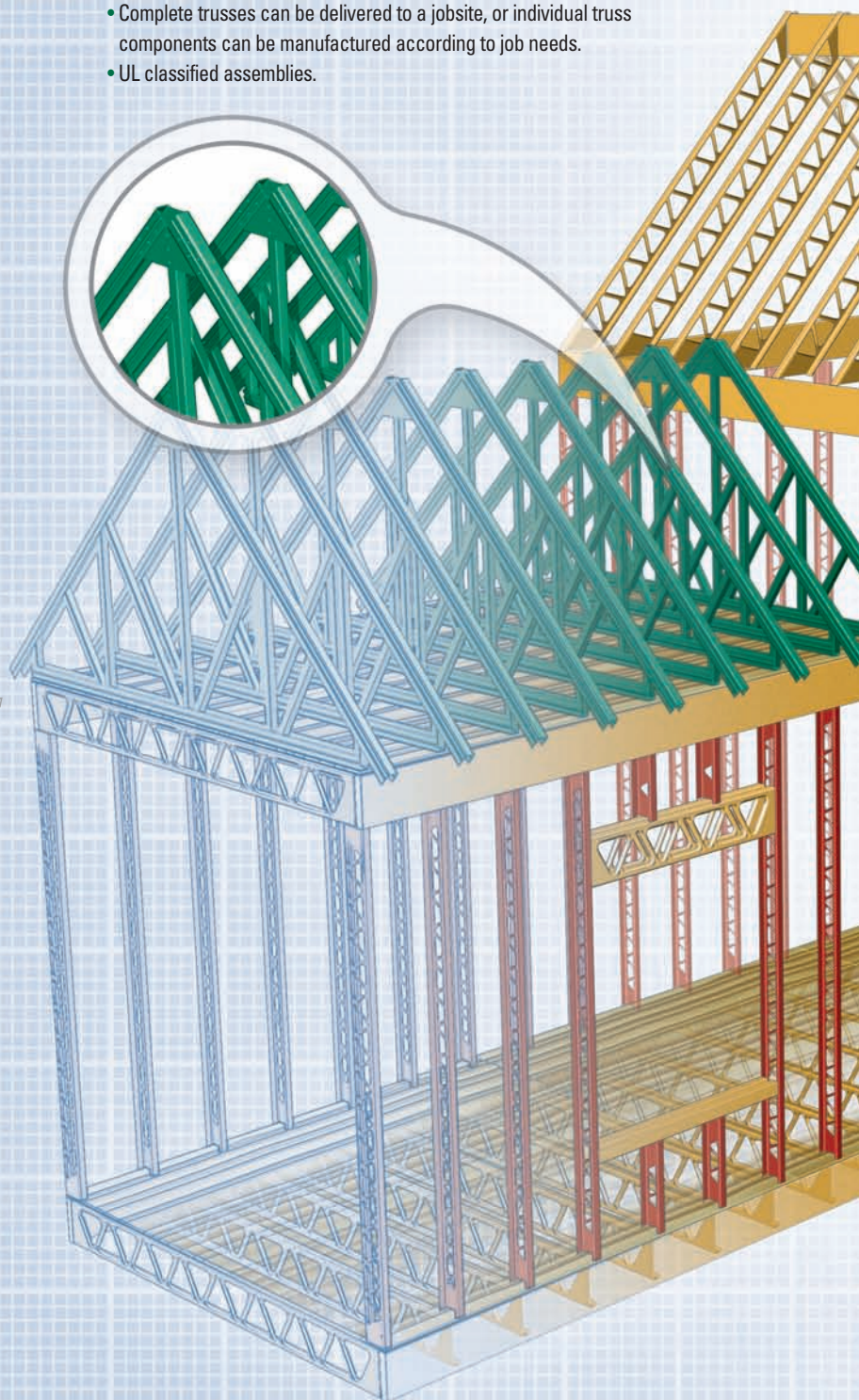
When combined with DesignRite, MarinoWARE's engineering and design service, FrameRite Building Systems form a complete building solution that allows for virtually unlimited construction possibilities.

DesignRite™

- DesignRite services are available to prepare engineering for FrameRite Building Systems structures as well as for buildings created with conventional cold formed steel products.
- Professionally engineered shop drawings allow for a precise layout of the entire structure – an invaluable field item for contractors and builders – and can help facilitate the design approval process.
- Construction professionals can receive a complete list of FrameRite Building Systems materials for a given job – something the competition does not offer – eliminating repeat trips to the supply yard.

TrussRite™

- Created from the AmKey System.
- Exceptional strength to weight ratio.
- Superior dimensional stability.
- Requires less bracing than other truss products.
- Complete trusses can be delivered to a jobsite, or individual truss components can be manufactured according to job needs.
- UL classified assemblies.





- JoistRite products are extremely versatile and can be combined with conventional accessories to form a traditional roof.

StudRite™

- Unique triangular cutouts within the product design allow plumbing, heating, electrical and other conduits to pass through easily – saving time and labor.
- Lightweight and durable, the product can be used as bearing walls in low-rise construction and as non-bearing walls in high-rise construction.
- Steel members are straight and true, equating to cleaner, straighter lines within the structure.
- UL classified assemblies.

JoistRite™

- Specially designed knockouts and embossments in the structure itself allow for added strength and easy trade pass-through.
- Clear spans over 38'-0" can be achieved – reducing the structure's dependency on bearing walls and making most interior walls moveable.
- Superior dimensional stability means no warping, shrinking or cracking – thus eliminating squeaky floors.
- Sections are cut to order, minimizing the need for on-site adjustments.
- Compatible with existing metal-to-wood and metal-to-metal framing techniques.
- Superior thermal, fire, and acoustical properties.
- UL classified assemblies..

SUPERIOR ENGINEERED JOIST SYSTEMS

Experience a new level of creative freedom and practical advancements that make the patented JoistRite™ system superior to all other floor systems.

The key to JoistRite's amazing design flexibility can be found in its unique engineering. Lip-reinforced triangular knockouts and embossments running along the length of its web allow for multiple advantages over traditional "C's" and engineered lumber, both in terms of labor-saving efficiencies and benefits to the overall structure itself. This same design serves to disperse sound, enhancing the acoustical quality of the structure, while reducing heat conductivity, significantly enhancing the product's thermal efficiency.

Plus These Additional Advantages:

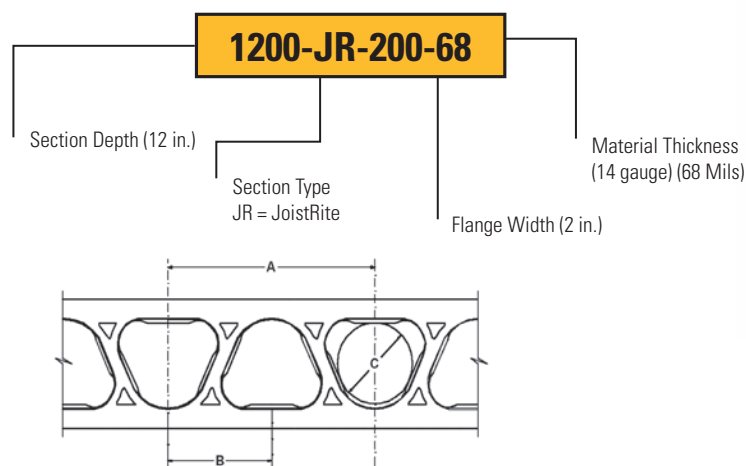
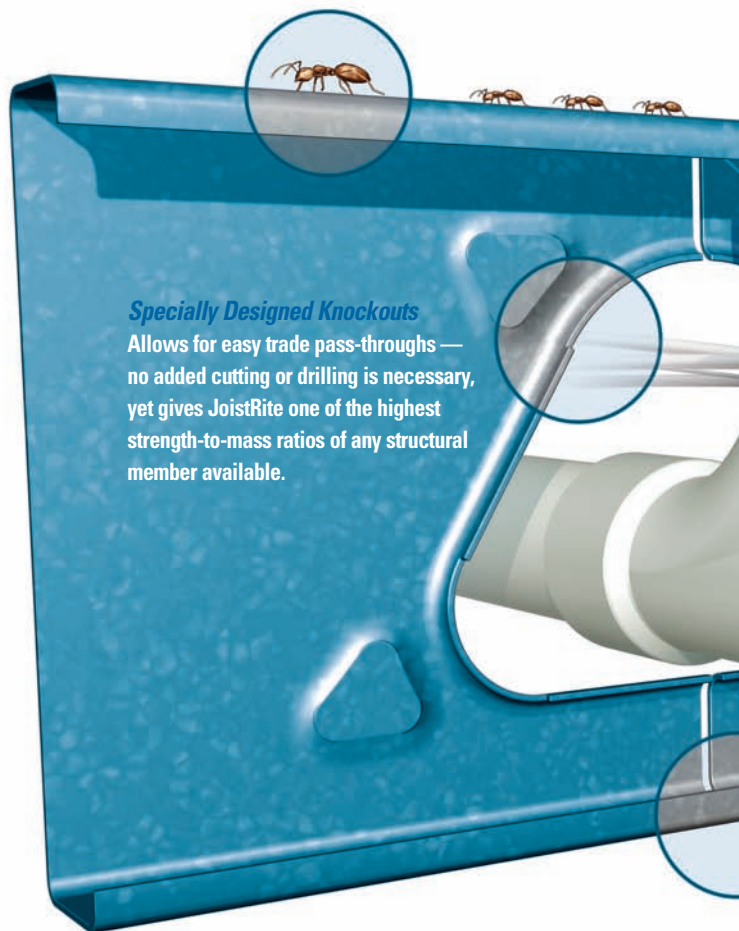
- Compatible with metal-to-wood and metal-to-metal framing techniques
- Rebar-like reinforcements provide improved bearing and span capabilities
- Unparalleled strength-to-weight ratio compared to any other product
- Superior dimensional stability
- Green Building Product – Nearly 100% recyclable
- New York City MEA 139-04 M
- UL L580 1-Hour Fire Assembly
- WHI Project Number 3101528 1-Hour Fire Assembly
- WHI Project Number 3099463 1.5-Hour Fire Assembly
- JoistRite follows Steel Stud Manufacturers Association (SSMA) Codes:

Fire and Vermin Resistant

JoistRite will not support fungi (mold) and cannot be damaged by rodents, termites or other insects. It is fire-tested, non-combustible, easily panelized and corrosion-resistant and will not crack, shrink or rot.

Specially Designed Knockouts

Allows for easy trade pass-throughs — no added cutting or drilling is necessary, yet gives JoistRite one of the highest strength-to-mass ratios of any structural member available.



Hole Sizes:

Section Depth in.	A Pitch in.	B 1/2 Pitch in.	C Max. Diameter in.
8	14.0	7.00	5.5
10	28.0	14.00	7.2
12	35.0	17.50	9.2
14	35.0	17.50	9.2

Steel Thickness:

Product		Design		Minimum		ASTM C955 Color Code
Gauge	Mils	(in.)	(mm)	(in.)	(mm)	
18	43	0.0451	1.15	0.0428	1.09	Yellow
16	54	0.0566	1.44	0.0538	1.37	Green
14	68	0.0713	1.81	0.0677	1.72	Orange
12	97	0.1017	2.58	0.0966	2.45	Red

FROM INSIGHT TO JOBSITE

Maximum Portability

Clear spans over 30' can be achieved and allow for unrestricted floor plans.



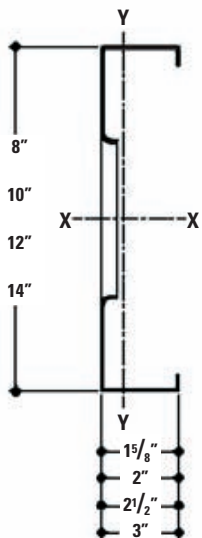
Reinforced Lip Strength

25% of the steel has been removed, making JoistRite lighter than standard "C" shapes, even as the product maintains superior strength.

Easy Handling

Lightweight, safe-edge technology makes transportation to and from the jobsite simple.

Short cut through sections saves wear on expensive cutting blades.



Finish:

Galvanized in accordance with ASTM A924. Products will be furnished with a G-90 hot-dipped galvanized coating.

Grades of Steel:

18 gauge joists
Fy (min) = 33 KSI

16, 14 and 12 gauge joists
Fy (min) = 50 KSI

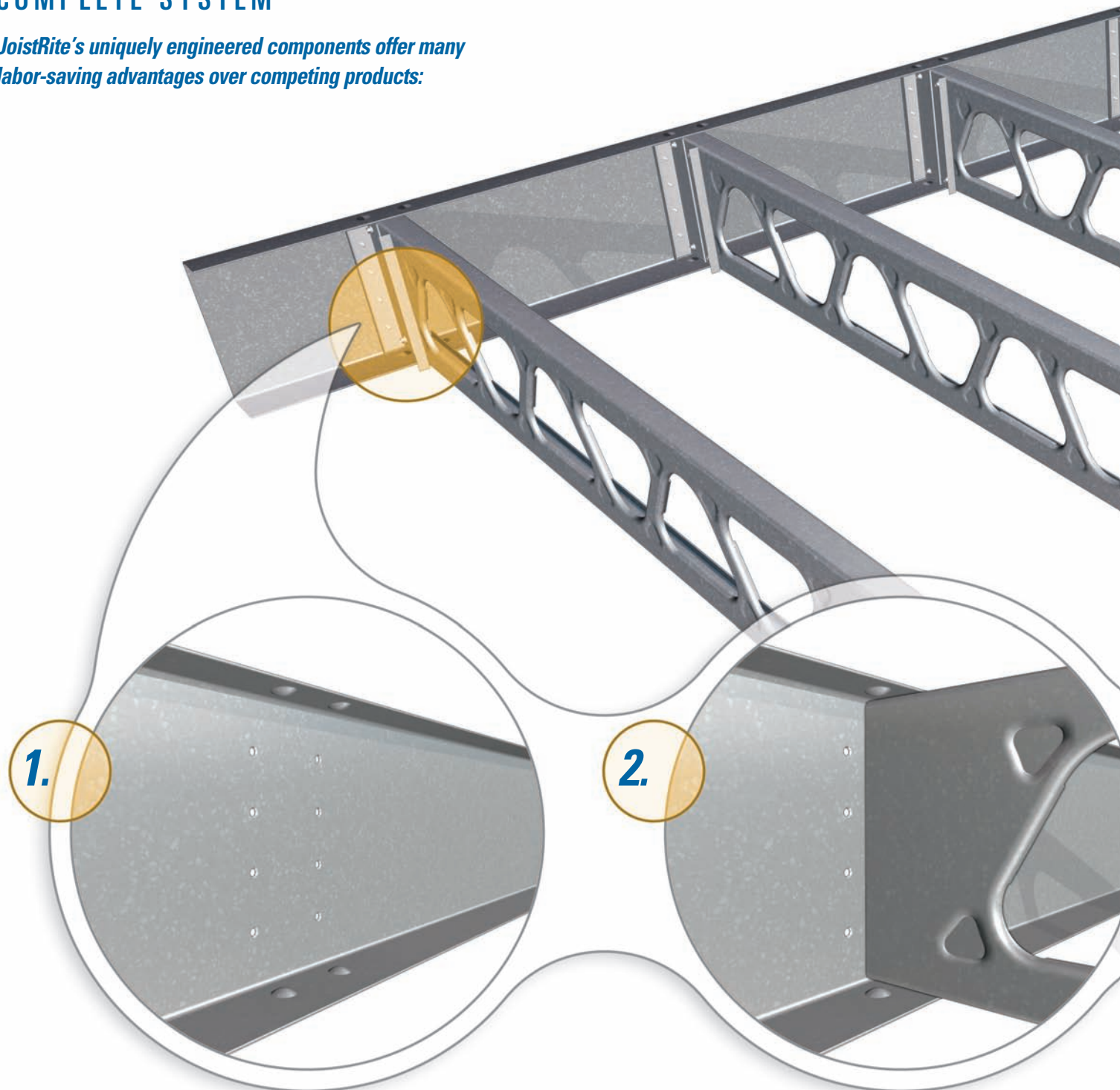
Manufactured to desired lengths.
Other web sizes available upon request.

How Does JoistRite Compare?

	Cost Efficient	Mold Proof	Termite Proof	Short Lead Times	Rust Resistant	Non-Combustible	Large Spans
JoistRite	●	●	●	●	●	●	●
Red Iron Bar Joists		●	●			●	●
Engineered Lumber	●			●	●		●
Dimensional Lumber	●			●	●		
Open-Web Wood Trusses	●			●			●

COMPLETE SYSTEM

JoistRite's uniquely engineered components offer many labor-saving advantages over competing products:



JoistRite Track

- **Pre-set spacing for joists** – built in “dimples,” located at conventional intervals along the track, surround the joist for easy initial placement.
- **Pre-drilled holes** – act as guides that assist in lining up components, while eliminating the need to fasten screws through both joist and track.

FrameRite™
Connectors
JoistRite Blocking

Unlike traditional blocking, JoistRite blocking comes equipped with unique tabs which eliminate the need for additional accessory clips and fasteners – and additional clamping or fastening. The product is also pre-cut to fit between the joists, resulting in more stability based on less labor.

JoistRite™
FLOOR JOIST SPAN TABLE (ft)

15 psf Dead Load 40 psf Live Load

SECTION IDENTIFICATION	DEFLECTION L/360		
	Single Span		
	Joist Spacing (in.) o.c.		
	12	16	24
800JR200-43	17.0	14.8	12.0
800JR200-54	19.0	17.3	15.1
800JR200-68	20.4	18.5	16.2
800JR200-97	22.6	20.5	17.9
1000JR200-54	22.4	20.3	17.8
1000JR200-68	24.0	21.8	19.1
1000JR200-97	26.7	24.2	21.2
1200JR200-54	25.7	23.3	20.0
1200JR200-68	27.6	25.0	21.9
1400JR200-97	30.6	27.8	24.3
1400JR200-68	31.9	29.0	25.3
1400JR200-97	35.5	32.3	28.2

JoistRite™

FLOOR JOIST SPAN TABLE (ft)

15 psf Dead Load plus 60 psf Live Load

SECTION IDENTIFICATION	LIVE LOAD		
	Single Span		
	Joist Spacing (in.) o.c.		
	12	16	24
800JR200-43	14.6	12.6	10.3
800JR200-54	16.6	15.1	13.2
800JR200-68	17.8	16.2	14.1
800JR200-97	19.7	17.9	15.7
1000JR200-54	19.6	17.8	15.5
1000JR200-68	21.0	19.1	16.7
1000JR200-97	23.3	21.2	18.5
1200JR200-54	22.4	20.4	14.7
1200JR200-68	24.1	21.9	19.1
1200JR200-97	26.8	24.3	21.2
1400JR200-68	27.9	25.3	22.1
1400JR200-97	31.0	28.2	24.6

3.

FrameRite™
Connectors
JoistRite Web Stiffeners

JoistRite Web Stiffeners are the very first to come with pre-drilled holes and pre-cut to fit standard joist sizes, allowing for easier installation.

WALL SYSTEMS

StudRite™'s Wall Systems provide clean, straight lines for maximum structural stability for walls and load-bearing structures. In addition, StudRite's lip-reinforced knockouts allow plumbing, heating, and electrical conduits to pass through with ease. Lightweight and durable, the product can be used as bearing walls in low-rise construction and as non-bearing walls in high-rise construction.

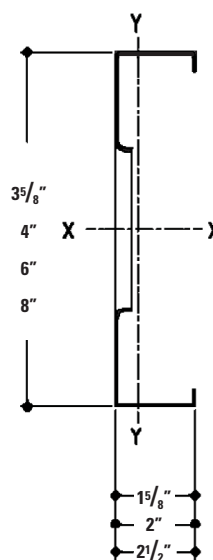
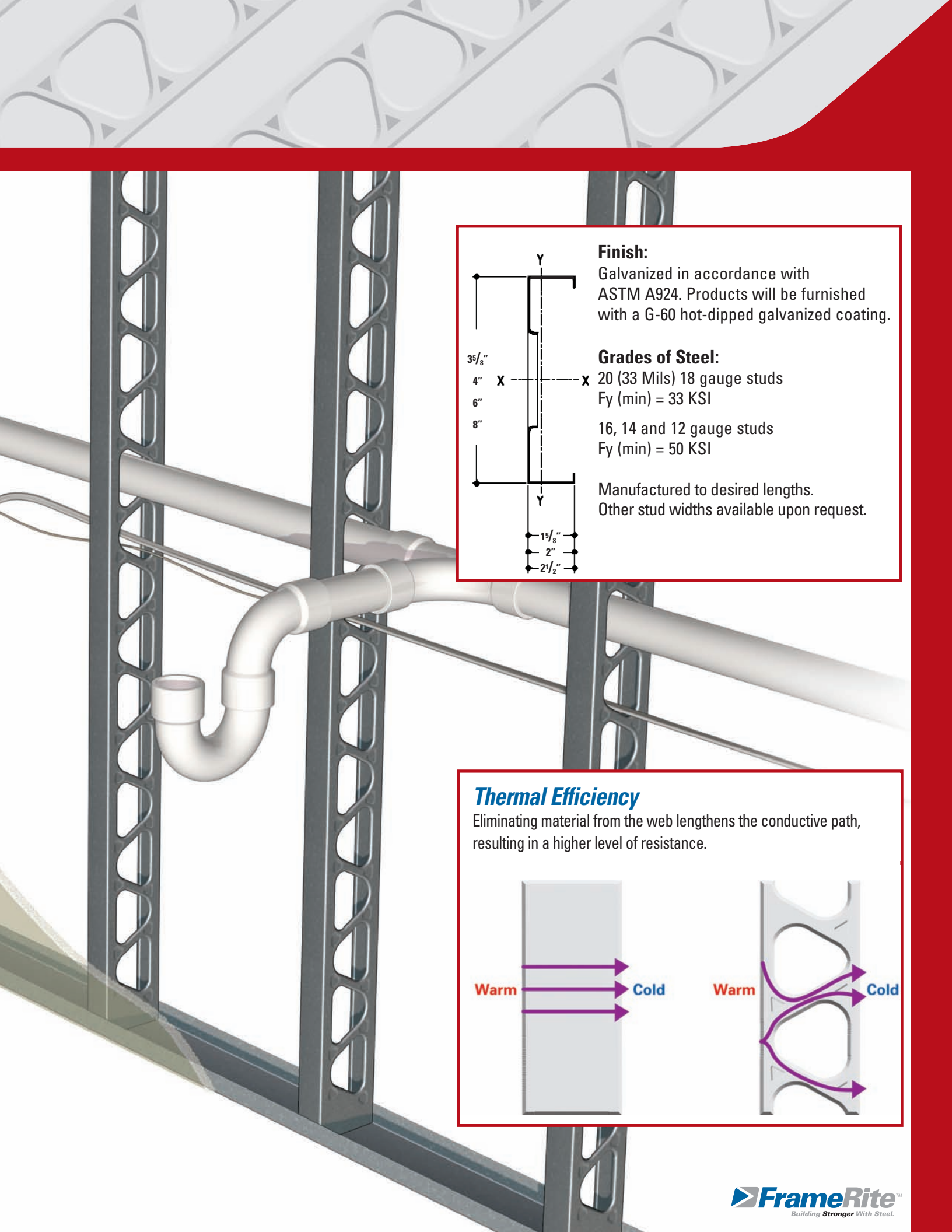
StudRite web widths available from 3 $\frac{5}{8}$ " through 8"
StudRite flange widths available 1 $\frac{5}{8}$ ", 2", and 2 $\frac{1}{2}$ "

StudRite™							
COMBINED AXIAL AND LATERAL TABLE (kips)							
EXTERIOR STRUCTURAL BEARING WALLS							
SECTION IDENTIFICATION	Stud Spacing (in.) o.c.	25 psf			30 psf		
		8'	9'	10'	8'	9'	10'
362JR162-43	16	2.96	2.29	1.69	2.64	1.94	1.32
362JR162-43	24	2.18	1.45	0.81	1.75	0.98	0.33
362JR162-54	16	5.82	4.73	3.74	5.50	4.37	3.37
362JR162-54	24	5.03	3.87	2.86	4.58	3.39	2.39
600JR162-43	16	4.90	4.71	4.24	4.90	4.52	3.91
600JR162-43	24	4.76	4.10	3.43	4.42	3.70	2.96
600JR162-54	16	8.49	8.00	7.49	8.49	8.00	7.49
600JR162-54	24	8.49	8.00	7.49	8.49	8.00	6.91

Bridging not to exceed 48" on center.

StudRite™							
LIMITING WALL HEIGHT TABLE (ft)							
EXTERIOR STRUCTURAL NON BEARING WALLS							
SECTION IDENTIFICATION	Stud Spacing (in.) o.c.	25 psf			30 psf		
		L/240	L/360	L/600	L/240	L/360	L/600
362JR162-43	16	11.1	9.7	8.2	10.4	9.1	7.7
362JR162-43	24	9.7	8.5	7.1	9.1	8.0	6.7
362JR162-54	16	11.9	10.4	8.8	11.2	9.8	8.2
362JR162-54	24	10.4	9.1	7.6	9.8	8.5	7.2
600JR162-43	16	16.3	14.3	12.0	14.7	13.4	11.3
600JR162-43	24	11.7	11.7	10.5	9.8	9.8	9.8
600JR162-54	16	17.5	15.3	12.9	16.5	14.4	12.1
600JR162-54	24	15.3	13.4	11.3	14.4	12.6	10.6

Bridging not to exceed 48" on center.



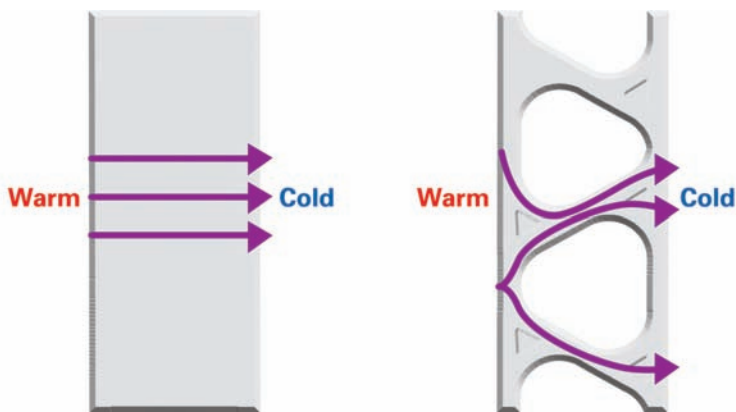
Finish:
Galvanized in accordance with ASTM A924. Products will be furnished with a G-60 hot-dipped galvanized coating.

Grades of Steel:
20 (33 Mils) 18 gauge studs
Fy (min) = 33 KSI
16, 14 and 12 gauge studs
Fy (min) = 50 KSI

Manufactured to desired lengths.
Other stud widths available upon request.

Thermal Efficiency

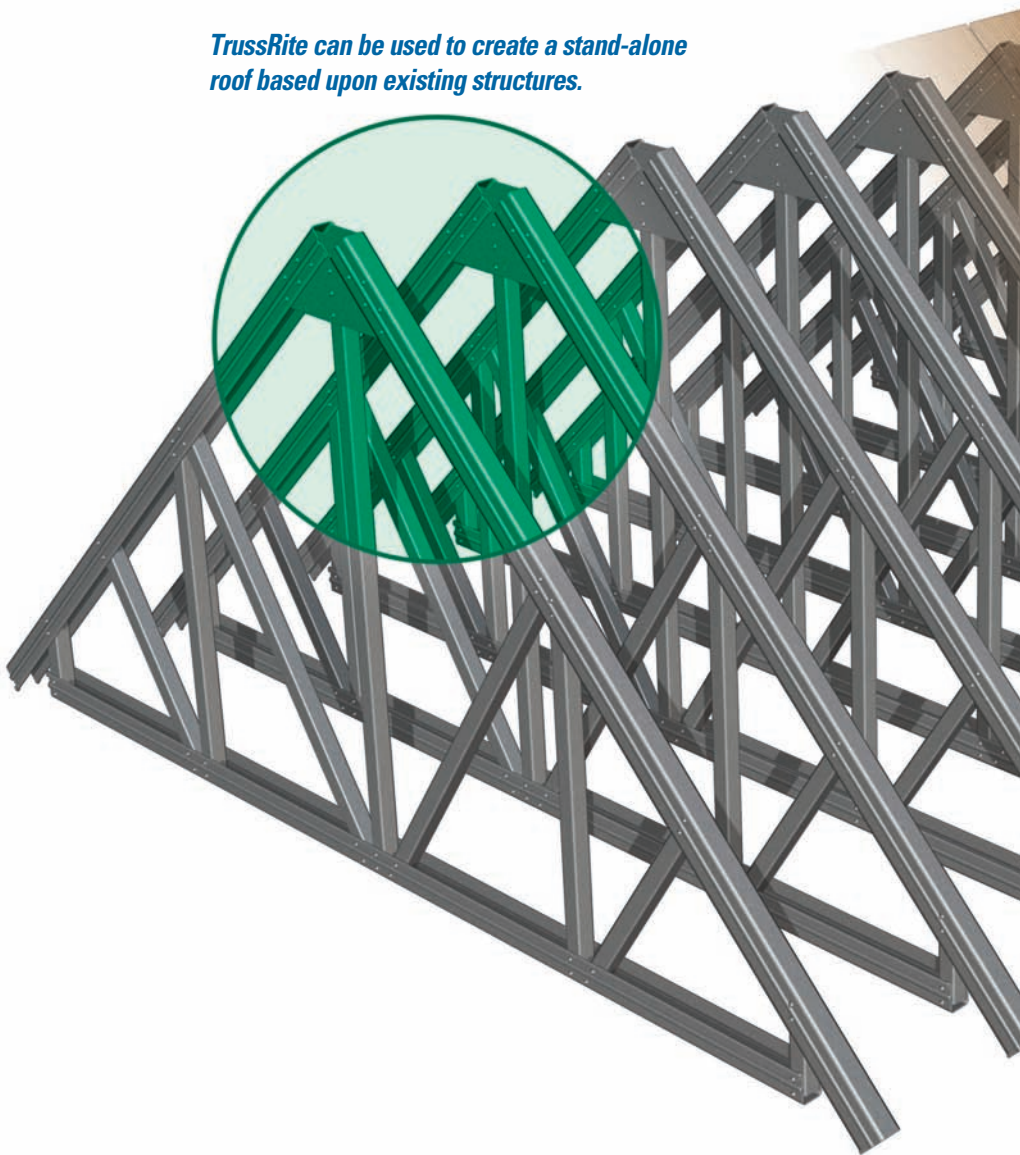
Eliminating material from the web lengthens the conductive path, resulting in a higher level of resistance.



ROOFING SYSTEMS

TrussRite, MarinoWARE's high-quality, versatile truss system, opens up multiple roofing possibilities for the construction professional. Complete trusses can be delivered to a job site, or individual truss components can be manufactured according to the particular needs of the structure. Created from AmKey System truss products, TrussRite provides an exceptional strength-to-weight ratio, yet requires less bracing than conventional trusses. In addition, TrussRite offers outstanding dimensional stability and features code-approved, UL fire-rated assemblies.

TrussRite can be used to create a stand-alone roof based upon existing structures.



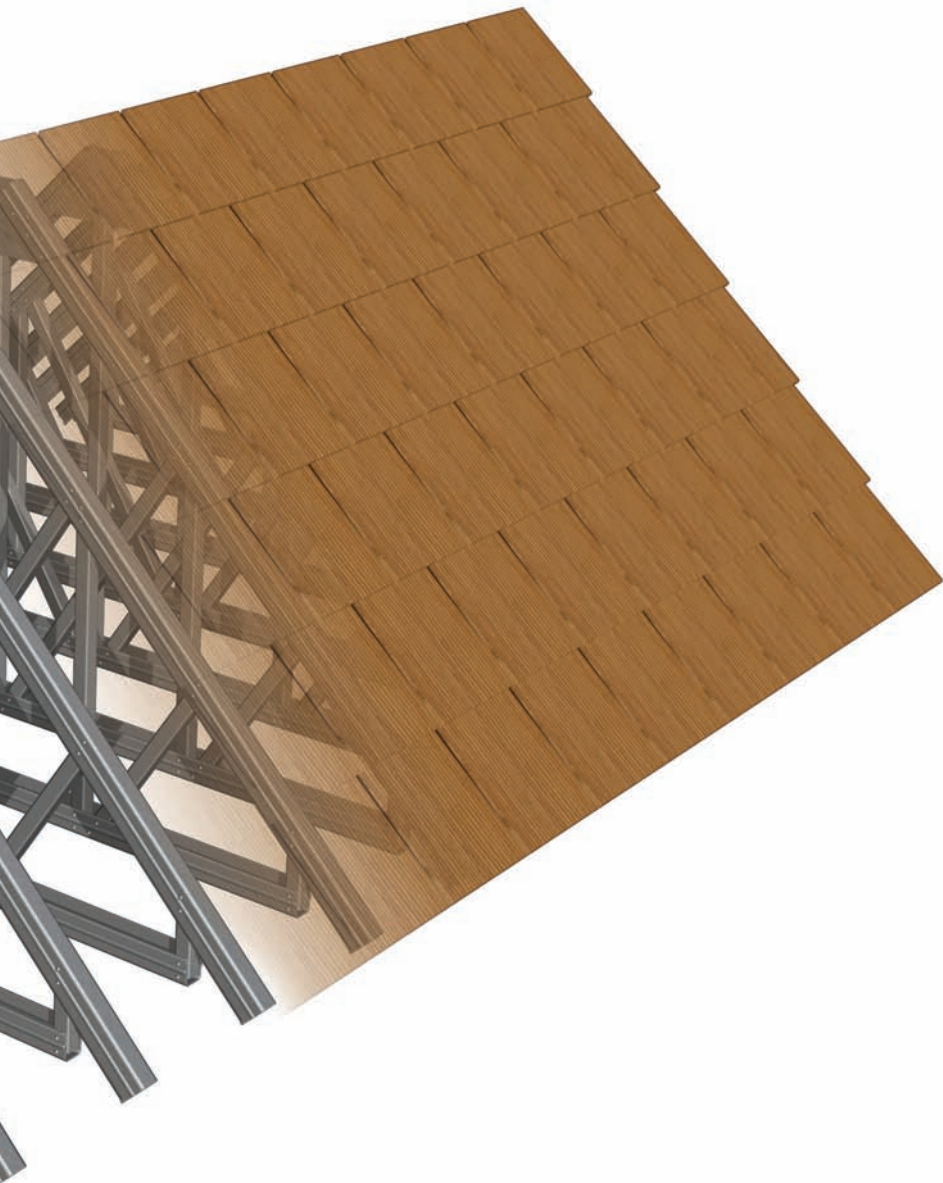
VOLTEC ADVANTAGE

To implement TrussRite designs, MarinoWARE utilizes Voltec modeling software. This cutting-edge three-dimensional engineering application can be used to custom tailor TrussRite products to meet exact building specifications. Now, trade professionals can be assured that TrussRite will accommodate the most complex roofing plans – even those involving substantial duct work.

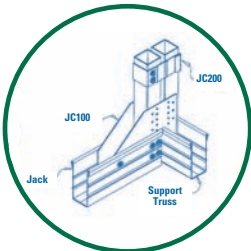


STANDARD TRUSS SHAPES AND CLEARSPANS

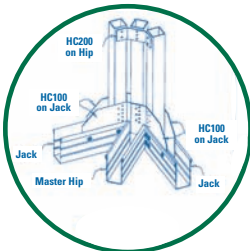
Common Truss	Clearspans to ~ 70 ft +	Flattop Truss	Clearspans to ~ 65 ft +	Mono Truss	Clearspans to ~ 70 ft +	Flat Truss	Clearspans to ~ 50 ft +



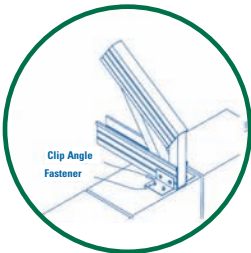
TYPICAL DETAILS



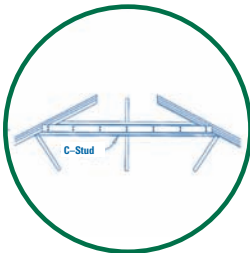
Hook & Hang
Jack to girder



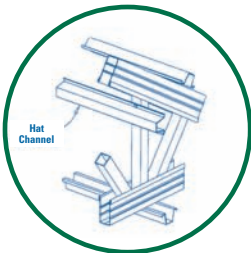
Hook & Hang
Hip and angled jack



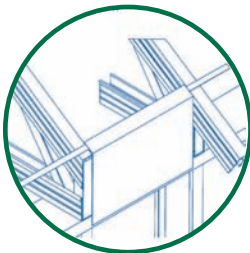
Uplift connection on
CMU wall



Piggyback connection



Purlin and bracing
to truss



Shear transfer end panel

Sloping Truss	Clearspans to ~ 50 ft +	Scissor Truss	Clearspans to ~ 60 ft +	Studio Truss	Clearspans to ~ 60 ft +	Cathedral Truss	Clearspans to ~ 60 ft +
							

ENGINEERING SERVICES

Marino\WARE is pleased to introduce DesignRite™, a comprehensive engineering and consulting resource developed to assist contractors, engineers, architects and builders in designing and building with FrameRite Building Systems or conventional cold formed steel products.

Utilizing Keymarks engineering software DesignRite will offer complete materials listings, so that trade professionals working with FrameRite Building Systems products can ensure the correct sizing and selection of items

and accessories. In addition, DesignRite will provide detailed shop drawings for any area of a conventional steel or FrameRite Building Systems structure – thus helping to facilitate the design approval process.

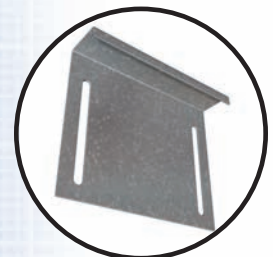
With DesignRite, trade professionals will get the best of Marino\WARE's engineering and construction knowledge in one accurate, streamlined and cost-effective system.



Marino\WARE offers a full range of accessories and can assist in choosing the right components to complete a FrameRite Building Systems project. We feature over 300 connectors and clips in convenient packaging. Please visit www.marinoware.com/connectors.



BRC Bridge Clip



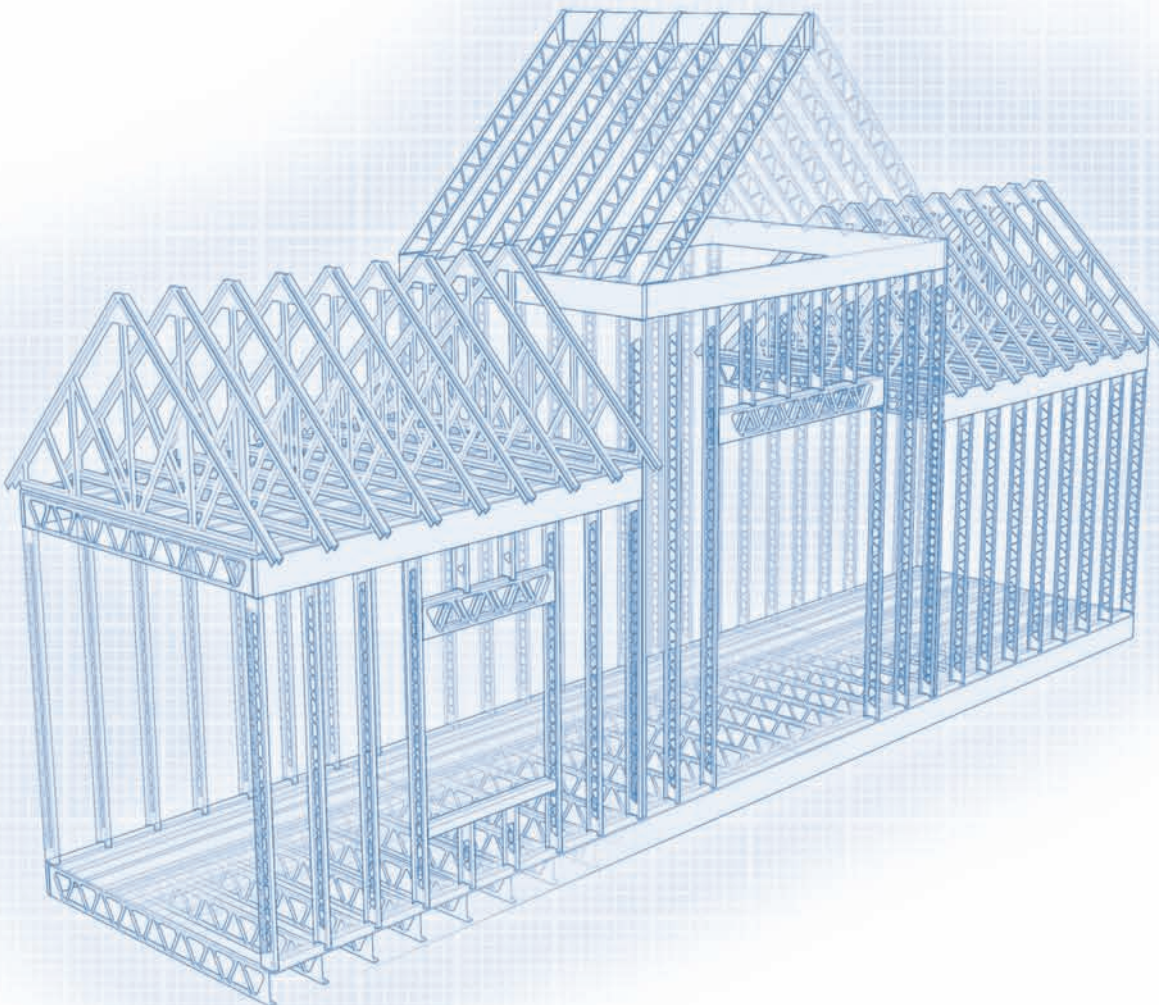
WSC Deflex

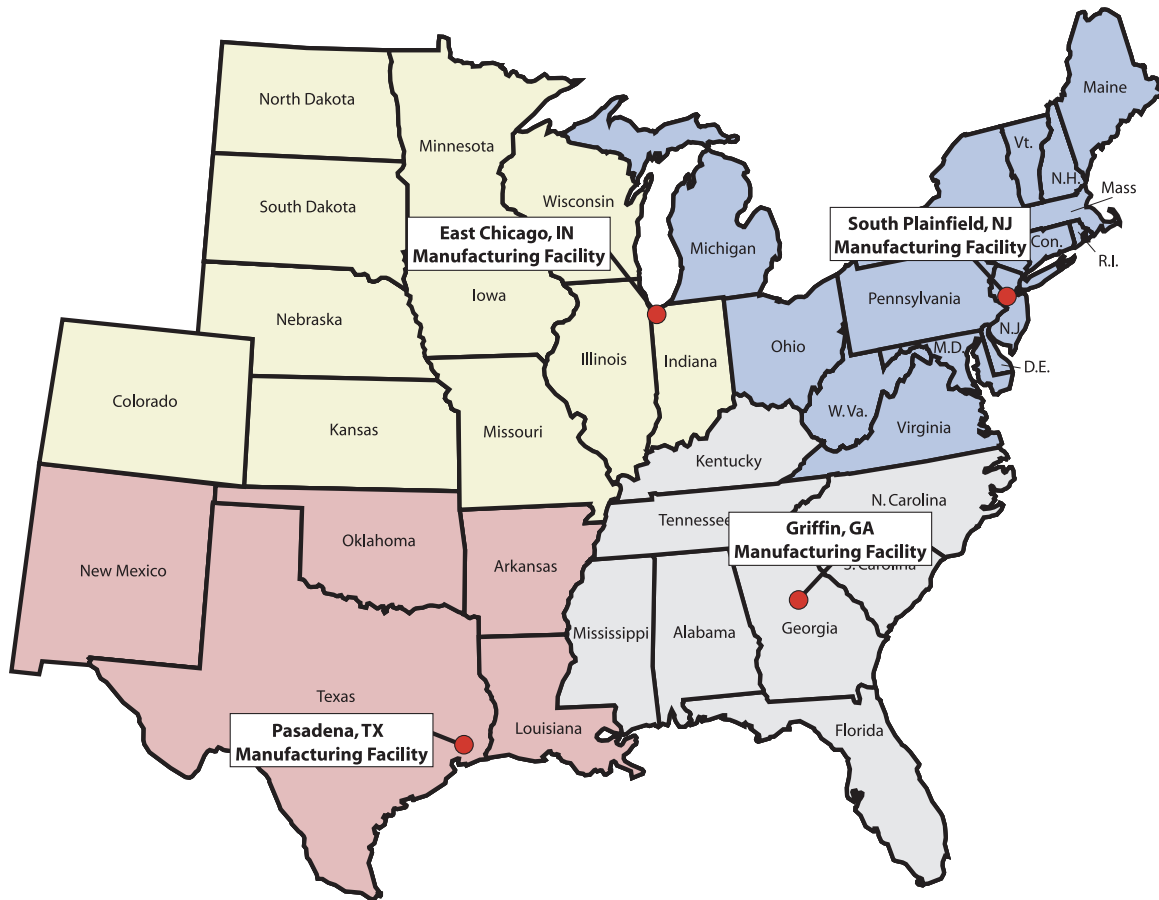


WSC Outrigger



WSC-1500 & WSC-950







FrameRiteTM

Building Stronger With Steel.

MARINO WARE

QUALITY AND SERVICE COUNT.

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