

Structural steel products and services



NEW MILLENNIUM
BUILDING SYSTEMS

Building a better steel experience.

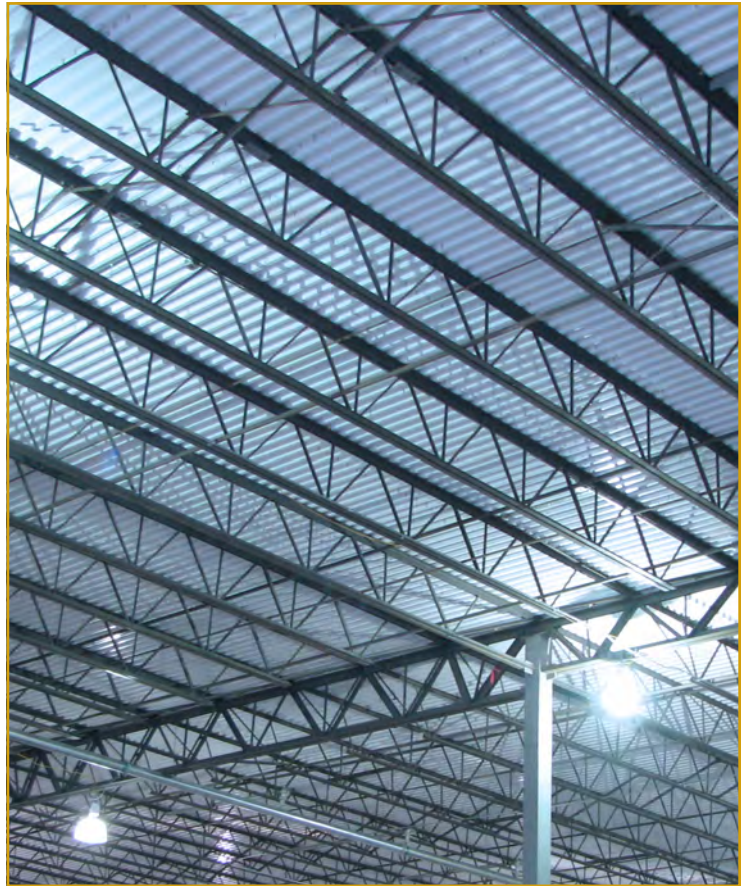


NEW MILLENNIUM

BUILDING SYSTEMS

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QUALITY ASSURANCE

New Millennium is a Steel Joist Institute (SJI) member company, fully certified to manufacture K, LH and DLH-Series Steel Joists, and Joist Girders. New Millennium is also a Steel Deck Institute (SDI) member company, fully certified to manufacture roof deck, form deck, and composite floor deck.

- New Millennium products meet FM and UL requirements.
- New Millennium Building Systems is pending certification from the American Institute of Steel Construction (AISC), for the manufacture of castellated and cellular beams.
- Welders are certified in accordance with AWS D1.1 and D1.3.
- The Indiana facility meets CSA Standard W47.1 in Division 2 for open web joists.
- The Indiana facility is certified in accordance with the requirements of the current IBC/Michigan Building Code, Chapter 17, Section 1705, Paragraph 2.2.
- The Florida facility is certified in accordance with the requirements of the Miami-Dade County, Florida Building Code, Article IV, Chapter 8.
- The Arkansas and Florida facilities are certified in accordance with the Houston, Texas Building Code, section 1704.2.2.
- The Nevada and Mexico facilities are certified in accordance with the requirements of Clark County, LA City (pending), CWB (pending), IAS (pending).

LIABILITY STATEMENT

The data published in this brochure has been developed using recognized engineering principles and is intended for general information only. Although the data shown is believed to be accurate, New Millennium Building Systems does not assume any liability or obligation of any kind or nature arising from or related to the data provided herein and/or its use. Applicability of the products and the accuracy of the data should be assessed by a licensed professional engineer or architect to determine the suitability for the intended application.

Together, let's build a better steel experience.

New Millennium's competitive advantage is flexibility.

As our customers nationwide have discovered, we engineer winning relationships, success stories that continue to build America.

Our uniquely flexible engineering and manufacturing business model enables us to take the project owner's point of view: delivering higher total-project performance, for less total-project cost. You can count on us for the experience, products, services, and nationwide locations that will build your business.

- Value engineered total-project cost management
- Flexible approach to steel joist and metal decking supply
- Experienced developers of special profile steel joists
- Leading, most experienced providers of BIM/IPD joist projects
- Nationwide locations for local supply and support



PLUS, for faster and easier specification, start with our convenient web-based and mobile app specification tools. See page 8 of this brochure or visit:

www.newmill.com/digital-tools



Industry-leading 3D BIM design • State-of-the-art manufacturing • Nationwide delivery and support • Steel joists and metal decking

Product Flexibility

Assure the winning success of your project, with our full range of structural steel roofing and flooring systems development.

STANDARD STEEL JOISTS

Joist products include K, LH and DLH Series joists and joist girders, and CJ Series joists (Composite Joist). Joists can be furnished as a single-piece up to 15 feet deep and 125 feet long. All are produced in accordance with the specifications of the Steel Joist Institute. For more information see page 10.

FLEX-JOIST™ TENSION-CONTROLLED STEEL JOIST DESIGN

Flex-Joist™ tension controlled steel joist design results in a joist that characteristically displays both higher strength levels and large inelastic deformations prior to collapse. The result is a roof or floor framing system with improved strength, an improved reliability index, and improved sensory alert to overload prior to collapse.

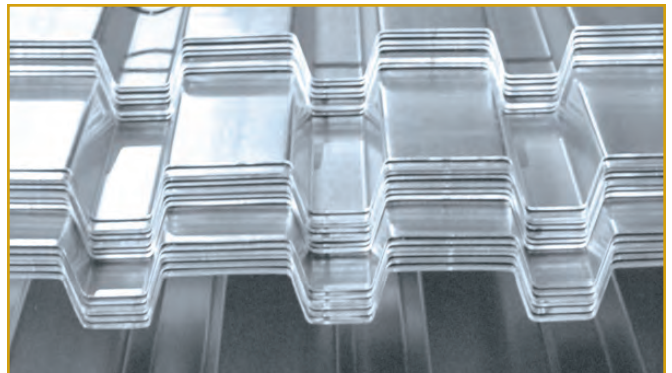
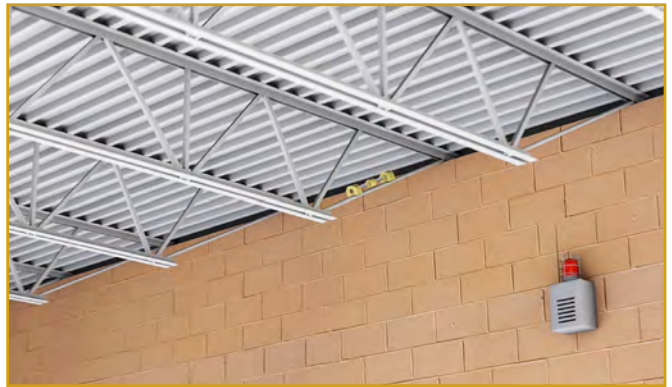
Flex-Joist™ tension-controlled steel joist design is ideally suited to electronic monitoring of deflection and/or strain for early warning of high loads, if desired. This can allow time for building evacuation, load removal, and/or shoring to prevent collapse. Although electronic monitoring is not provided by NMBS, we can help coordinate requirements with your electronic monitoring supplier. For more information see page 15.

SPECIAL PROFILE STEEL JOISTS

Unique roofline designs are now practical and economical using special profile steel joists, due to our development of engineering specifications enabling over 40,000 special profile steel joist design possibilities. We manufacture a complete range of special profile steel joist products, including bowstring, arched, scissor, double-pitched, and single-pitched joists. For more information see page 11.

METAL DECKING

Roof and floor metal deck options include B deck, N deck, form deck and composite deck. Engineered to the application, our steel decking systems are certified to address performance requirements related to such factors as wind uplift, fire resistance and noise reduction. For more information see pages 12-13.



Elevate the long-term success of your business with our proactive approach to your project needs.



ARCHITECTURAL SOLUTIONS

Bring us in early on the project to achieve the architectural vision, while holding the line on structural execution and related project costs. We can show you new design solutions made possible by our leading development of over 40,000 new engineering specifications in the discipline of special profile steel joist design.

ENGINEERED COST REDUCTIONS

We remove a chain reaction of project costs, starting with reduced steel tonnage and ending with lower on-site labor costs for handling, lifting and erection. Our approach to cost-accountable engineering can shorten project timelines and prevent delayed occupancy or lost retail revenues.

BIM DESIGN COLLABORATION

New Millennium participates in BIM-based projects using our industry-leading Dynamic Joist® digital design component. The component is available as a free, downloadable add-on for Tekla Structures. Additional components are in development to support our many product lines and for use with other digital software provider formats. For more information see page 6.

DYNAMIC MANUFACTURING & DELIVERY

Our dynamic manufacturing can adjust to any project timeline or changing erection site needs, including staged and just-in-time deliveries. Tell us what you need and when you need it.

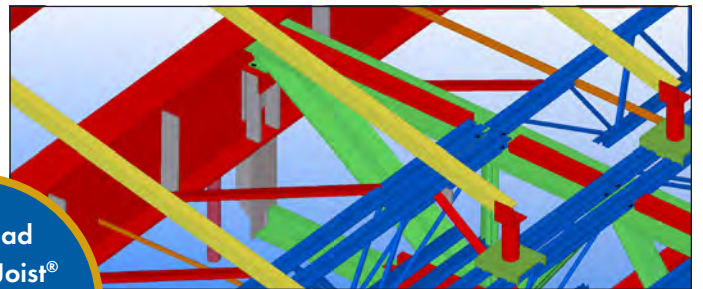
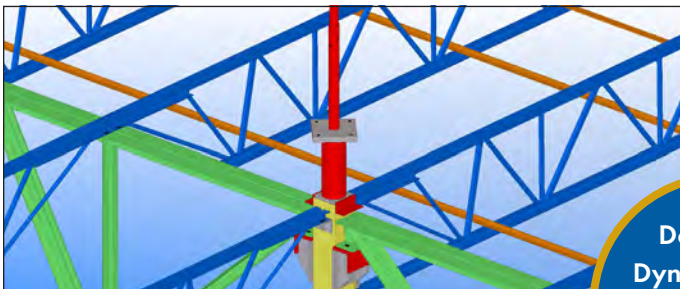
Dynamic Joist® Component for BIM-based Design



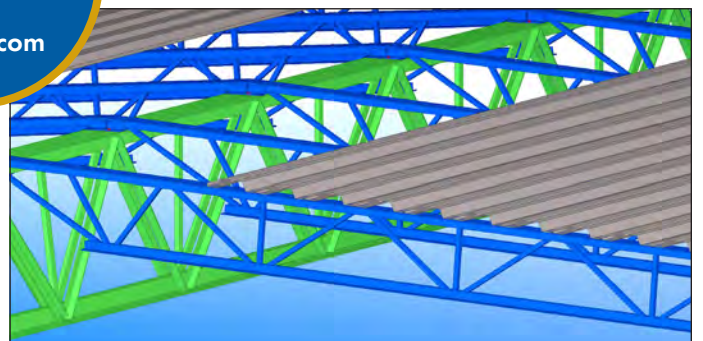
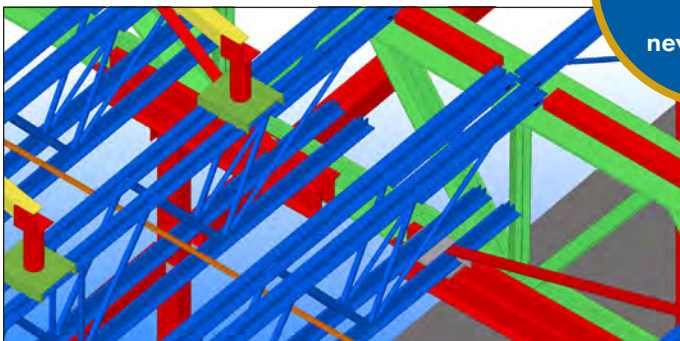
THE LEADING CHOICE FOR BIM-BASED STEEL JOIST DESIGN COLLABORATION

Since early 2010, our industry-leading Dynamic Joist® BIM component has enhanced design collaboration in real-world projects throughout the United States. Our expertise in 3D steel joist modeling and process management continues to expand as we target 4D scheduling and 5D cost control measures. In the world of BIM 6D, facility owners can enjoy the benefits of life cycle management with complete digital steel joist models.

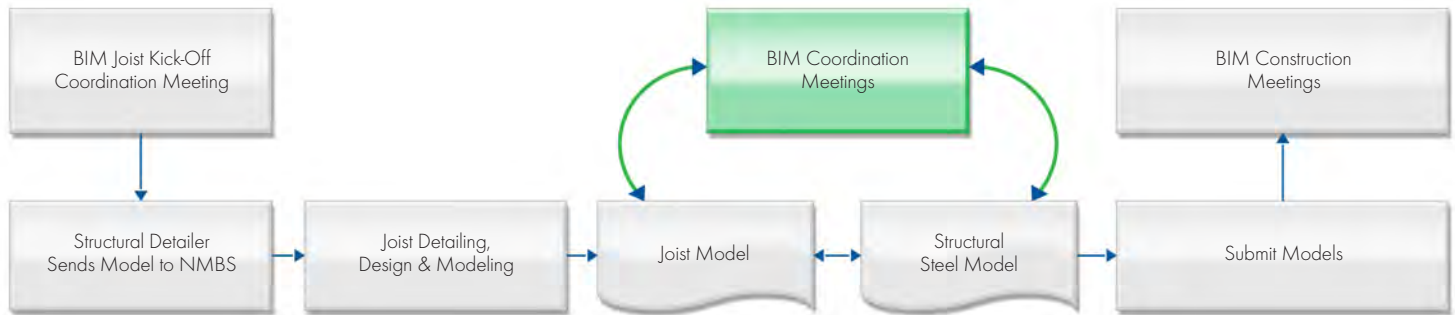
Our free BIM components contain steel joist configurations, specifications, material components, and design requirements that can be used from the planning room to the jobsite. You now have the option of developing and exchanging 3D steel joist plans by using Dynamic Joist® v2.0 with Tekla Structures version 17.0 SR1, or by using Dynamic Joist® v1.1 with Tekla Structures version 16.0 R1. Additional components to come will add on to other brands of 3D design software.



Download
Dynamic Joist®
for FREE
newmill.com



Dynamic Joist® Component for BIM-based Design



MANAGE COSTS AND SHORTEN TIMELINES

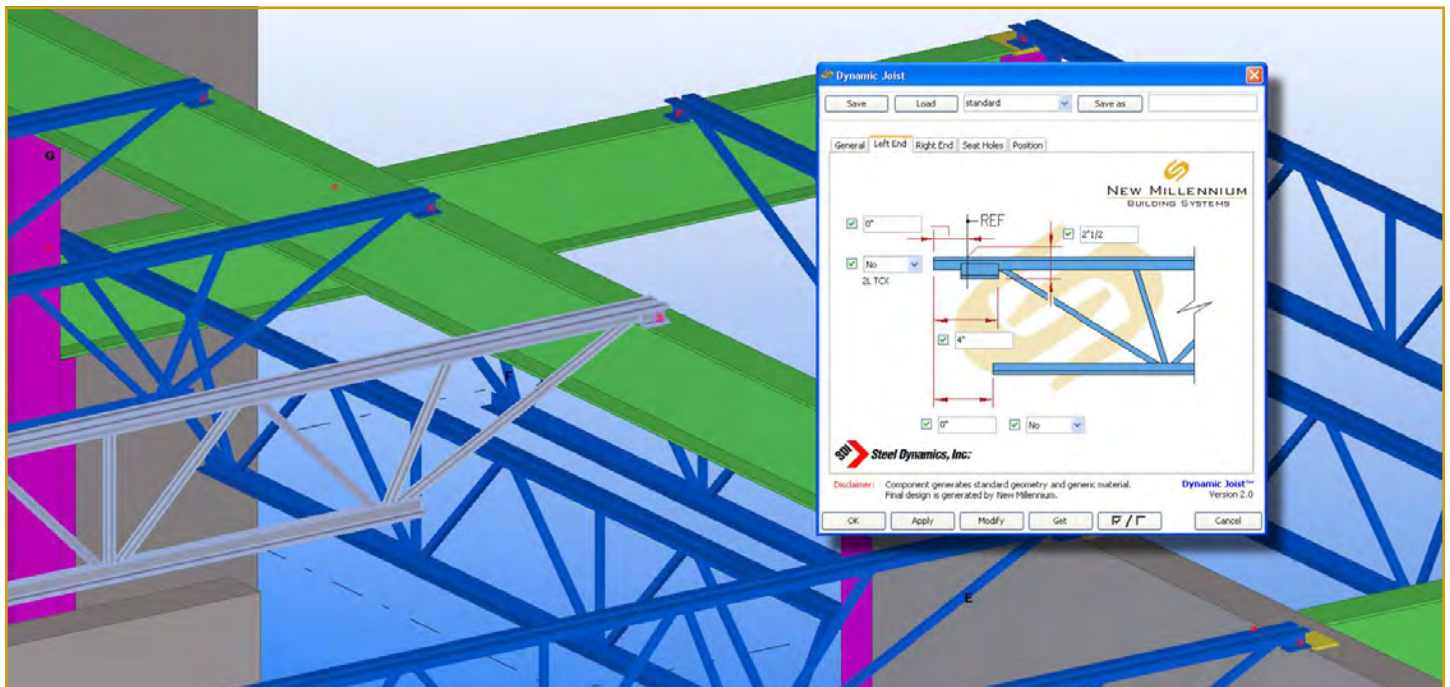
Dynamic Joist® models integrate smoothly into the structural model, which in turn integrates into the building's "master" model, where they are joined by models from other participating trades, such as electrical, plumbing and mechanical.

BIM fully leverages our value-added engineering capabilities, as we address a wide range of cost/value decision points, such as bridging placement and erection, evaluating and improving unusual connections, seeing where and how special load conditions can be better supported, or where an aesthetic architectural objective can be achieved using less metal and labor. The process also encompasses such cost-performance decisions as erection-synchronized steel joist delivery.

TRUSTED EXPERIENCE YOU CAN BUILD ON

New Millennium has managed steel joist model development for a wide range of BIM and integrated project delivery (IPD) based projects. In all cases where the project was fully BIM-based, we contributed from the early outset to the planning, design and process management of the building's mission-critical, combined steel joist and structural steel model.

Our early participation in the design process enables us to bring to the table our growing breadth and depth of steel joist design options, engineering and manufacturing capabilities. This includes special profile steel joists, enhanced by our leadership in the expansion of steel joist specifications. In addition, our advanced Dynamic Joist® component facilitates the efficient design of bridging and other structural elements within the combined steel joist and structural steel model.



Digital Specification Tools

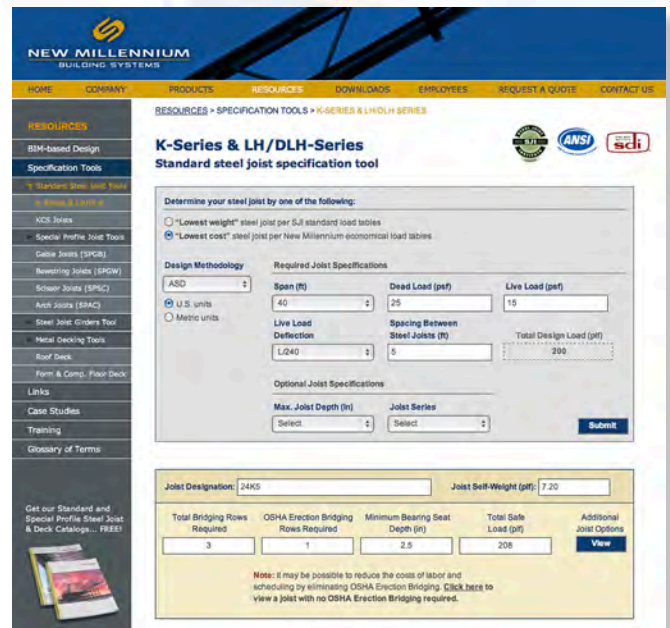
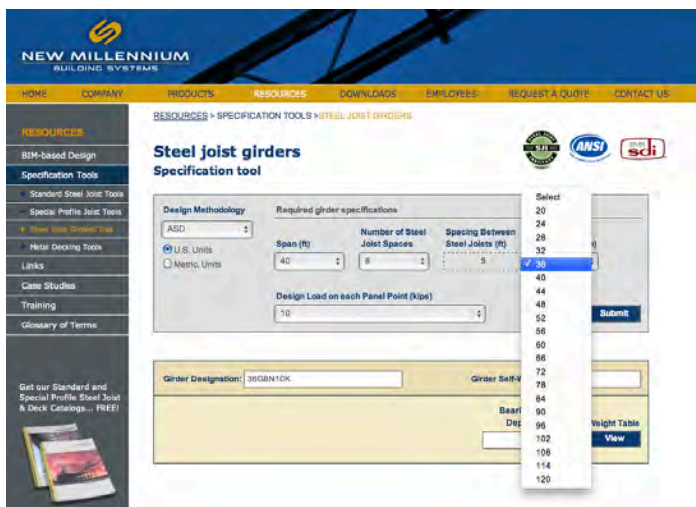
NEW WEB-BASED AND MOBILE SPECIFICATION TOOLS

Our commitment to building a better steel experience embraces the use of digital technology to further simplify and accelerate the steel package design process. New Millennium pioneered IPD (integrated project delivery) with steel joists by making BIM-based process management a reality. Since 2010, Dynamic Joist® has been the leading choice for BIM-based steel joist 3D design.

Introducing another industry first: Digital Specification Tools. Built upon our engineering expertise in steel joist and metal decking, and backed by our database of load and weight tables, New Millennium packs the power of our specification catalogs into advanced web and mobile applications.

You will find everything you need... from standard steel joists and joist girders, to our industry-leading special profile steel joists, to a wide range of roof, form, and composite floor decking.

- **Easier and faster specification**
- **Helpful cost-saving guidelines and options**
- **Mobile app for on-the-go convenience**
- **Steel joist specification tools:**
 - Standard steel joists and steel joist girders
 - Special profile steel joists
- **Steel decking specification tools:**
 - Load tables for roof, form and composite decking
 - Diaphragm design specification tool



All of our new digital tools feature interactive simplicity... tabbed entry fields, drop-down menus for fast specification, plus the ability to go back and change your entries for on-the-fly optional designations.

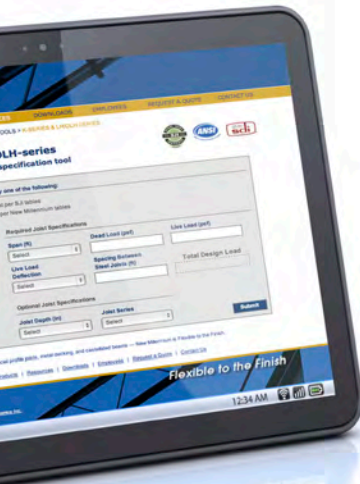


THE EASIEST WAY TO SPECIFY STEEL JOISTS, JOIST GIRDERS AND STEEL DECKING

Our new digital tools function like our catalogs, only much faster. Everything you need is readily accessible on one screen, simplifying your specification process, saving you time and money.

For example, with the K-Series & LH/DLH-Series tool, you have the option of designating a joist via "lowest weight" or "lowest cost" methods. Choose between ASD or LRFD design methodology, and specify U.S. units of measure or metric. Enter your specifications, click submit and instantly see the joist best suited for your application, PLUS all of its relative data.

As a guide to reducing the costs for labor and scheduling, a one-click feature allows you to view a heavier joist option built with a larger top chord and greater lateral stiffness to eliminate the need for OSHA Erection Bridging. Additional options relative to your spec are also one simple click away.



NEW MILLENNIUM BUILDING SYSTEMS

CONTACT US
REQUEST A QUOTE

HOME COMPANY PRODUCTS RESOURCES DOWNLOADS EMPLOYEES

RESOURCES > SPECIFICATION TOOLS > DIAPHRAGM DESIGN SPECIFICATION TOOL

Steel Roof and Floor Decking Diaphragm design specification tool

U.S. units
Metric units
Metric option planned for a future tool update.

Required deck specifications

Deck Application: Roof Deck Type: F

Gage: 22 Yield Stress (ksi): 40

Support Fastener: #12 Screw

Select One
#10 Screw

Submit

Generate
your own PDF
design guides!

NEW MILLENNIUM BUILDING SYSTEMS

HOME COMPANY PRODUCTS RESOURCES DOWNLOADS EMPLOYEES REQUEST A QUOTE CONTACT US

RESOURCES > SPECIFICATION TOOLS > BOWSTRING JOISTS

Bowstring joists (SPGW) Special profile steel joist specification tool

U.S. units
Metric units

Begin by defining the joist:

Joist Profile: Bowstring Span (ft): 50 Top Chord Uniform Load (plf): 500

Next, define the following 2 specifications:

Center Depth (in): 64 Top Chord Radius (ft): 77 End Depth (in): 14

Submit

Data has changed. Please click "submit" to apply your changes.

Joist Designation: 64SPRW000 Joist Self-Weight (plf): 16

Total Bridging Rows Required: 4 OSHA Erection Bridging Rows Required: 4 Minimum Bearing Seat Depth (in): 7.5

Economical Load Table View

If you are experiencing difficulties viewing the PDFs generated by this tool we recommend you install the Free Adobe Acrobat Reader.

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www.newmill.com/contactus

Steel Deck Diaphragm Design Guide

Deck	Deck Application	Deck Type	Gage	Yield Stress (ksi)	Support Fastener	End Depth (in)
64SPRW000	Roof	F	22	40	#12 Screw	14

U.S. L.F., 32, 40, 50, 60

The values shown in the tables are nominal strengths and are not to be used without applying the proper safety or resistance factor as shown above the top right-hand corner of each table. The tables are to be applied as follows:

- LRFD - The table values must be multiplied by the ϕ resistance factor when comparing to forces calculated using Load and Resistance Factor Design.
- ASD - The table values must be divided by the Ω safety factor when comparing to forces calculated using Allowable Stress Design.

Nominal diaphragm shear values due to building are shown in tables below the no W (bare deck) shear strength tables, for use in determining when conditions may be limited by panel building. An asterisk (*) is shown following the value in the shear strength table indicating conditions where panel building and providing greater shear strength. Nominal shear strength values listed in the tables above that a floor shear strength value exceeds the nominal building shear strength value. The designer should compare the nominal values to determine which design requirement is governing.

The table shown as Item (1) in the shear strength tables are conditions that do not meet minimum Steel Deck Institute table top connection requirements. Note that values for 22 gage decks with vertical side lap connections have not been included as the Steel Deck Institute does not recommend this condition. The values shown in Item (2) indicate conditions with 3 side lap fasteners not in compliance with minimum Steel Deck Institute requirements. These values can be used to determine diaphragm shear strengths when temporary bracing can be used for connections are approved for connections as part of the diaphragm shear design.

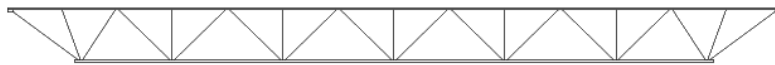
LIABILITY STATEMENT
The data provided in this document has been developed using engineering principles and is intended for general information only. Although this data does not constitute a design, New Millennium Building Systems does not assume any liability or obligation of any kind in relation to the data provided herein unless the user, applicability of the products and the accuracy of the data should be verified by a competent professional engineer or architect to determine the liability for the intended application.



Standard Profile Steel Joists



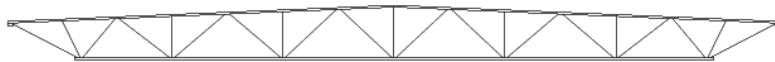
Standard profile steel joist products include K, LH and DLH-Series Steel Joists, KCS Steel Joists, and Joist Girders. All steel joist products are designed and manufactured in accordance with the specifications of the Steel Joist Institute. New Millennium can also provide CJ Series steel joists (Composite Joist), designed and manufactured in accordance with the specifications of the Steel Joist Institute. Depending on the jobsite location, steel joists can be furnished as a single-piece up to 15 feet deep and 125 feet long. By using field splices to increase lengths and/or depths, the possibilities are virtually limitless.



PARALLEL CHORD



SINGLE PITCHED TOP CHORD



DOUBLE PITCHED TOP CHORD

All standard profile joists are available with either under-slung or square ends.

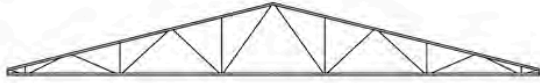
The depth indicated in joist designation is determined by the depth of single pitched joists at the center of span and at ridge center line of double pitched joists. When top chord slope exceeds $\frac{1}{2}:12$, total and live top chord uniform loads must be provided.

All standard profile joists with top chord pitch greater than $\frac{1}{2}:12$ will be provided with no camber unless otherwise specified in contract documents.

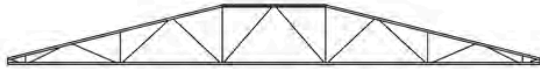
Simplify your design process and reduce project costs by downloading our FREE Dynamic Joist® 3D BIM component, available on our website. In addition, our steel joist and metal decking online specification tools will help streamline your specification process.



Special Profile Steel Joists



GABLE



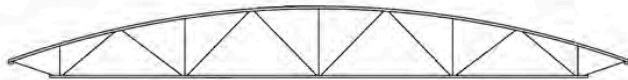
FLAT TOP GABLE



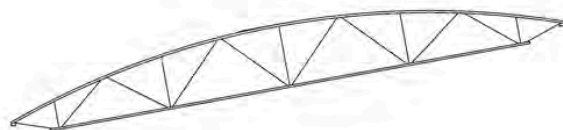
SCISSOR



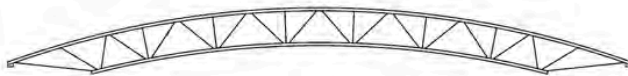
COMPOUND SCISSOR



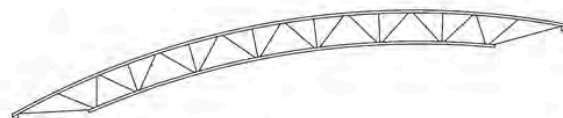
BOWSTRING



SLOPED BOWSTRING



ARCH



SLOPED ARCH



Designing and building a remarkable steel experience requires more than a run-of-the-mill approach, and we are built for steel joist design innovation. Our design engineers explore the possibilities of steel joist design and continue to expand the range of architectural steel joist specification based on standards established by the Steel Joist Institute (SJI).

New Millennium manufacturing facilities have been specifically designed and equipped to produce a wide range of special profile steel joists. This allows us to maintain consistent quality and provide significant cost advantages. Experienced design professionals equipped with specially developed software are an important part of our staff. Additionally, our manufacturing teams and shipping personnel are experienced in all special profile steel joist products.

Our latest special profile joist catalog represents a vast expansion of the design engineering specifications necessary to achieve unique new roof-line concepts.

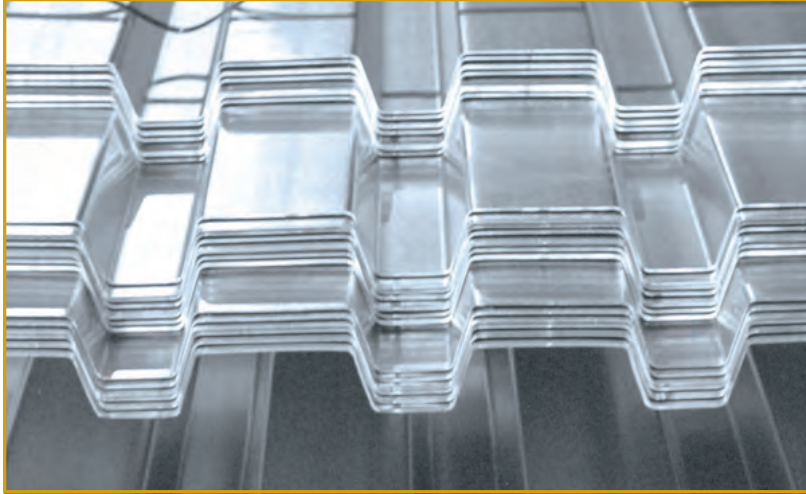
- **New specifications support infinite design possibilities**
- **Catalog includes illustrations, charts and guidelines**
- **New tables support over 40,000 joist designs**
- **Design considerations for shipping, handling and erection**

Special profile joists are available with either under-slung or square ends. Contract documents must include all dimensions as indicated along with all loading requirements.

All special profile joists will be furnished with no camber unless specified otherwise in contract documents. Scissor and Arch joists may induce horizontal forces to the supporting structure. Anchorage conditions and drift limitations should be considered by the specifying professional.

Download or request the New Millennium Building Systems Special Profile Catalog online at www.newmill.com.

Metal Decking and Accessories

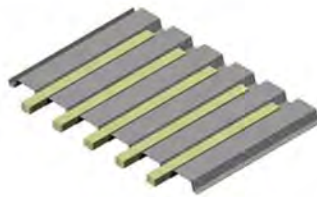


New Millennium Building Systems produces a wide range of floor and roof decking and accessories. Deck is available in lengths from 6'-0 up to 50'-0. Our team can show you how to accurately specify what you need to make your steel deck installation complete and cost effective.

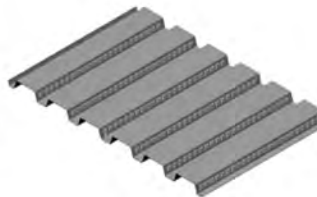
- Steel Deck Institute member company fully approved to manufacture roof deck, form deck, and composite floor deck.
- B and N deck are Factory Mutual approved for use as a component in Class 1-60, 1-75, & 1-90 wind uplift metal roof decking construction.
- Steel Deck products are approved by Underwriters Laboratory and listed in the UL Fire Resistance Directory.
- All acoustical deck has been tested in accordance with ANSI ASTM C423 & E795 to determine the noise reduction coefficient (NRC) rating.



**B, BI, BV, BIV, BA, BIA
Roof Deck**

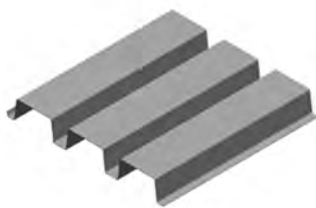


**1.5 CD, 1.5 CDI
Composite Deck**

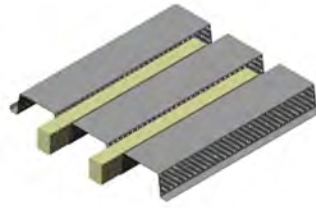


**2.0 CD, 3.0 CD
Composite Deck**

(Also available as Form Deck without embossments)



**N, NA
Roof Deck**



F Roof Deck



**1.5 FD, 1.5 FDR, 1.5 FDV, 1.5 FDI,
1.5 FDIV Form Deck**



**1.0 FD, 1.0 FDV
Form Deck**



**.6 FD, .6 FDV
Form Deck**



Metal Decking and Accessories

ROOF DECK

Type B roof deck provides the best balance of strength and economy of all roof decks. Type B roof deck is also available as an acoustic deck.

Type F (intermediate rib) deck provides an economical choice for applications where insulation requirements are lower. When rigid roofing insulation is used with F deck, a minimum 1" thickness is required. Available with nested side laps only.

Type N roof deck is well suited for applications where it is desirable to space the supporting members as far apart as possible. This is often the case in structures such as gymnasiums where it is usually more economical to minimize the number of long span structural members. The decking is also available as an acoustic deck.

FORM DECK

Form deck is used extensively in floor construction to support concrete slabs during construction. Specifying form deck eliminates the need for expensive temporary shoring. Floor systems using form deck are often the most economical. Form deck is available as a vented deck, manufactured with slot vents in the bottom flute. This type of deck is specified when venting is required for cementitious insulation fills.

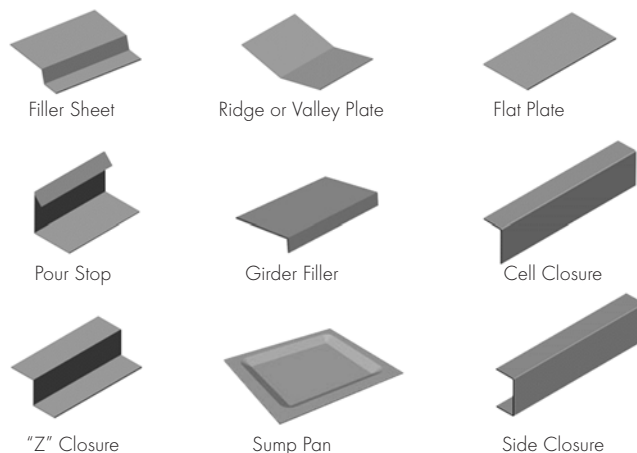


New Millennium manufactures a full range of metal decking, including thicknesses ranging from 28 through 16 gauge. We can also provide various types of deck finishes.

COMPOSITE DECK

Composite deck has embossments in the vertical ribs that bond with the concrete slab to develop a composite floor system. The composite deck acts as a form during the concrete pour enabling the designer to space the structural members without any additional shoring. The maximum spacing varies as a function of deck type, gauge, concrete weight, and slab thickness. Once the concrete cures, the resulting composite floor system provides superior strength and stiffness.

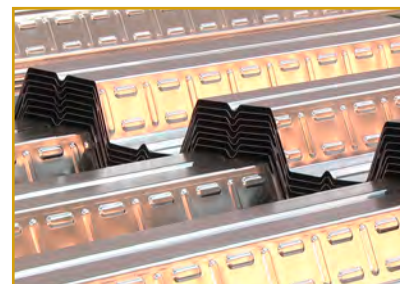
ACCESSORIES



DECK FINISHES

We offer primer-painted or galvanized metal deck finishes. The standard primer-painted finish is gray on both the top and bottom sides. The galvanized finish is available in G40, G60, & G90 coatings. A galvanized finish protects against rust and provides an adhesive surface for sprayed fireproofing post-construction.

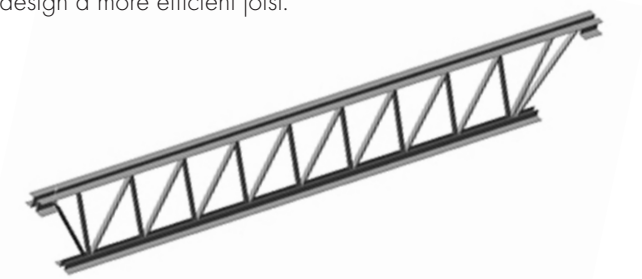
Steel deck can also be furnished with a two-coat bright white primer bottom side, combined with either a primer-painted or galvanized topside. The primer-painted finish is intended to protect the steel for a reasonable installation period while exposed to ordinary atmospheric conditions and is considered a provisional coating. For composite deck, an economical approach is to specify a painted exposed bottom side with the top side phosphatized where the concrete will be poured.



Load Zone Joists

EFFICIENT ALTERNATIVE TO KCS JOIST

When the approximate locations of concentrated loads are known, the designer has the opportunity to design a more efficient joist. These joists can be designed to support concentrated loads residing in specific areas defined as “load zones.” With boundaries of zones defined and the corresponding concentrated load specified, the Joist Manufacturer can design a more efficient joist.

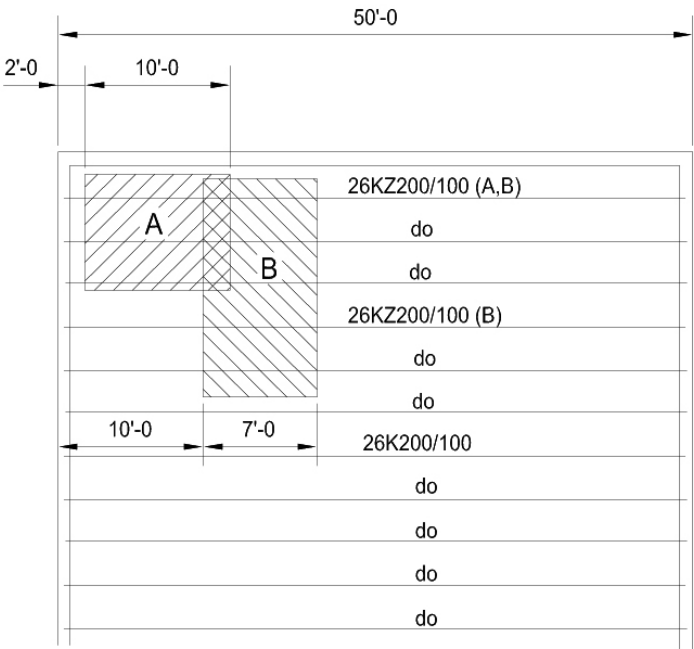


1. Load zone joists can be designed in accordance with either K or LH Series Specifications.
2. Shear and moment envelopes are developed for all load cases within the zones and the joists are designed accordingly, including any stress reversal which may occur.
3. The designer may specify as many loads and corresponding “load zones” as needed. The fewer zones specified, the more efficient the joist will be.
4. Joist chords and web members will be designed to adequately support all specified load combinations. If a concentrated load does not occur at a panel point, then a field installed web member must be placed from a panel point to the point of concentrated load. Alternatively, some portion of the load may be specified as a bending load that may be located between panel points. This option eliminates the requirement for a field installed web member, at the expense of a larger chord size.
5. Joist chords will be checked so that bridging utilized for adjacent joists will be adequate for the “load zone” joists.
6. How to specify “load zone” joists: In the figure shown on the right is a typical framing plan. There are two load zones indicated with hatched lines. The Zone A boundary covers an area 2'-0" from the left side to 12'-0" from the left side over three joists. The Zone B boundary covers an area beginning 10'-0" from the left side to 17'-0" from the left side over 6 joists. Zone A will have a 1000 pound concentrated load which may occur anywhere within the zone. Zone B will have a 2000 pound concentrated load occurring anywhere within the zone. The joists not affected by the concentrated loads are designated

as 26K200/100. The first three joists from the top of the plan are affected by Zones A and B and will be labeled as: 26KZ200/100 (A, B). When using LH Series Specifications, the joists would be labeled as 26LHZ200/100 (A, B). The next three joists are affected by only Zone B. They will be labeled as: 26KZ200/100 (B). In near proximity with the corresponding framing plan the load zone information should be listed as follows:

- Zone A - 1000 lb. 2' to 12'
- Zone B - 2000 lb. 10' to 17'

Note that the dimensions are from one end of the framing plan. Actual dimensions may be placed on the framing plan as shown below.



7. Compare the weight of the 26KZ200/100 (A, B) joist to a KCS joist selected to carry the same loads: Determining the shear and moment envelopes we find that ($M_{max} = 1077$ in. kips and the Max. Shear = 7324 lbs.) the KCS selection would be a 26KCS4 (see KCS table in the New Millennium Standard Steel Joists and Joist Girders full catalog). The KCS joist weighs 16.5 lbs. per foot. The load zone joist design shows that the 26KZ200/100 (A, B) weighs 12.4 lbs. per foot. Multiplying the weight per foot difference (16.5 minus 12.4 equals 4.1) times the length of the joist (50 feet) reveals that the load zone joist would weigh 204 lbs. less than the KCS joist.

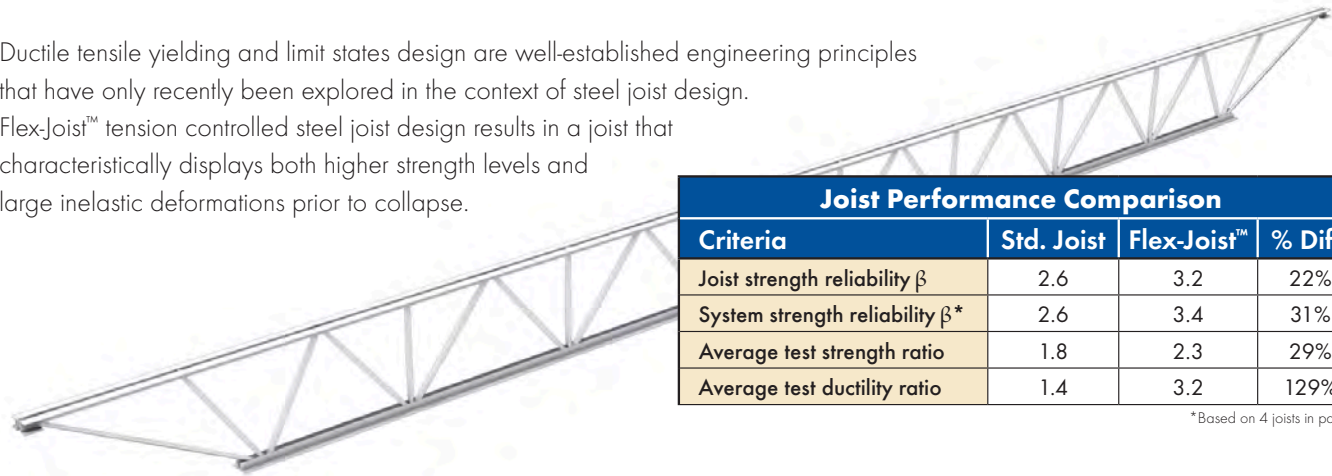
Note: If using LRFD, be sure to specify it as such and state whether the specified loads are factored or unfactored.

Flex-Joist™ Tension-Controlled Steel Joist Design

- Increased strength • Higher reliability index • Improved ductility • Optimal overload sensing

Ductile tensile yielding and limit states design are well-established engineering principles that have only recently been explored in the context of steel joist design.

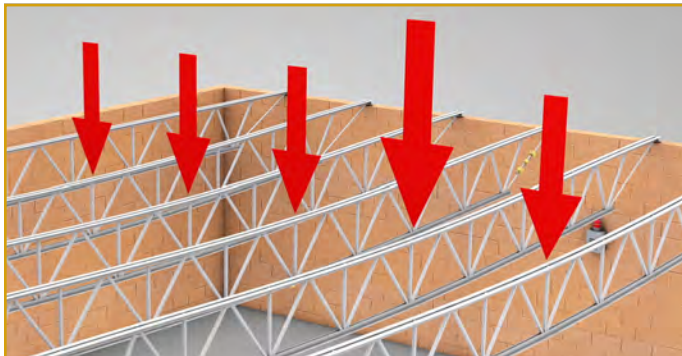
Flex-Joist™ tension controlled steel joist design results in a joist that characteristically displays both higher strength levels and large inelastic deformations prior to collapse.



Joist Performance Comparison			
Criteria	Std. Joist	Flex-Joist™	% Diff.
Joist strength reliability β	2.6	3.2	22%
System strength reliability β^*	2.6	3.4	31%
Average test strength ratio	1.8	2.3	29%
Average test ductility ratio	1.4	3.2	129%

*Based on 4 joists in parallel

The main characteristics of the ductile tensile yielding design approach is a higher reliability index via improved strength and ductility. The improved ductility also allows for load sharing between adjacent joists while the weakest (or most heavily loaded) joist continues to sustain its plastic load bearing capacity. The result is a roof or floor framing system with improved strength, improved reliability index and improved sensory alert to overload prior to collapse.



ALTERNATIVE TO TRADITIONAL JOIST DESIGN

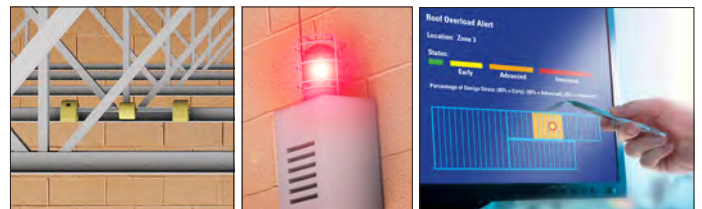
The strength of a traditional steel joist design is often controlled by compression element buckling. The joist will withstand a downward force until it exceeds the joist load bearing capacity. When the compression load bearing capacity is exceeded, the slender compression elements buckle precipitously and the joist may collapse with very little advance warning. The traditional joist safely supports the anticipated loads with a good margin of safety. However, in the event that the joist is ever subjected to extreme loading in excess of the design safety factor, when the joist finally collapses, the collapse is usually quite sudden with little warning.

In contrast, with a Flex-Joist™ tension-controlled steel joist design, in the event of overload, the tension elements yield so as to provide a significantly longer delay with extreme deflections prior to compression element buckling and the collapse of the joist. This provides warning, in the form of significant visible deflections, prior to collapse.

The table above compares the performance of the standard SJI joist engineering approach to the performance of the ductile tensile yielding engineering approach. Factors related to strength, reliability and ductile tensile yielding are all higher when using Flex-Joist™ tension-controlled steel joists.

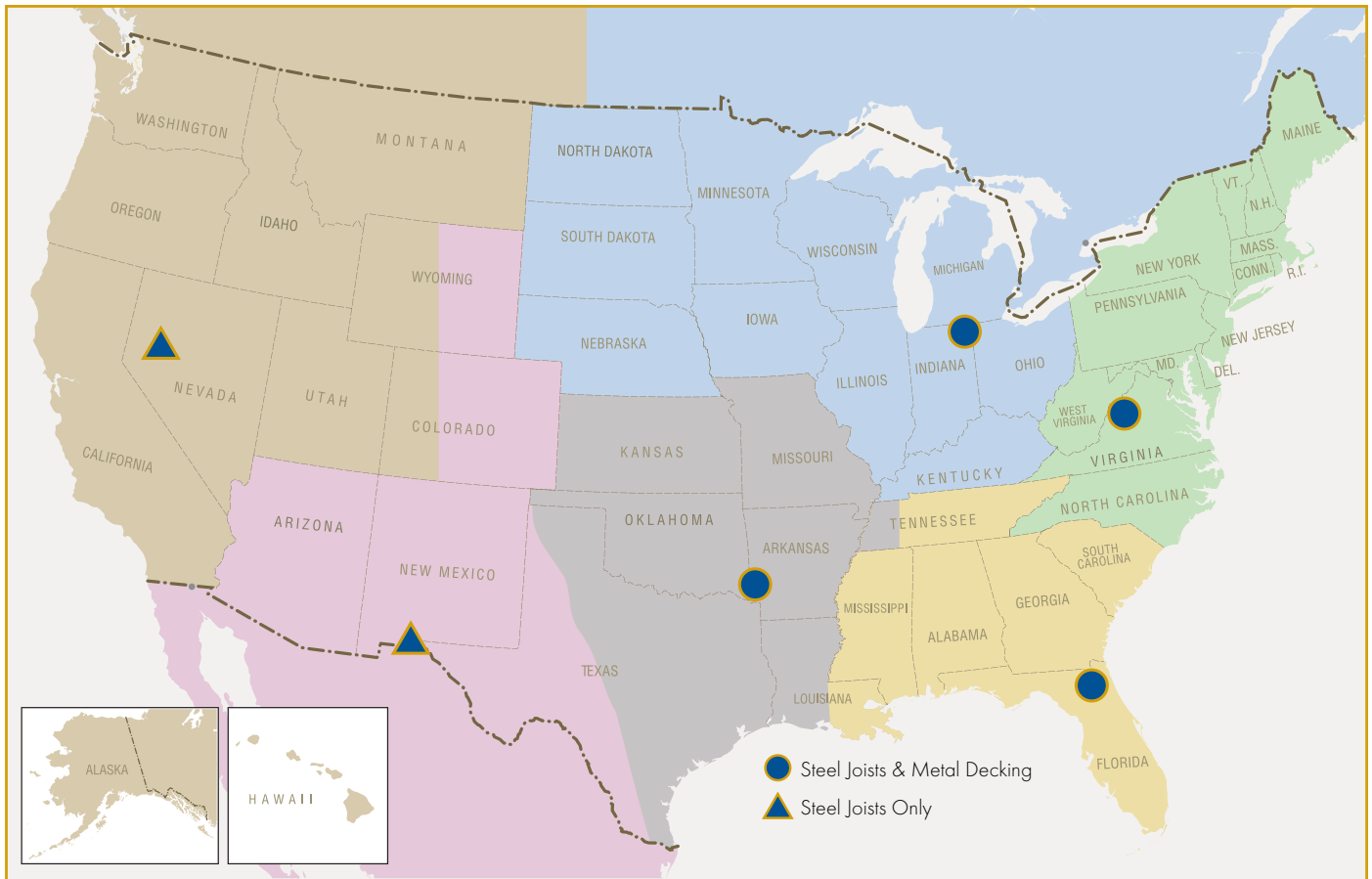
The high level of ductility characteristic of the Flex-Joist enables each joist in the system to share loads and sustain their plastic load capacities while undergoing extreme deformations. The result is load sharing, rather than the load dumping, characteristic of less ductile systems. This means the strength of roof and floor systems designed with the ductile Flex-Joist is a function of the average joist strength and average joist loading rather than the weakest and/or highest loaded joist.

Flex-Joist™ tension-controlled steel joist design is ideally suited to electronic monitoring of deflection and/or strain for early warning of high loads, if desired. This can allow time for building evacuation, load removal, and/or shoring to prevent collapse. Although electronic monitoring is not provided by New Millennium, we can help coordinate requirements with your electronic monitoring supplier.





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