

Structural Steel Building Systems

NATIONWIDE DESIGN, MANUFACTURE AND DELIVERY



NEW MILLENNIUM
BUILDING SYSTEMS
Building a better steel experience.



NEW MILLENNIUM

BUILDING SYSTEMS



Table of Contents

- Applications Overview 4 - 5
- Roofing and Flooring Systems 6 - 7
- Ceiling and Cladding Systems 8 - 9
- Long-Span Composite Floor Systems 10 - 11
- Steel and Concrete Bridge Systems 12 - 13
- BIM-based Design 14 - 15

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.
- The Indiana, Virginia, Florida, Tennessee, Arkansas and Arizona facilities are ICC certified.
- Welders are certified in accordance with AWS D1.1 and D1.3.
- The Indiana, Nevada and Virginia facilities meet 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)

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

The time has come for an integrated approach to building design and construction. An approach that takes into account the building owner's point of view on project design achievement and structural cost containment. To support this progressive way forward, New Millennium offers you the broadest range of steel building systems—and the ability to efficiently determine the best system (or systems) for your project.

Help your project reach its greater potential

Whether traditional or evolutionary, every building project can benefit from selective, custom-engineered steel building systems supply. We can help you evaluate the range of steel building systems available, then help you achieve the cost and performance advantages made possible by our comprehensive knowledge of steel building systems engineering and manufacturing.

Together, let's build it better

Escape the limitations of traditional steel joist and deck supply. Expect more: One resource for nationwide engineering, manufacturing and flexible steel building systems supply. Together, let's answer the growing demand for new advancements in aesthetic design, functional spaces, positive environmental outcomes, and overall project cost containment.

Steel Building Systems

BRING COST AND PERFORMANCE ADVANTAGES TO A WIDE RANGE OF APPLICATIONS



Steel Joists and Deck
ROOFING AND FLOORING SYSTEMS

Architectural Deck
CEILING AND CLADDING SYSTEMS

Multi-Story
LONG-SPAN COMPOSITE SYSTEMS

Bridge Dek®
STEEL AND CONCRETE BRIDGE SYSTEMS

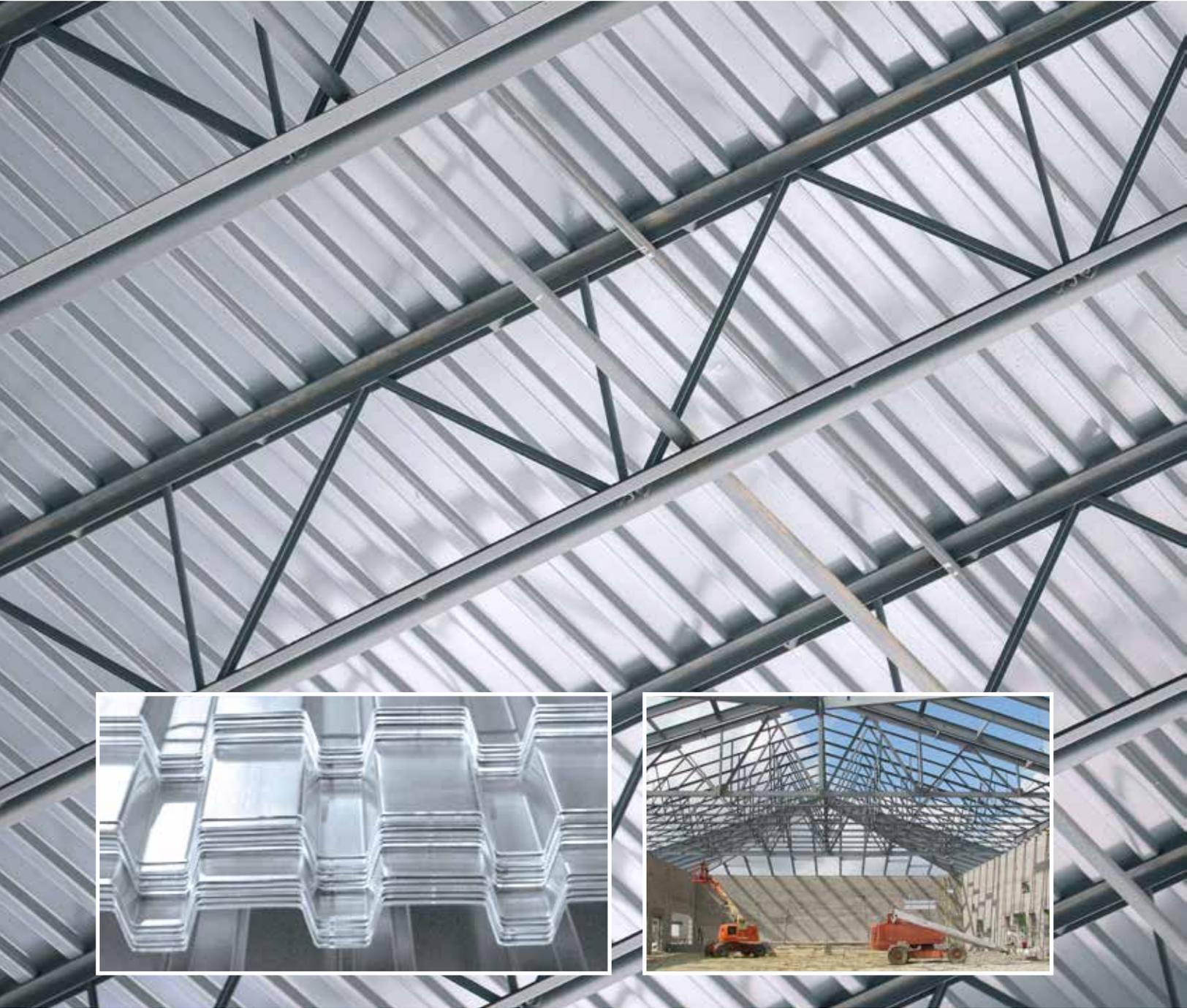


OPTIMIZE YOUR BUILDING DESIGN AND CONSTRUCTION

New Millennium Building Systems provides a wide range of solutions engineered to streamline your design-build process and reduce total-project costs. We can help you evaluate and determine the best solution for your application.

Steel Joists and Deck

ROOFING AND FLOORING SYSTEMS



ENGINEERED COST REDUCTIONS

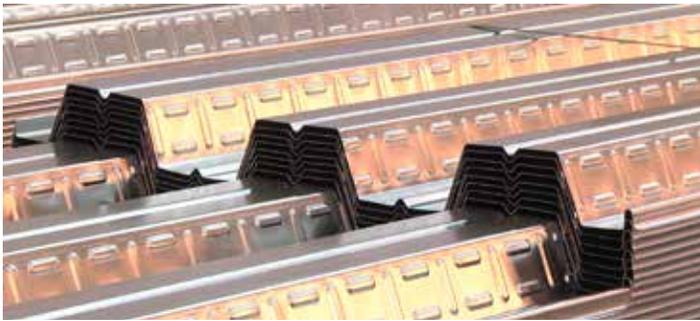
We remove a chain reaction of project costs, starting with reduced steel tonnage and ending with lower on-site labor costs for handling, lifting and erection. Our approach to cost-accountable engineering can shorten project timelines and prevent delayed occupancy or lost retail revenues.



Custom-engineered joists and deck solutions

New Millennium engineers and manufactures the widest range of structural and architectural deck products and systems. Deck profiles are available in a variety of finishes and can be used in a wide range of applications requiring roofing and flooring. Deck products meet required steel deck certifications and are manufactured in accordance with the specifications of the Steel Deck Institute. Engineered to the application, our decks are certified to address performance requirements related to such factors as wind uplift, fire resistance and noise reduction.

Steel joist products include K, LH and DLH Series joists and Joist Girders, and CJ Series joists (composite joist). Steel joists typically can be furnished as a single piece up to 14'6" inches deep and 120' long. Shipping route and job site restrictions can affect this as well as production capabilities. Please check with our local facility for more information. All are produced in accordance with the specifications of the Steel Joist Institute.



Special profile 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 joists, including bowstring, arched, scissor, double-pitched and single-pitched joists.



Flex-Joist™ tension-controlled joists

To optimize building design and safety, our 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 optional sensory alerting.

Advantages:

- Value engineered total-project cost management
- Flexible approach to steel joist and metal decking supply
- Nationwide locations for local supply and support
- Design considerations for shipping, handling and erection
- Leading, most experienced providers of BIM/IPD projects
- Web-based and mobile-friendly specification tools

Architectural Deck

CEILING AND CLADDING SYSTEMS



ACHIEVING ARCHITECTURAL VISION, FIT AND FINISH

Architectural Deck provides aesthetic appeal for exposed metal deck systems placed in roof-ceiling and cladding assemblies. With New Millennium Building Systems as your collaborative resource, architects and owners can specify Architectural Deck with confidence.



Aesthetics and strength

Architectural Deck Ceilings combine with exposed structural frames to create striking and spacious interiors. Along with aesthetic value, multi-functioning Architectural Deck provides structure for any weather-tight, commercial-grade roof assembly.

Architectural Deck Ceilings may include acoustical treatments to absorb sound energy from reverberating into occupied spaces. The ceiling applications integrate lighting, electrical, plumbing and fire suppression systems.

In other ceiling applications, perforated decking can be placed into suspended grids. Offering a cost-effective solution to screen exposed structural elements, mechanical, plumbing and electrical systems.



Exterior surfaces

Architectural Deck Cladding may be oriented in any direction, on any structural frame to create exterior surfaces: sun-screens, canopies, soffits or walls. Designers may select from an array of profiles and surface treatments to create their preferred aesthetic and performance results.

Deck Cladding activates outdoor space and complements the natural environment. The complete system approach considers substrate stability, coating performance, structural capacities and rainwater management.



Advantages:

- Striking and spacious interiors
- Optional acoustical treatments provide Noise Reduction Coefficient (NRC) Ratings up to 1.15
- Flat or ribbed, lineal plank surface options
- Concave and convex Curve-Dek® options
- Color, texture and preservation options
- Perforated screens for form and function
- Innovative lighting integration
- Cost-effective solution for MEP concealment
- Can reduce tonnage by minimizing support requirements

Multi-Story

LONG-SPAN COMPOSITE FLOOR SYSTEMS



OPTIMIZED MULTI-STORY CONSTRUCTION

Combine the speed and versatility of steel with the performance and durability of concrete, with two distinct profiles to choose from. Engineered to address market-specific multi-story building requirements, these structural systems utilize composite floor technology that can weigh up to 40% less than comparably utilized cast-in-place (CIP) concrete floors.



Structural efficiency for a wide range of applications

These systems integrate with any beam or bearing-wall method. Monolithically cast concrete finishes flat so it eliminates grouting and floor leveling activities. Non-combustible and can be fire endurance rated without protective coverings like gypsum and spray materials. There are two distinct profiles to choose from, each with specific features and benefits engineered to meet your application.

Fast, safe and cost-effective

Enabling clear spans up to 36', Deep-Dek® Composite deck is one of the longest spanning composite floor systems available. With span-to-depth ratios equaling those of traditional cast-in-place concrete and hollow-core plank, this solution helps make steel frame solutions affordable. Patented side-lap connections achieve composite bond. Panelized Delivery Method™ lowers installation costs and improves safety in the field by shifting high-risk construction processes to the ground, making effective use of traditional labor and equipment resources.

Strength and aesthetics in a low-profile design

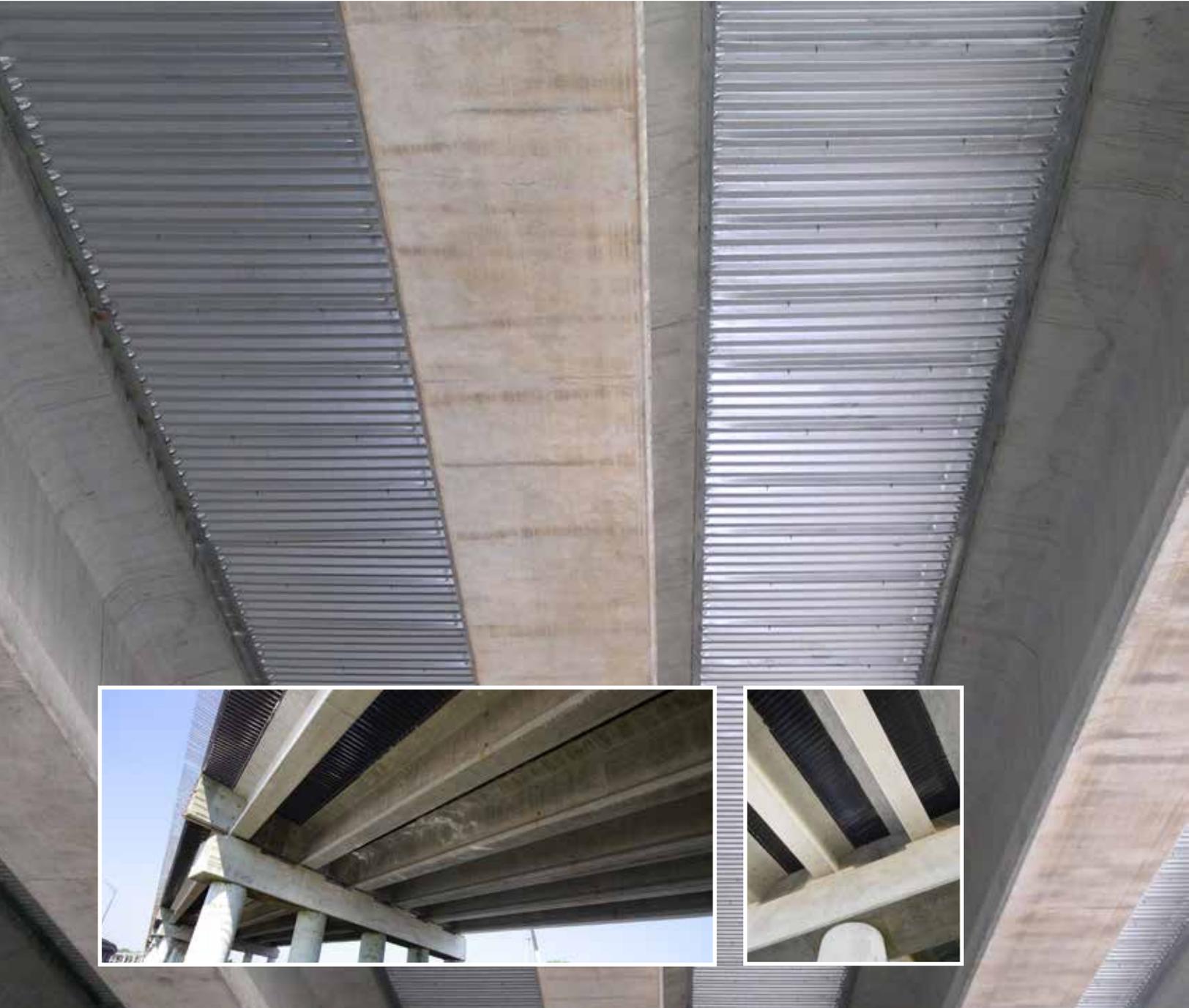
The dovetail profile of Versa-Dek® Composite deck provides the shallowest unprotected fire ratings available. Available in 2" and 3.5" depths and can achieve spans up to 28'. Popular in mid-rise residential structures for reducing story height while maximizing ceiling height. When left exposed, the deck provides a clean lined plank aesthetic for office, retail and academic spaces. Control noise reverberation with optional acoustical treatments.

Advantages:

- Deep deck profiles for open spans up to 36'
- Low-profile dovetail deck for open spans up to 28'
- Integrates with any beam or wall-bearing frame
- Up to 40% less dead weight than CIP
- Low profile controls story and building height
- Predictable vibration behavior
- Fire endurance ratings up to 4 hours
- Flush spandrel beams for glass-curtain walls
- MEP pass-through and optional acoustical treatments
- Architecturally exposed finish options

Bridge-Dek®

STEEL AND CONCRETE BRIDGE SYSTEMS



PERFORMANCE OPTIMIZED STAY-IN-PLACE FORM SYSTEMS

New Millennium is a leader in the design and manufacturing of steel building systems used throughout the construction industry. Bridge-Dek® and Rhino-Dek® systems offer flexibility for developing stay-in-place form systems used in both concrete and steel bridge structures. Contractors now have efficient methods for forming deck slabs in new construction and bridge rehabilitation projects.



Economical and reliable

Bridge-Dek® and Rhino-Dek® systems are manufactured in a controlled environment, fabricated from high-strength galvanized steel and designed to meet project requirements. Both systems include 4 standard profiles and 18 matching rebar profiles that will economically span distances up to 14'. Factory-closed ends speed installation and reduce construction time. These stay-in-place forms readily integrate with steel or concrete girders and create a safe work platform.

Bridge-Dek® versatility

Suitable for new construction and bridge rehabilitation, Bridge-Dek® is available in 4 standard profiles and 18 matching rebar profiles that can accommodate design spans up to 14'.



Rhino-Dek® anti-corrosion protection

Protect bridges from salt corrosion with Rhino-Dek®, ideal for new construction and bridge rehabilitation over brackish and salt water. Galvanized steel with a polymer laminate on one or both sides of the deck pan can provide 124-year service life. Polymer laminate is corrosion, abrasion and ultraviolet resistant. Available in 4 standard profiles and 18 matching rebar profiles for design spans up to 14'.



Advantages:

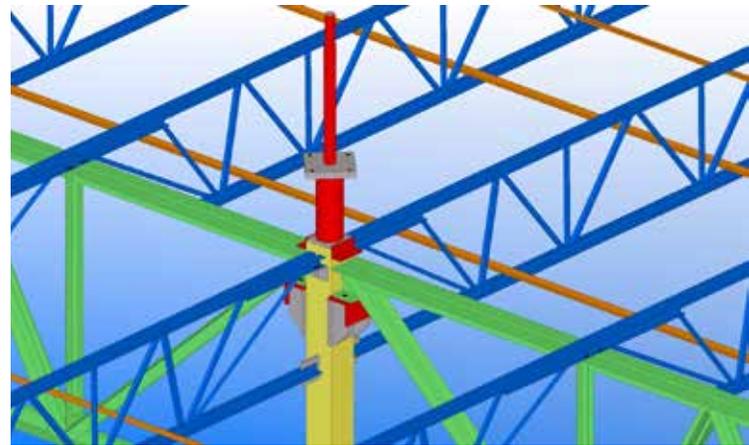
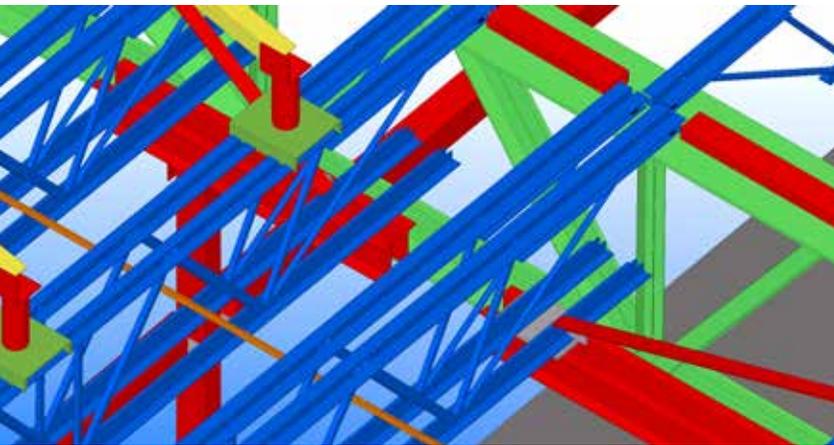
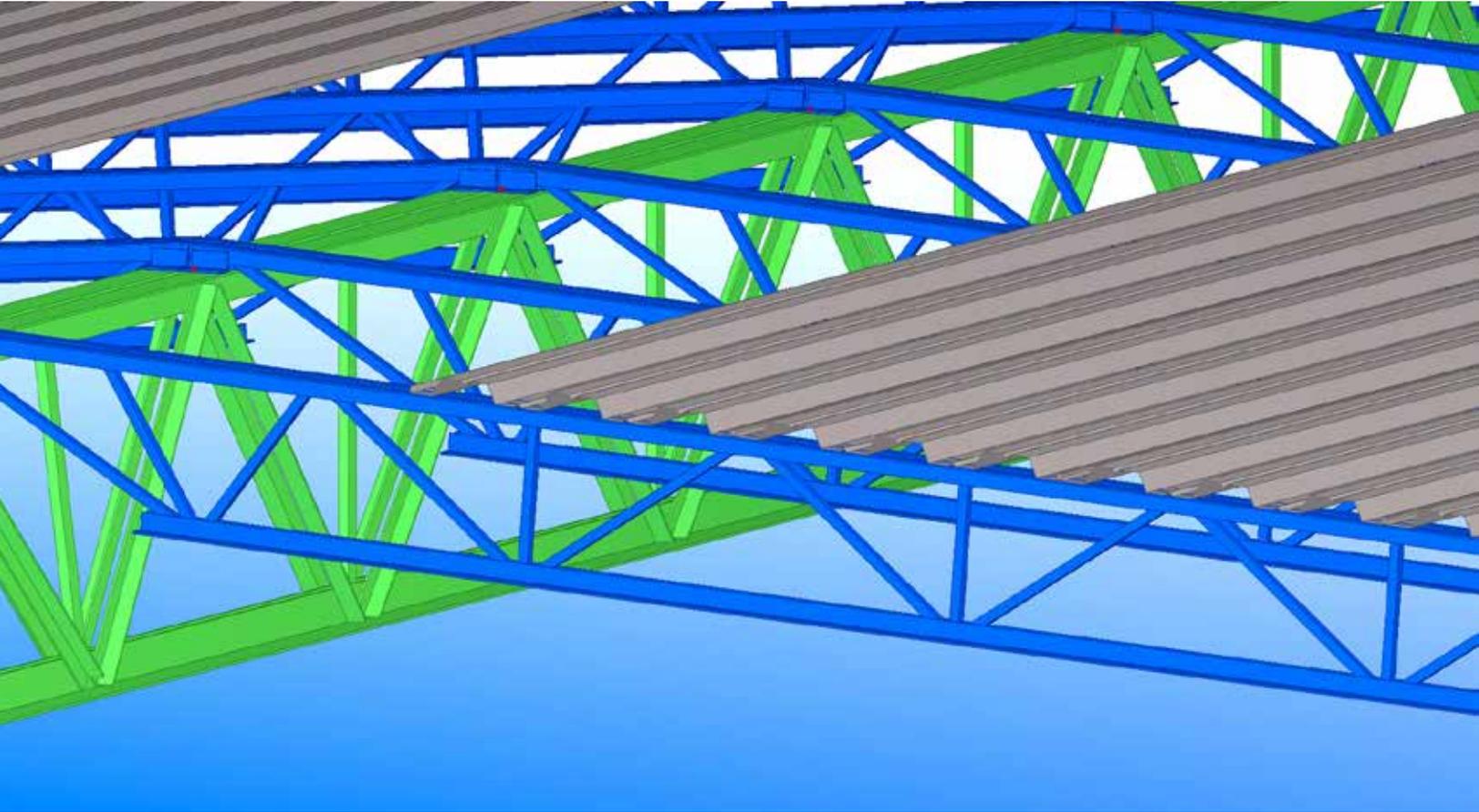
- Reduces construction time
- Creates a safe work platform
- Integrates with steel or concrete girders
- Easy to stage materials
- No forms to strip
- No welding required

Added advantages of Rhino-Dek®

- Corrosion resistant
- Abrasion resistant
- Ultraviolet resistant
- 124-year service life in aggressive environments

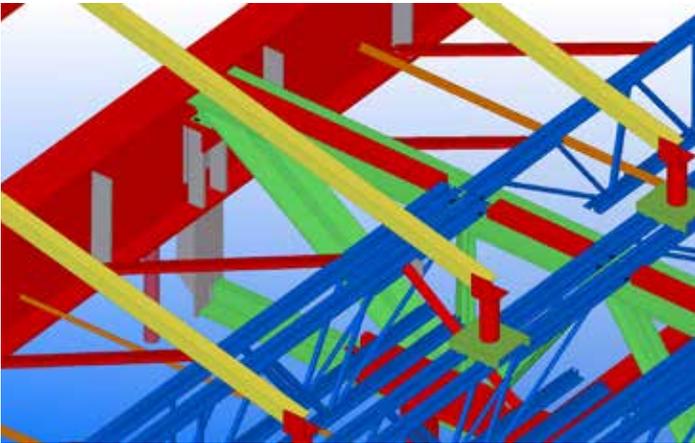
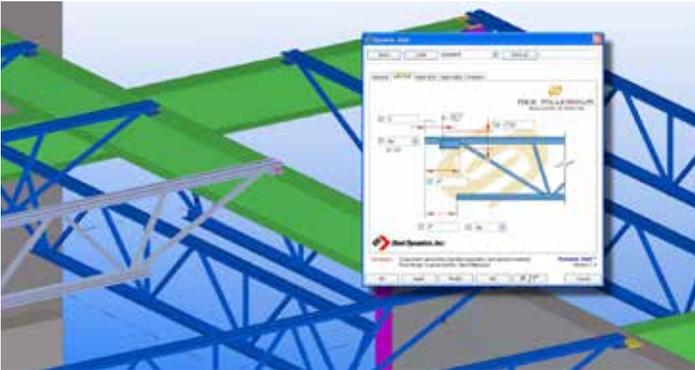
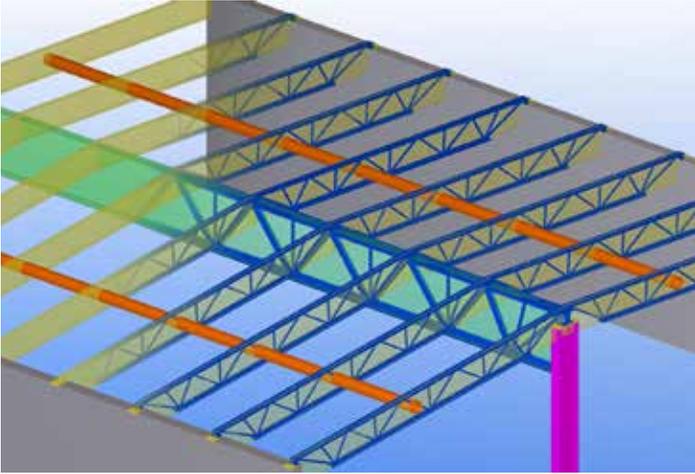
Dynamic Joist®

THE LEADING CHOICE FOR BIM-BASED DESIGN COLLABORATION



MANAGE COSTS AND SHORTEN TIMELINES

BIM fully leverages our value-added engineering capabilities as we address a wide range of cost/value decision points. Key decisions that can optimize your project are: 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.



Downloadable BIM component

Since early 2010, our industry-leading Dynamic Joist® BIM component has enhanced design collaboration in real-world projects throughout the United States. Our free BIM component contains steel joist configurations, specifications, material components and design requirements that can be used from the planning room to the jobsite.

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.

Experienced BIM process

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 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.

Advantages:

- Process management from kick-off to completion
- Reduce costs, shorten timelines and eliminate errors
- Address a range of cost/value decisions
- Design collaboration supports architectural goals
- Optimize trades participation and clash prevention
- Provides a lifelong facility management tool
- Includes joist configurations, specs, design guidelines
- Supports multiple versions of Tekla Structures
- Exchange files using widely accepted IFC format
- Endorsed by the AISC strategy for interoperability



Your nationwide resource for the broadest range of cost-optimized, high-performance structural steel joist and deck solutions

- Structural steel joists, Joist Girders and deck
- Architectural decking solutions
- Multi-story long-span composite systems
- Custom engineering and design assistance
- BIM-based steel joist and deck design
- Nationwide manufacturing and availability
- Design-Build and Integrated Project Delivery (IPD)
- AIA and PDH courses for project optimization

www.newmill.com



NEW MILLENNIUM

BUILDING SYSTEMS

Building a better steel experience.