



STERLING

PRODUCT GUIDE

Version 03 - 10/15/2025





At Sterling, we believe that better site access leads to better outcomes—for our customers, the environment, and the communities we serve. That's why we are committed to developing advanced site access solutions that go beyond just laying down mats. Our innovative products, including TerraLam CLT mats and TerraCross bridge systems, are designed with efficiency, durability, and environmental responsibility in mind, helping industries operate safely while minimizing their impact on natural ecosystems.

As a leader in sustainable site access, Sterling integrates environmentally responsible practices into every stage of our process—from material sourcing and manufacturing to installation and restoration. Through thoughtful innovation, we help businesses achieve their project goals while upholding the highest standards of environmental stewardship. This guide will walk you through Sterling's site-access product lineup, including key benefits, specifications, and options for TerraLam access mats, TerraCross temporary bridge systems, and more, ensuring you can find the solution you need for your site access needs.

Additionally, Sterling participates in several organizations dedicated to the advancement of the construction and utility industry with areas of focus around testing and standards to supply chain and sustainability. Through these groups, Sterling maintains its finger on the pulse of the industry allowing continued evolution to meet the needs of an ever changing world.



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INTRODUCTION TO **TERRALAM**®

Seeing the inherent inefficiencies caused by bolted access or hardwood timber mats and the lack of innovation across the industry, Sterling explored a variety of alternatives. Ultimately, the combination of Sterling's decades of lumber expertise and CLT technology resulted in a new site access mat called TerraLam.

TerraLam utilizes CLT (cross-laminated timber) construction to meet the unique demands of the matting industry. CLT technology was introduced in Austria and Germany in the early 1990s as an engineered wood product geared towards both residential and commercial building markets.

Today, our patented TerraLam mats represent the latest engineering in matting technology and provide exceptional value and cost-savings while improving safety outcomes and protecting the environment.

TerraLam CLT access mats are designed by Sterling as a direct replacement for commonly used access mats on the market, including bolted access and timber mats. TerraLams are currently being produced in Phoenix, IL and Lufkin, TX using high-quality domestic lumber and state-of-the-art automated production equipment to ensure a level of quality and consistency unheard of in the matting industry. Learn more about how TerraLams are made:

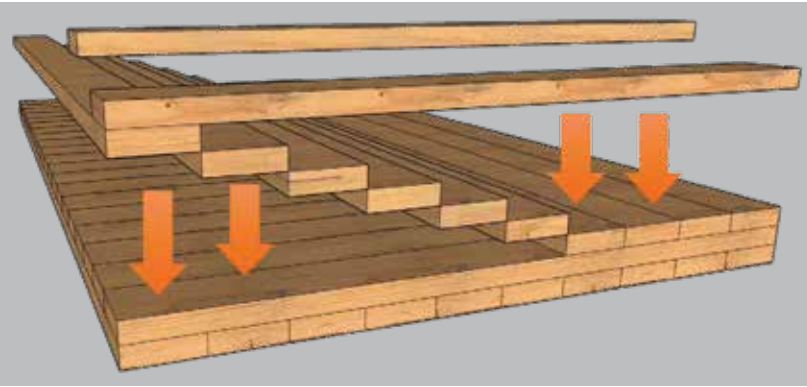
Quality Timber

The timber used in TerraLam CLT mats is exclusively Southern Pine, a softwood known for its exceptional strength-to-weight ratio and reliability, and is domestically sourced from trusted suppliers, ensuring consistent quality. Only Grade 2 or better lumber is selected to be used in our mats. Each plank is kiln-dried, tested for precise moisture levels, and checked for straightness to meet our rigorous production standards.



Innovative Design

The design of TerraLam mats is based on cross-laminated timber technology, where layers of wood are oriented perpendicularly to each other. This cross-grain construction significantly enhances the mats' strength and dimensional stability while minimizing the natural tendency of wood to expand or contract under changing environmental conditions. This design also ensures uniform load distribution, making the mats highly reliable for heavy equipment and dynamic load applications.



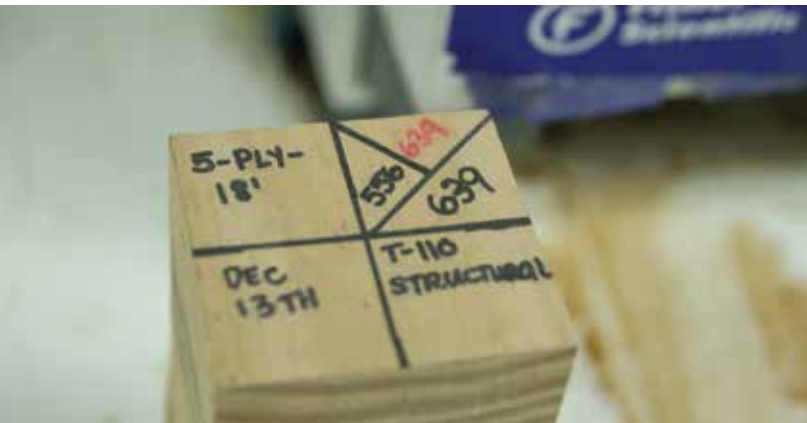
Advanced Assembly

The assembly process for TerraLam involves high-precision automated machinery and adhesives that meet stringent industrial standards. The boards are precisely placed, bonded using state-of-the-art polyurethane adhesives, and then pressed with over a million pounds of pressure to ensure superior adhesion between layers. This process not only enhances the mats' structural integrity but also ensures a consistent thickness and surface quality across all products.



Incredible Quality

TerraLam mats are engineered to meet or exceed industry standards for performance, durability, and environmental sustainability. Each production run undergoes a rigorous quality assurance testing process, including assessments of load-bearing capacity, bending strength in accordance with ANSI/APA PRG 320 standards. Additionally, TerraLams have been independently tested for strength and durability by USDA Forest Products Laboratory, San Diego State University, and other accredited laboratories.



TerraLam CLT access mats are an incredible product that can bring incredible value to so many jobsites. From cost savings in freight and a faster install to increased safety and unbeatable sustainability, TerraLam offers so much more value than other mats on the market. Learn more about how your jobsite can benefit from TerraLam:

Lower Freight Costs

TerraLam mats are significantly lighter than traditional timber or bolted access mats, reducing shipping weights by up to 50%. This weight advantage translates directly into lower freight costs, allowing up to twice the lineal footage per load compared to other mat types, reducing freight costs significantly.



Faster Installation

The lighter weight of TerraLam also enables faster installation on job sites. Crews can handle and position the mats more easily, often requiring only one person to install. The consistent dimensions and uniform design of the mats facilitate quicker alignment and placement, further reducing labor time and operational delays during setup. And when measured against other types of matting, each TerraLam 508 covers up to 200% more than a comparable timber mat while each TerraLam 308 covers up to 30% more than a comparable composite mat, which means less mats needed per job.



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TERRALAM®
ADVANTAGE



TerraLam mats feature a continuous, solid top surface that eliminates gaps and unevenness. This design provides a stable and secure platform for equipment and personnel, reducing the risk of trips, falls, and equipment instability. The solid surface also reduces ground pumping by better distributing load and makes for easier cleaning to avoid cross-contamination, with minimal crevices for debris or mud to enter the mat.



TerraLam mats are manufactured without the use of metal bolts or screws. This eliminates potential hazards such as punctures or damage to tires and tracks caused by exposed or loose fasteners. The absence of metal components also simplifies the recycling and disposal process, as there are no additional materials to separate or remove at the end of the mats' lifecycle.

Solid Surfaces

No Metal Hardware

Cross Grain Technology (TerraLam 504/508 only)

Sterling's Cross-Grain Technology™ has changed the way CLT mats are built. Cross-Grain Technology aligns the grain of the top boards with traffic to create a longer-lasting CLT mat when used with tracked equipment with steel grousers.



Cross Grain

The first, third, and fifth layers run the width of the mat, extending the life of the mat when used with tracked equipment.



Long Grain

The first, third, and fifth layers run the length of the mat, making the mat stiffer, optimizing strength.equipment.

Chamfered Top Edges (TerraLam 308/504/508 only)



Top edges on mats are designed to make lifting and separating stacked mats easier. These beveled edges provide a specific area for forklift operators to target, reducing the risk of damage during handling and ensuring safer, more efficient operations. This feature is included on all mats to enhance usability and durability.

Sealed Ends

A non-toxic wax emulsion is used as an edge sealant on all TerraLam mats to protect the wood from moisture intrusion, especially at the ends where water is most likely to enter. By sealing these vulnerable areas, the risk of rotting is reduced while extending the lifespan of the mats. This protection is essential for maintaining the mats' integrity in challenging environments. Edge sealant may come in different colors.



Dual Traction Channels (TerraLam 308 only)



Traction channels are added to all TerraLam 308 mats to prevent shifting or sliding when placed on the ground. These channels face down and index into the ground, ensuring stability during use, reducing the chance of mat movement. TerraLam 508 and 708 do not require these channels because their heavier weight naturally increases traction.

Dowel Reinforcement (available)

Optional dowels help reinforce the mats mechanically. By securing the layers together, the dowels enhance the mat's ability to withstand extreme stress without compromising its durability or usability.

The dowels are made of red oak due to its unique properties, offering the perfect combination of strength, flexibility, and resilience. And the precise placement of dowels ensures consistent quality and performance, as they mechanically reinforce the layers, creating a more resilient and unified structure.

- Reduces edge delamination by 89%
- Increases board retention leading
- Smooth surface, no protruding objects
- No metal content means no end-of-life disposal restrictions
- Available on all TerraLam mats



Specialized Treatment (available)



Solution penetration into TerraLam

Optional treatment is also available to provide deep, lasting protection in challenging environments. This treatment involves fully immersing the mats in a carefully formulated borate solution, allowing the protective agents to soak into the fiber of the wood.

The special borate solution works by creating a barrier throughout the wood, making the mat inhospitable to fungal growth. This internal protection is particularly critical for environments where the mats may be exposed to persistent humidity, or extreme temperature fluctuations.



Comparison of treated and untreated mats.

- Preservative inhibits fungal, mold, and mildew growth
- Reverts to natural micronutrients that promote tree and vegetation growth
- An EPA-registered treatment found in construction framing materials, sill plates, trusses, and joists
- No incremental disposal restrictions
- Available on all TerraLam mats

TerraLam mats are available in a variety of ply-counts, sizes, and feature enhancements to meet the needs of most projects that utilize ground protection matting. Please refer to the information below to find the best TerraLam for your needs.

TerraLam 308 3-ply mats are a direct replacement for traditional bolted access mats and plastic mats. They are well suited for temporary access roads, drilling/equipment staging platforms, general ground protection, and bridge decking.



TerraLam 504/508 mats are engineered for heavy-duty use such as with increased traffic, high-load trucks, and tracked machinery. These 5-ply mats are constructed in 4-foot and 8-foot wide mats. TerraLam 500 directly replaces traditional 8" bolted timber mats to construct temporary access roads, support drilling/equipment platforms, offer ground protection, and be used as bridge decking. And 508 mats require half the touches to lay out the same lineal footage as a timber mat.



TerraLam 708 mats are designed to handle large mobile cranes and exceptionally heavy equipment. They are engineered as a more efficient, durable, and sustainable replacement for 12" crane mats. Because they provide exceptional strength with significantly less weight than a timber mat, TerraLam 708 mats are easily moved around on rights-of-way.



TERRALAM®

TerraLam mats are a durable, multi-purpose mat that is designed for all types of site access work. It's strong CLT construction provides a lightweight, yet very strong mat to quickly construct right of ways and pads on many job sites.

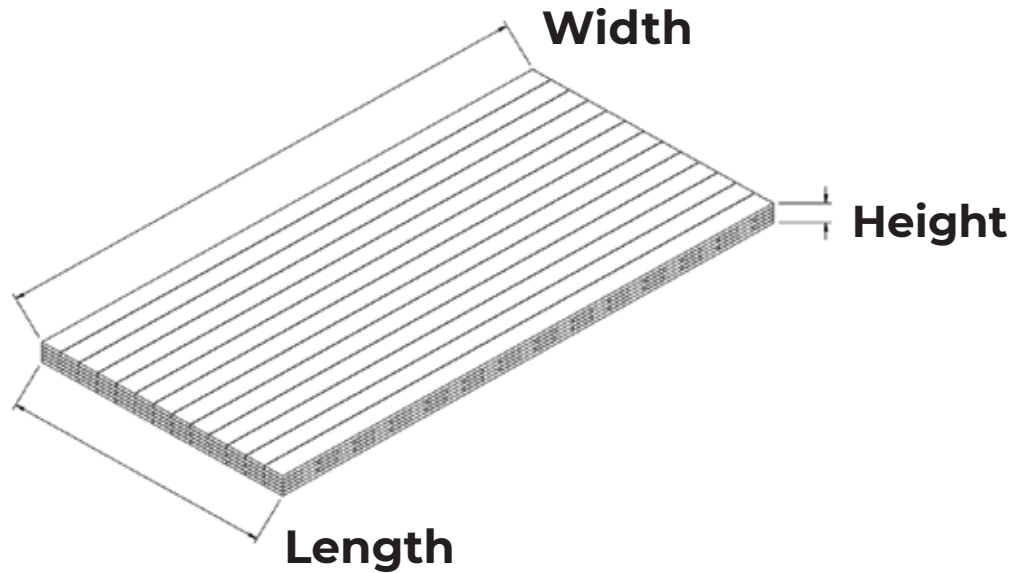
TERRALAM^{plus}

TerraLam Plus mats utilize additional dowel reinforcements across the mat in strategic locations to strengthen the bond line and better resist the effects of extremely heavy and frequent traffic across the right of way.

TERRALAM^{premier}

TerraLam Premier mats add an additional layer of protection to the Plus mats by utilizing an environmentally friendly treatment that improves resilience of the mat to fungal growth, decay, and insect damage.

Model	CLT Technology	Sealed Ends	Chamfered Top Edges	Dowel Reinforcements	Specialized Treatment
TERRALAM®	X	X	X		
TERRALAM® plus	X	X	X	X	
TERRALAM® premier	X	X	X	X	X



Model	Model Number	Ply Count	Double Sided	Length	Width	Height
308-14	MCN39614SL	3	N	92.25" +/-0.25"	165" +/-0.25"	4.125" +/- 0.1875"
308-16	MCN39616SL	3	N	92.25" +/-0.25"	189" +/-0.25"	4.125" +/- 0.1875"
504-16	MCN54816SL	5	Y	46.125" +/-0.25"	189" +/-0.25"	6.875" +/- 0.1875"
504-18	MCN54818SL	5	Y	46.125" +/-0.25"	213" +/-0.25"	6.875" +/- 0.1875"
504-16XG	MCN54816DX	5	Y	46.125" +/-0.25"	189" +/-0.25"	6.875" +/- 0.1875"
504-18XG	MCN54816DX	5	Y	46.125" +/-0.25"	213" +/-0.25"	6.875" +/- 0.1875"
508-16	MCN59616SL	5	Y	92.25" +/-0.25"	189" +/-0.25"	6.875" +/- 0.1875"
508-18	MCN59618SL	5	Y	92.25" +/-0.25"	213" +/-0.25"	6.875" +/- 0.1875"
508-16XG	MCN59616DX	5	Y	92.25" +/-0.25"	189" +/-0.25"	6.875" +/- 0.1875"
508-18XG	MCN59618DX	5	Y	92.25" +/-0.25"	213" +/-0.25"	6.875" +/- 0.1875"
708-16	MCN79616SL	7	Y	92.25" +/-0.25"	189" +/-0.25"	9.768" +/- 0.1875"
708-18	MCN79616SL	7	Y	92.25" +/-0.25"	211" +/-1.00"	9.768" +/- 0.1875"

	ASD reference design values in major strength direction a,b,c				ASD reference design values for laminations used a,c,d,e,f,g		
Model	$(EI)_{eff,f,0}$ (10 ⁶ lbf-in. ²)	$(EI)_{eff,f,0}$ (10 ⁶ lbf-in. ²)	$(S)_{eff,f,0}$ (in. ³)	$(IB/Q)_{eff,f,0}$ (in. ²)	F_b (psi)	F_v (psi)	E (106 psi)
308-14/16	866	4.59	263	282	2250	295	1.6
504-16/18	1662	4.8	302	217	2250	295	1.6
504-16/18XG	487	4.8	131	149	2250	295	1.6
508-16/18	3323	9.6	604	434	2250	295	1.6
508-16/18XG	975	9.6	263	298	2250	295	1.6
708-16/18	8229	14.4	1069	665	2250	295	1.6

Notes

- Reference ANSI/APA PRG320-19 and CLT Handbook (US Edition)-2013 for symbols.
- Calculated with Shear Analogy method defined in CLT Handbook (US Edition)-2013.
- Design values and dimensions assumed new condition, normal duration of load, dry service conditions, and temperatures up to 1000F (380C).
- Uniform layers (1.375" per layer) constructed of Southern Pine dimensional lumber (grade #2 or better) and glued with moisture-activated polyurethane adhesive.
- Mechanical properties are adapted from SPIB-2011, NDS-2012, ASTM D2555-15, and FPL/USDA Wood Handbook - 1999.
- The ASD reference planar (rolling) shear stress (F_s) = $F_v / 3$ per CLT Handbook (US Edition)-2013.
- The design values are calculated according to ASTM D245-06, D1990-14, and D5457-15 and the characteristic near-minimum values are assumed 25th percentile with 75% confidence. Characteristic values can be determined as follows:
 - $f_b = 2.1 \times F_b$
 - f_v (Clear Wood) = $3.9 \times F_v$

Limitations:

- TerraLam shall be designed for use in accordance with principles of mechanics using the design properties specified in this data sheet.
- For critical applications (such as temporary bridges, outrigger support, etc.), approval of a qualified engineer is recommended.

EPZ - Equipotential Zone Mats

For crews pulling wire, building substations, or performing other electrical work where the inadvertent energizing of a de-energized zone may occur, TerraLam® EPZ Grounding Mats create an equipotential zone that can reduce chances of injury caused by electrical danger. When installed by trained personnel, the TerraLam EPZ Grounding Mats are an excellent option to support linemen and worker safety on the jobsite while meeting regulatory compliance. These quickly deployable TerraLam EPZ Grounding Mats can be an important component of any company's worker protection strategy.

These mats have recessed corner plates that protect jumper connections and provide versatile configuration as well as bus bars that easily secure anywhere on the mat and provide convenient connection to equipment or grounding rods.



Bus Bars

Durable bus bars that can be easily secured almost anywhere on the mat, providing a reliable connection point for grounding rods or equipment. These bus bars are designed to enhance the safety and efficiency of the matting system by ensuring consistent and stable grounding across the worksite. Their straightforward installation and versatility make them a critical component for creating an equipotential zone.



Jumper Cables

4/0 heavy-duty copper jumper cables to ensure strong, reliable connections for effective grounding. These high-quality cables provide exceptional conductivity, critical for maintaining a safe and stable equipotential zone. The TerraLam Connect System further enhances the functionality of the jumper cables by using sturdy polyester straps and screws to create an interlocking work surface, minimizing movement or separation during use.

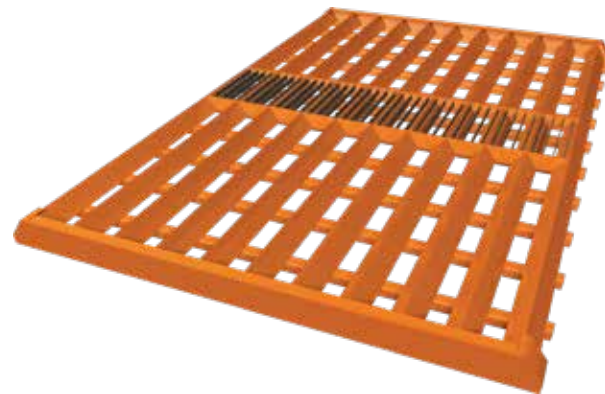
Clean Exit

Heavy equipment moving through muddy terrain can create a major mess, tracking dirt, rocks, and debris onto public roads and nearby areas. Not only does this pose safety hazards, but it also leads to costly cleanup efforts.

Clean Exit™ Mats provide an effective way to minimize tracking and keep job sites cleaner. These heavy-duty steel mats are designed with an elevated frame that allows debris to fall through the mat, reducing continuous on-site maintenance. Angled edges flex tire treads and shake vehicle suspensions, dislodging mud and grime before equipment exits the site.

A grated safety runway also provides a safe walking path for workers, reducing trip hazards while ensuring a more efficient and organized worksite.

- The Clean Exit can be installed quickly at any roadway junction
- Use of environmental fabric underneath can help capture debris that dislodges from vehicles driving across



TerraLam Connect

Designed to keep TerraLam mats in place, less maintenance is required, lowering service costs and work interruptions. This is an ideal solution in wetlands and areas that are experiencing heavy rain or flooding, where mats may shift or even float away.

TerraLam Connect System will be delivered in durable, reusable bins. The system consists of a strap made from a durable polyester webbing with a breaking strength of 12,000 pounds, with steel bolt plates at each end. Corrosion-resistant lag screws are included to attach the bolt plates to the mat.

- The TerraLam Connect System can be installed by one person and requires no special equipment or training
- No pre-drilling required. Straps are attached to adjacent mats using an impact driver to install a lag screw into the bolt plate at each end of the strap
- At the conclusion of the project, remove the straps and screws from each mat, and return to Sterling in their original storage bin





INTRODUCTION TO **TERRACROSS**®

Seeing the limitations of traditional timber mat bridges and the risks associated with inconsistent quality and unpredictable performance, Sterling sought a more reliable and durable solution. The result is TerraCross Bridges, an engineered temporary bridge designed to address the challenges of site access while improving safety, efficiency, and sustainability.

TerraCross bridges feature a welded metal structural beams that eliminates the variability and vulnerabilities of using wood beams, such as hidden rot or sudden failure under heavy loads. These beams are then decked with TerraLam mats to offer a durable and smooth crossing surface.

As an engineered product with known load ratings and performance capabilities, TerraCross bridges are ideal for spanning small rivers, ditches, and sensitive areas, as well as protecting underground infrastructure like buried pipelines and vaults. Today, TerraCross Bridges deliver a dependable and reusable solution to meet the rigorous demands of modern projects while reducing long-term costs and environmental impact.

TerraCross bridges are engineered to provide superior performance, reliability, and flexibility for your temporary access needs. With their durable welded metal construction, they offer consistent load-bearing capabilities, eliminating the risks associated with timber mat bridges, such as wood rot or sudden overloading. Learn more about TerraCross bridges below:

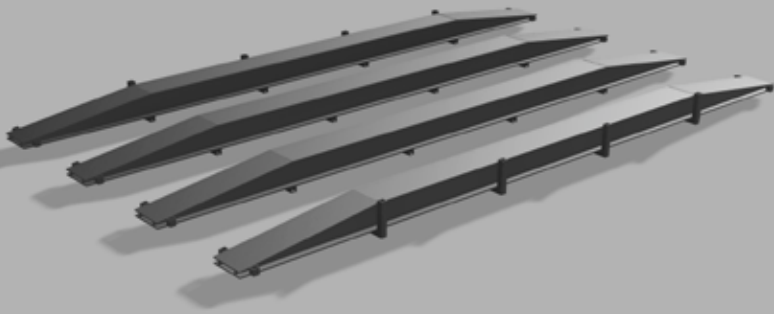
Structural Steel

Structural steel provides the same load-bearing performance needed in a bridge or a highrise. It has substantially greater resistance to environmental factors such as moisture, rot, and pests as compared to wood. This allows TerraCross to handle heavy loads and equipment with ease while maintaining long-term reliability. The longevity and durability of a steel construction allows for the bridge to be reused multiple times across different projects, offering a sustainable and cost-effective solution for temporary crossing needs.



Innovative Design

Decades of experience providing site access solutions in countless environments allowed us to understand the challenges our customers face when needing a crossing. Taking into account load requirements, environmental constraints, equipment availability, and other factors gave us the insight to create a highly-capable bridge system while also being easy to install. Utilizing a combination of structural steel and our TerraLam mats gave us the strength and durability needed for the toughest jobs.



Precision Assembly

TerraCross Bridges are manufactured by AISC-Certified Fabricators known for precision and quality. The AISC (American Institute of Steel Construction) certification guarantees the highest standards in steel fabrication, ensuring each bridge is built with exceptional strength and reliability. With our fabricator's expertise, welds and other metalworking processes can be trusted to meet the exacting standards required to safely cross load up to 100 tons.



**Smarter.
Stronger.
Steel.**

Incredible Quality

TerraCross Bridges are engineered to deliver quality, combining precision manufacturing with durable materials to ensure consistent performance. They provide a reliable solution for even the most challenging project environments. The welded steel construction eliminates the inconsistencies found in traditional timber solutions, ensuring long-lasting strength and dependability while the TerraLam decking keeps total weight down while still providing a strong surface to traverse across.



TerraCross™ bridge combines structural steel with TerraLam CLT mats to create a versatile, high-performance access solution. This unique combination creates a modular, lightweight, yet strong temporary bridge solutions. Learn more about the benefits below:

One Truck Delivery

TerraCross Bridges are designed for efficiency in transportation, with some bridge systems capable of being delivered on a single truck. This reduces logistical complexity, minimizes transportation costs, and ensures quicker deployment to your project site. By streamlining delivery, you save time and resources compared to systems requiring multiple shipments or extensive handling.



Deploys Easily

TerraCross Bridges are engineered for quick and straightforward deployment, often requiring only the equipment that is normally found on a commercial construction site. The modular design allows for efficient assembly and installation, reducing setup time and keeping your project on schedule. With clear instructions and compatibility with standard lifting equipment, the bridges can be positioned and operational in a matter of hours, ensuring seamless access when and where you need it.



TERRACROSS®
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TerraCross Bridges are built to handle substantial loads, up to 100 tons across a 50 foot span, making them suitable for heavy equipment, machinery, and high-traffic use. Their welded metal construction and TerraLam decking ensures consistent performance and reliability under demanding conditions, eliminating the variability associated with wood-based alternatives. With precise load specifications and engineered strength, TerraCross Bridges provide the capacity needed to support critical operations safely and effectively.



TerraCross Bridges offer a temporary access solution that requires no permanent alterations to the environment. Their non-invasive design allows for easy installation and removal without leaving lasting impacts on the project site. This flexibility ensures compliance with environmental regulations and makes them ideal for short-term use across multiple locations, reducing both cost and environmental disruption.

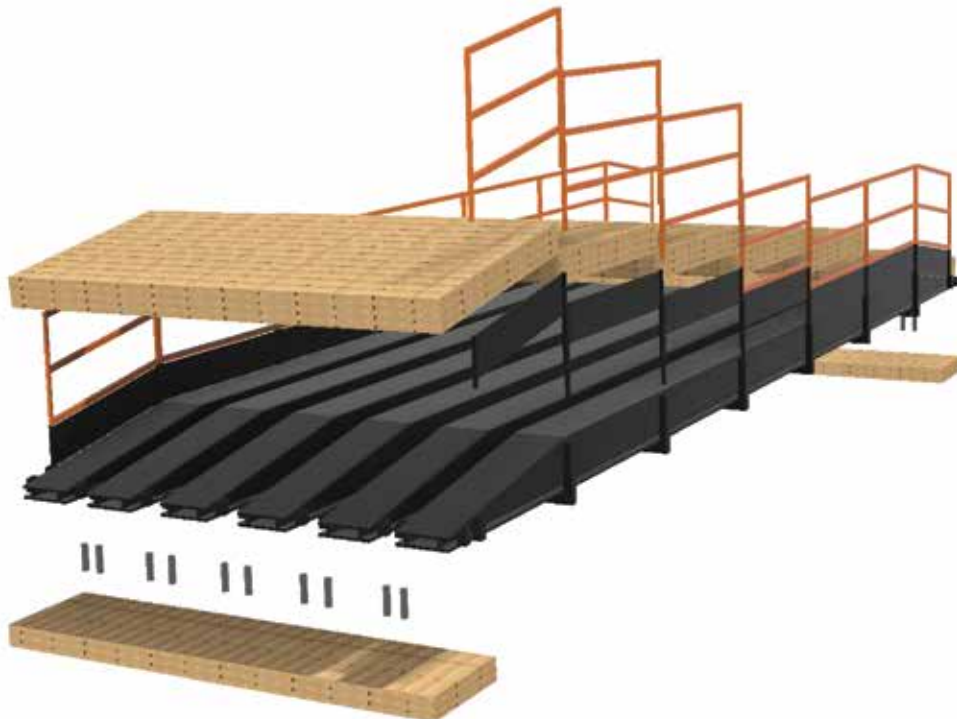
Impressive Load Capacity

Non-permanent

TerraCross bridges are available to cross up to a 50 foot span. Please refer to the information below to find the best TerraLam for your needs.

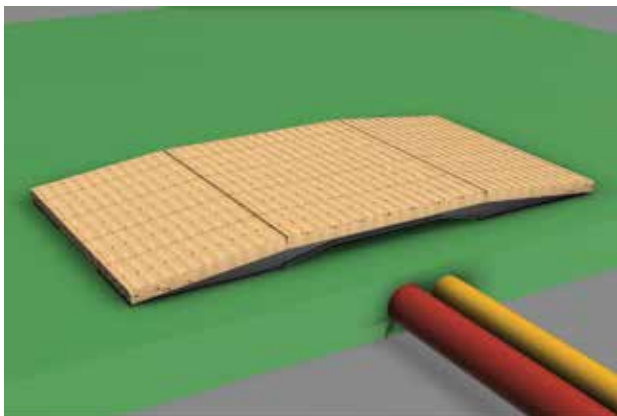
Specification	TerraCross 28 Airbridge	TerraCross 40	TerraCross 56
Overall Length	26' 9.75"	40'	56'
Clear Span	12'	35'	50'
Width	14'	18'	18'
Handrail Height	N/A	42"	42"
KIPS	200	200	up to 200
Total Bridge Weight*	15,000 lbs	44,000 lbs	66,000 - 84,000 lbs

* Stated total bridge weight is based upon decking and bearing mats with an approximate moisture content of 19%. Actual weight may vary depending on moisture content of the mats at time of shipping.



Each TerraCross bridge system comes with a comprehensive list of parts designed to enhance performance and safety. Please reference the chart below to see what is included:

Part	Weight Per Unit (lbs)	TerraCross 28 AB (units needed)	TerraCross 40 (units needed)	TerraCross 56 (units needed)
Exterior Beam 26	4250	2		
TerraLam 508-14 Decking	1332	3.5		
Exterior Beam 40	4700		2	
Interior Beam 40	4550		2	
TerraLam 708-18 Decking	3496		5	7
TerraLam 504-18 Bearing	1720		2	
Exterior Beam 56	8100			2
Interior Beam 56	7900			2 or 4
Bearing Peg	10		16	16 or 24
Deck Curb (Outside 1)	85		2	2
Deck Curb (Outside 2)	85		2	2
Deck Curb (Inside)	110		6	10
OSHA Handrail (Outside)	80		4	4
OSHA Handrail (Inside)	95		6	10



TerraCross 28 Airbridge



TerraCross 40 and 56



HANDLING OF **TERRALAM**[®]

TerraLam CLT mats are engineered to provide superior strength, durability, and efficiency compared to traditional bolted or timber mats. However, to maximize the benefits of TerraLam, proper installation and maintenance are essential.

The following details some best practices when installing and maintaining TerraLam mats to ensure optimal performance and longevity. By taking these steps, users can better plan their installation, reduce installation time, extend the life of their mats, and create a safer, more efficient jobsite.

Additionally, Sterling offers a full suite of turn-key site access services to compliment the products in this guide. These services include, but are not limited to, developing the site access plan in accordance with the project and local regulations, the installation of matting and other site access products, maintenance of the right-of-way, and more.

Ground Surface Preparation

SOIL TYPE DETERMINATION

Experienced installers should have knowledge of soil conditions on any given site; however, with an engineered solution, a soil analysis is suggested. Whenever there is a question or concern about the integrity of the soil, an expert should be consulted, and precise ground bearing capacity measurements should be taken in advance of installing the mats.

GROUND SURFACE PREPARATION

Prior to installing any matting product, ground conditions should be evaluated. If the ground is not level, care must be taken to prepare the site to ensure a uniform bearing surface for the mats to provide maximum ground protection. TerraLam mats are engineered using CLT technology, giving them superior load distribution characteristics. To realize this benefit, the mat must be stable and sufficiently supported to transmit the load from the mat's surface to the ground beneath it.



Truck Hauling Capability

Model	Ply Count	Stock Size (Nominal)	Mats/ Truck**	Model Number
TerraLam 300	3	8' x 14'	40	MCN39614SL
		8' x 16'	34	MCN39616SL
TerraLam 504 Cross-Grain	5	4' x 16'	36	MCN54816DX
		4' x 18'	32	MCN54818DX
TerraLam 508 Cross Grain	5	8' x 16'	20	MCN59616DX
		8' x 18'	16	MCN59618DX
TerraLam 504 Long Grain	5	4' x 16'	36	MCN54816SL
		4' x 18'	32	MCN54818SL
TerraLam 508 Long Grain	5	8' x 16'	20	MCN59616SL
		8' x 18'	16	MCN59618SL
TerraLam 708	7	8' x 16'	13	MCN79616SL
		8' x 18'	11	MCN79618SL

** number based in new TerraLam mats

One of the most significant benefits of TerraLam mats is reduced mat weight. As a result, the matting required for your job can be shipped with up to 50% fewer truckloads required compared to traditional bolted or hardwood timber mats, which means you can get to work sooner.

The entire matting order will be delivered to your site more quickly, and you will maintain your project schedule by eliminating costly trucking delays. Additionally, you will improve job site traffic safety by reducing the number of trucks on the road, minimize lane-closure time, and reduce other on-site hazards associated with moving, loading, and unloading trucks.

You will also prevent additional carbon emissions up to 50% based on the decreased number of trucks required to fulfill the order. This table quantifies the number of new mats per truckload, assuming a 48,000 lb. load capacity.

Weights for used mats will vary depending on site conditions. Sterling recommends a minimum reduction of 10% for outbound loads.

Loading and Unloading

When loading or unloading TerraLam mats, it is important to remember these mats are up to 50% lighter than their traditional counterparts. As a result, transport, loading/unloading, and laying equipment will typically accommodate up to twice as many mats per touch.

Mats should always be loaded/unloaded in an open, level setting. If using forked equipment, ensure that the forks are parallel to each other with a minimum spread of five feet on-center. When utilizing TerraLam mats in eight-foot widths, ensure forks are a minimum of five feet in length, and that the mats completely engage the backrest of the equipment.

It is the driver's responsibility to ensure their load is correctly secured before leaving the yard or site. **Sterling's Safety department recommends four straps per stack of mats.**



Equipment and Handling



Proper equipment is recommended to sufficiently grip, secure, and protect the TerraLam mats from damage during the unloading, transport, and installation process. Typical equipment includes wheel loaders with 6 ft or greater fork length, excavators with thumbs or specialized mat grapples, and forwarders.

For more information on equipment recommendations for your project, please contact your Sterling representative.

On-Site Utilization and Safety

To ensure crew safety and experience optimal lifespan of TerraLam mats, follow these steps whenever mats are on an active jobsite:

- Grading of uneven terrain may be required for safe and reliable access. Mats should never be laid over stumps, rocks, or open ruts.
- Regular visual inspections will ensure the integrity of the mats.
- All mats have the potential to become slippery when wet. Promptly remove mud, ice, and snow to avoid track-out and packing.
- Use de-icing agents preventively and in tandem with sand.
- During slippery conditions footwear should include cleats. Heavy equipment should utilize show chains or cleats as appropriate.
- Foot traffic should not share the same mats with moving equipment.
- When necessary, reposition mats to achieve proper spacing.



Mat Cleaning



Upon completion of a project, prior to transport or storage, TerraLam mats should be cleaned to the best extent allowable on the job site. A dry brush can be used onsite but Sterling also offers automated, mobile mat washing and disinfection services upon request. Mat washing provides significant benefits to your project and job site:

- Minimize the risk of transferring invasive species
- Increase the quantity of mats per truckload
- Improve the stability and safety of stacked mats
- Extend the life of the mat

Stacking and Storage

When staging or storing the TerraLam mats on-site, Sterling recommends placing dunnage at five-mat intervals to provide improved handling and jobsite safety.

Whenever mats are removed from a wet location or are to be stored for four months or longer, it is recommended to place stickers between each individual mat. This allows adequate air-flow to reduce moisture and prolong the life of the mat.



Sterling Construction Services

Sterling offers a full suite of turn-key site access services. With decades of experience, Sterling's construction services team understands the most challenging ground conditions, has extensive experience in legal and regulatory hurdles, along with the skill to quickly and efficiently get your site setup.

Services are available across the Midwest with an entire fleet of standard and specialized equipment designed to effectively install site access where needed. Additionally, teams are available with both union and non-union representation.



Sterling Site Access Solutions, LLC does not provide assurance or indemnification for costs or damages that arise out of, or result from:

1. misuse or abuse of the products, or any negligent or intentional act or omission by a customer or any third party.
2. accidents not caused by a negligent act or omission of Sterling.
3. force majeure events, including but not limited to acts of God, fire, flood, hurricane, violent storm, tornado, terrorism, explosions or other causes beyond the reasonable control of Sterling.
4. unauthorized alteration or modification to the products.
5. excessive loads operated when using the products.
6. exposure to oils, chemicals or hazardous materials including but not limited to de-icing materials.
7. improper installation or operation for which Sterling was not responsible.
8. any use of the products for purposes other than temporary access for material handling or mobile equipment operating in a well-controlled construction project.

Limitation of Liability – Sterling's obligation and liabilities regarding TerraLam, TerraCross, EPZ mat, and other Sterling products are limited solely to the specific remedies as described in Sterling's quotation and/or product rental contract and under no circumstances shall Sterling be responsible for indirect, incidental, consequential, special punitive or damages of any other kind whatsoever including but not limited to lost sales, lost profits, loss of goodwill, stoppage of work, delay damages, or impairment of assets. In no circumstances will Sterling's liability exceed the amount paid to Sterling for rent, lease or purchase of TerraLam, TerraCross, EPZ mat, or other Sterling products.

Sterling makes no other warranties, guarantees, or indemnities, whether express or implied, arising by law, course of dealing, usage of trade, custom or otherwise, including but not limited to any implied warranty of merchantability or fitness for particular purpose.

Sterling Site Access Solutions, LLC is also not a licensed electrical company, contractor, or engineering firm and does not represent itself as such. All information provided herein about our EPZ mat product is made available as an accommodation, and without representation or warranty of any kind, whether express, implied, or statutory, as to the accuracy and completeness of such information.

Acronym	Full Form / Meaning
CLT	Cross-Laminated Timber
SFI	Sustainable Forestry Initiative
EPA	Environmental Protection Agency
EPZ	Equipotential Zone
SPIB	Southern Pine Inspection Bureau
NDS	National Design Specification
ASTM	American Society for Testing and Materials
AISC	American Institute of Steel Construction
OSHA	Occupational Safety and Health Administration
EI	Effective Flexural Rigidity
Fb	Allowable Bending Stress
Fv	Allowable Shear Stress
E	Modulus of Elasticity
ASD	Allowable Stress Design
KIPS	Unit of force (1 kip = 1,000 pounds-force)

Reference	Description
ESR-5053	Evaluation Service Report related to performance standards and testing (mentioned with bending strength testing).
ANSI/APA PRG320-19	American National Standard for Performance-Rated Cross-
CLT Handbook (US Edition)- 2013	Engineering reference for CLT design and shear analogy method.
SPIB-2011	Design values for Southern Pine used in mat
NDS-2012	National Design Specification for Wood Construction.
ASTM D2555-15	Standard for mechanical properties of clear wood.
ASTM D245-06	Standard Practice for Establishing Structural Grades and Related Allowable Properties for Visually Graded Lumber.
ASTM D1990-14	Practice for establishing allowable properties for
ASTM D5457-15	Test method for determining characteristic values of
FPL/USDA Wood Handbook - 1999	Reference guide on the properties of wood published by the Forest Products Laboratory.

Certification	Description
AISC-Certified Fabricators	A recognized quality program for the structural steel industry, demonstrating a company's commitment to quality, safety, and efficiency in fabrication and erection.