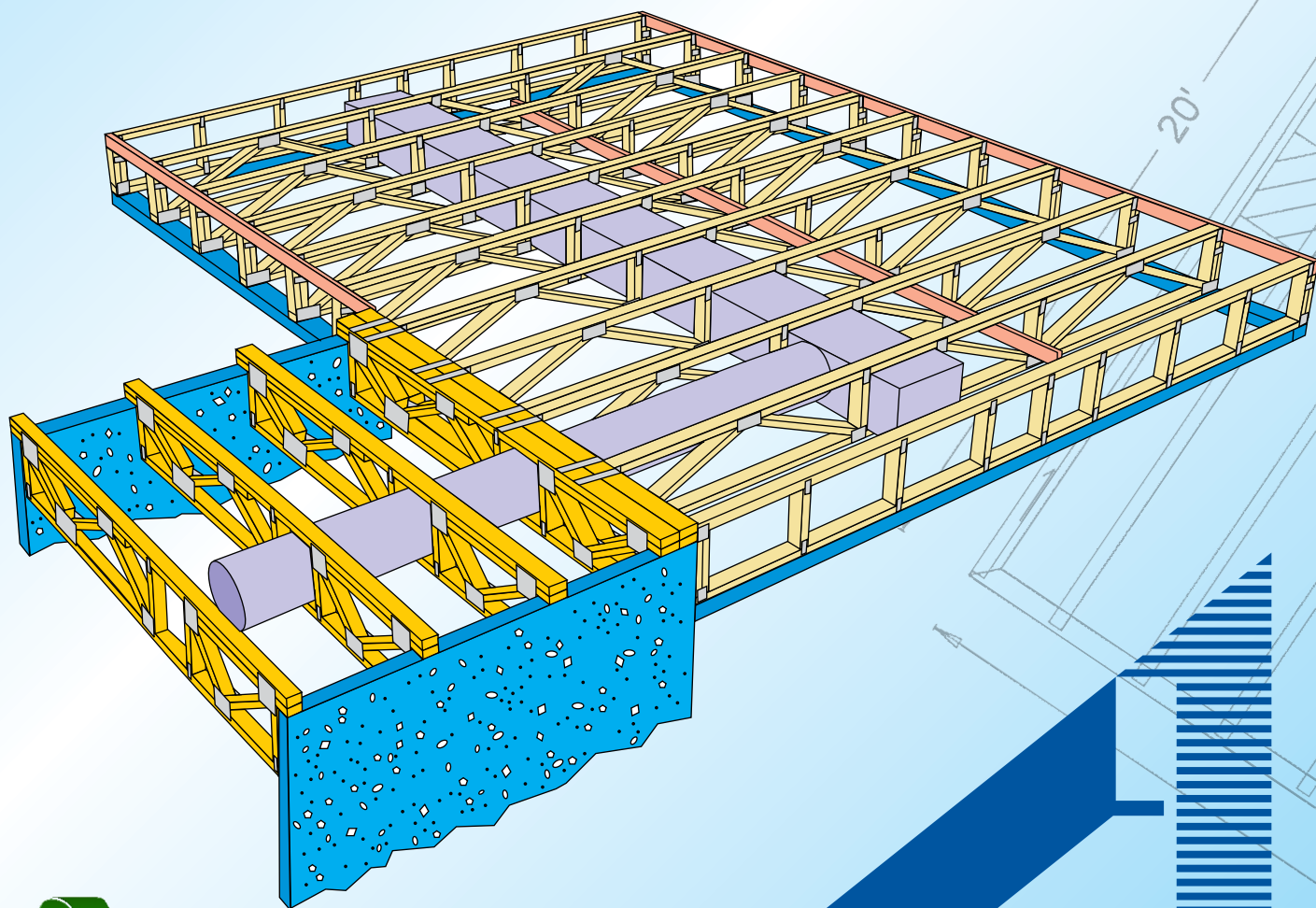
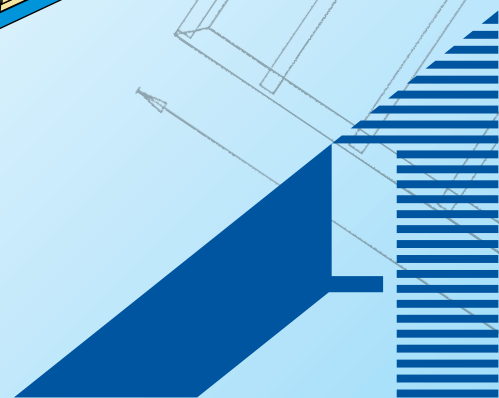




Get more Quality, Flexibility and Labor Savings using
FLOOR TRUSSES



Wood Floor Trusses are
Environmentally Compatible.



A-1 INDUSTRIES

BUILDING A 100 YEAR COMPANY



Builders want structural solutions that help keep projects on schedule while maintaining quality construction and profitability. Compared to traditional floor joist framing, manufactured wood floor truss systems offer engineered strength, longer spans, greater design flexibility, and faster installation.

A manufactured floor truss is an engineered structural component assembled from dimensional lumber and metal connector plates to form a rigid triangular framework. While most builders are familiar with roof truss systems, floor trusses offer many of the same advantages, with added flexibility for mechanical, electrical, plumbing, and HVAC systems below the floor.

Floor trusses can span greater distances, creating larger open spaces with fewer interior bearing walls, columns, or partitions. Because they are manufactured in a controlled environment, floor trusses also help reduce common jobsite framing issues such as warping, shrinking, twisting, and inconsistent material quality. The result is a stronger, more consistent floor system with reduced jobsite waste and improved construction efficiency.



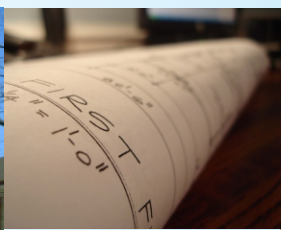
How the A-1 Floor Truss System Works

The process begins when the builder sends project plans to A-1. Our design team reviews the plans, span requirements, loading conditions, bearing locations, and layout details needed for the floor system.

Using advanced design software, A-1 develops the floor truss layout and determines the required truss configuration, spacing, placement, and bearing conditions. Each truss is manufactured in a controlled production environment, labeled for accurate installation, and delivered to the jobsite ready to install.

A detailed truss placement diagram accompanies each order to help the builder identify where each truss belongs in the floor system. Once on site, the consistent depth and open-web design of manufactured floor trusses help simplify sub-floor installation and allow plumbing, electrical, and HVAC systems to pass through the floor system without drilling, cutting, or notching structural members.

These advantages help reduce trade coordination issues, shorten jobsite labor time, improve construction efficiency, and deliver a higher-quality floor system for builders and homeowners.



The Benefits of **FLOOR TRUSSES**



Floor trusses manufactured by **A-1 Industries** are delivered to your site ready for installation, with no field cutting or fitting required. Strong, lightweight, and rigid, Alpine System 42 floor trusses install quickly, often without cranes or specialty trades.

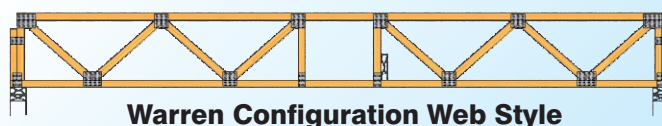
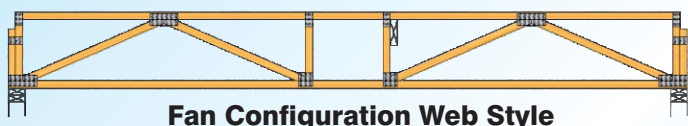
Decking and ceiling materials attach directly to the 3½" nailing surface without special hardware. Because System 42 trusses can be spaced farther apart, fewer are required, reducing fasteners and installation time.

The open-web design allows mechanical systems to pass through without drilling or notching, helping electricians, HVAC contractors, and plumbers complete their work more efficiently and keep projects on schedule.

System 42 trusses deliver longer clear spans and greater flexibility in locating bearing walls and partitions. Combined with measurable labor savings, architects and builders increasingly specify Alpine System 42 floor trusses for residential and light-commercial applications.

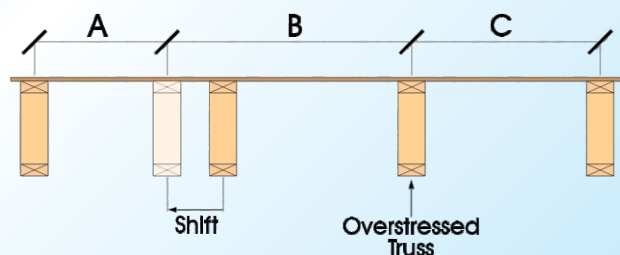


Two of the most common web patterns for floor trusses:



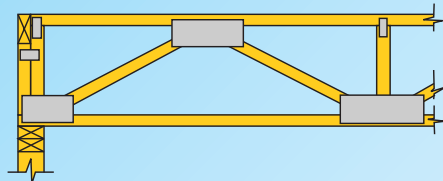
Floor trusses are built with open webs that create chases for ductwork and natural openings for plumbing and electrical systems. System 42 floor trusses are constructed by orienting 2x4 lumber on the flat, providing shallower truss depths and a full 3½" nailing surface for decking and ceiling attachment. Floor trusses can be engineered with a variety of end conditions to meet specific installation needs, including raised bearing walls, pocketed beams, stairwell openings, and custom bearing details.

Can a floor truss be moved? Floor trusses are engineered for specific spacing and placement, as shown on the truss placement diagram and design drawings. Field conditions may occasionally require shifting a truss from its designed location. Before moving any floor truss, contact A-1 Industries to confirm the change is acceptable. Moving a floor truss even a few inches can increase the load carried by the adjacent truss, as shown in the drawing below.

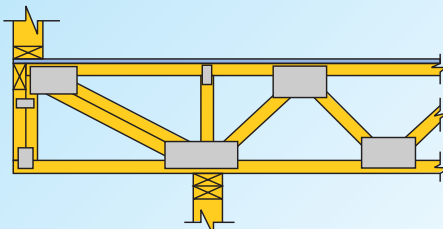


<u>If you shift it:</u>		<u>Then overstressed truss carries:</u>	B
24" on center	3" 6"	6.2% more load than designed for 12.5% " 30"	27"
16" on center	3" 6"	9.3% more load than designed for 18.7% " 22"	19"

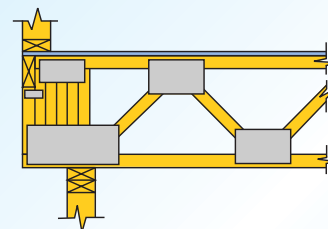
Check with the truss manufacturer before shifting a truss!



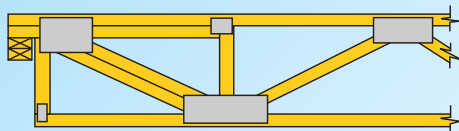
Bottom chord bearing on a stud wall.



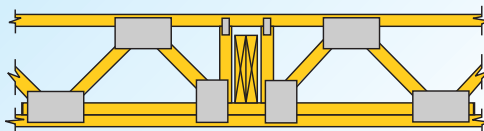
Cantilever with an exterior wall on the end.



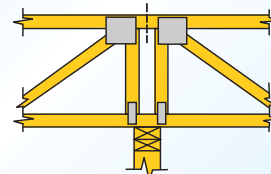
Bottom chord bearing with short cantilever and exterior wall.



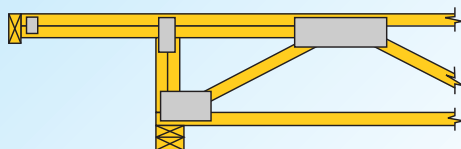
Top chord bearing on stud wall.



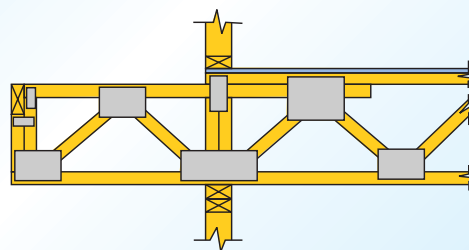
Floor truss designed to carry an interior header.



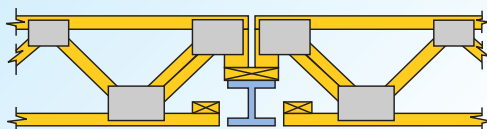
Interior bearing on wall



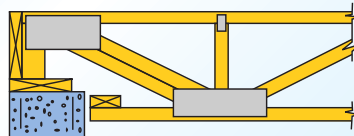
Overhang on a floor truss used on a roof.



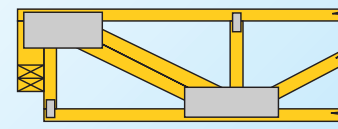
Dropped cantilever for use on exterior balconies.



Interior top chord bearing with a variable end height.

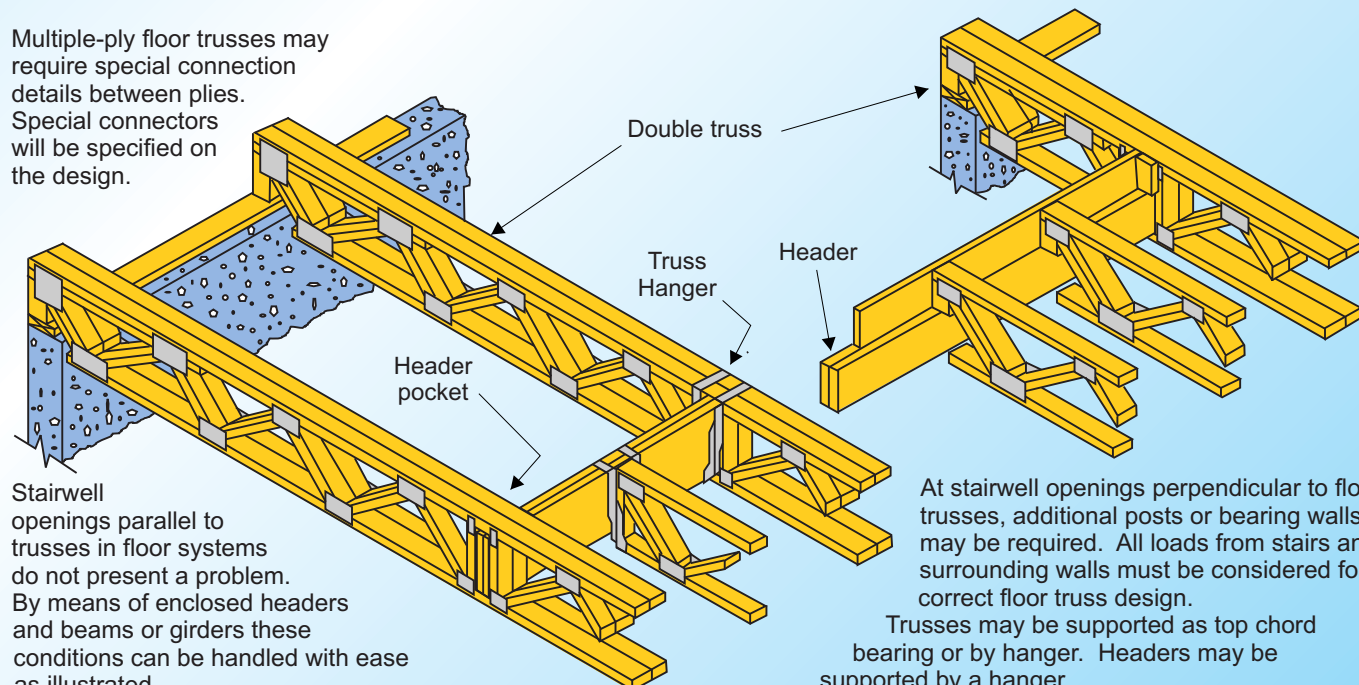


Top chord bearing with a variable end height.



Top chord bearing on stud wall with variable end height.

Multiple-ply floor trusses may require special connection details between plies. Special connectors will be specified on the design.



Stairwell openings parallel to trusses in floor systems do not present a problem. By means of enclosed headers and beams or girders these conditions can be handled with ease as illustrated.

At stairwell openings perpendicular to floor trusses, additional posts or bearing walls may be required. All loads from stairs and surrounding walls must be considered for correct floor truss design.

Trusses may be supported as top chord bearing or by hanger. Headers may be supported by a hanger.

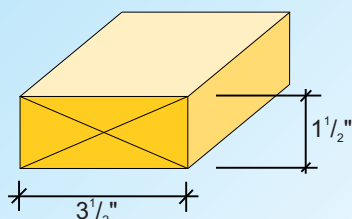
Span Tables for **FLOOR TRUSSES**



These allowable spans are based on NDS 2018. Maximum deflection is limited by L/360 or L/480⁽¹⁾ under live load. Basic Lumber Design Values are $F_{(b)}$ =2000 psi $F_{(t)}$ =1100 psi $F_{(c)}$ =2000 psi E =1,800,000 psi Duration of Load = 1.00. Spacing of trusses is center-to-center (in inches).

Top Chord Dead Load = 10 psf. Bottom Chord Dead Load = 5 psf. Center Line Chase = 24" max. Trusses must be designed for any special loading, such as concentrated loads. Other floor and roof loading conditions and a variety of species and other lumber grades are available.

4x2 Lumber



		40 PSF Live Load 55 PSF Total Load					
Center Spacing	Deflection Limit	Truss Depth					
		12"	14"	16"	18"	20"	22"
16" o.c.	L/360	22'2"	24'11"	26'10"	28'8"	30'4"	31'11"
	L/480	20'2"	22'7"	24'11"	27'2"	29'4"	31'5"
19.2" o.c.	L/360	20'9"	22'8"	24'4"	26'0"	27'6"	29'0"
	L/480	18'11"	21'3"	23'6"	25'7"	27'6"	29'0"
24" o.c.	L/360	18'5"	20'1"	21'7"	23'1"	24'5"	25'9"
	L/480	17'7"	19'9"	21'7"	23'1"	24'5"	25'9"

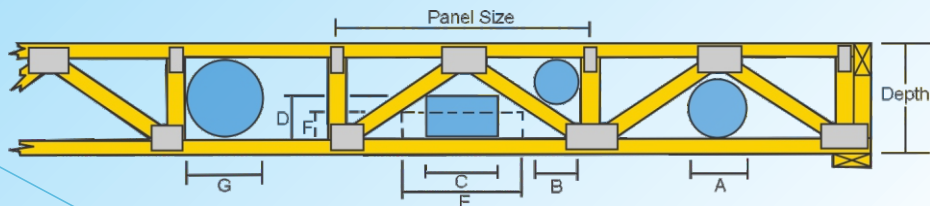
		60 PSF Live Load 75 PSF Total Load					
Center Spacing	Deflection Limit	12"	14"	16"	18"	20"	22"
		12"	14"	16"	18"	20"	22"
16" o.c.	L/360	19'4"	21'4"	23'0"	24'6"	26'0"	27'4"
	L/480	17'7"	19'9"	21'10"	23'9"	25'8"	27'4"
19.2" o.c.	L/360	17'9"	19'4"	20'10"	22'3"	23'7"	24'10"
	L/480	16'7"	18'7"	20'6"	22'3"	23'7"	24'10"
24" o.c.	L/360	15'9"	17'2"	18'6"	19'9"	20'11"	22'0"
	L/480	15'4"	17'2"	18'6"	19'9"	20'11"	22'0"

		85 PSF Live Load 100 PSF Total Load					
Center Spacing	Deflection Limit	12"	14"	16"	18"	20"	22"
		12"	14"	16"	18"	20"	22"
16" o.c.	L/360	16'11"	18'6"	19'11"	21'3"	22'6"	23'8"
	L/480	15'8"	17'7"	19'5"	21'2"	22'6"	23'8"
19.2" o.c.	L/360	15'4"	16'9"	18'1"	19'3"	20'5"	21'6"
	L/480	14'9"	16'6"	18'1"	19'3"	20'5"	21'6"
24" o.c.	L/360	13'8"	14'10"	16'0"	17'1"	18'1"	19'1"
	L/480	13'8"	14'10"	16'0"	17'1"	18'1"	19'1"

(1) Vibration Control: Research by Virginia Tech indicates that L/480 live load deflection criteria provide a high degree of resistance to floor vibration (bounce). Designers seeking enhanced floor stiffness may specify L/480 live load deflection criteria for improved performance.



Duct Openings For Fan Style Floor Trusses With 4x2 Chords & Webs

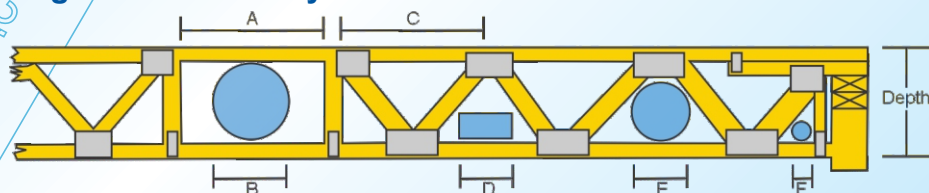


Typical Duct Opening Sizes For 4x2 Fan Style Floor Trusses

Depth	Panel Size	A	B	C	D	E	F	G
10	60	4 ¹ / ₂	4 ¹ / ₄	11	4 ¹ / ₂	16	4	7
11	60	5 ¹ / ₄	5 ¹ / ₄	12	5 ¹ / ₂	15	5	8
11 ⁷ / ₈	60	7 ³ / ₄	6 ³ / ₄	10	6 ¹ / ₄	14	5 ¹ / ₂	8 ³ / ₄
12	60	6 ¹ / ₄	6 ¹ / ₄	14	6	20	5	9
13	60	7 ¹ / ₄	7 ¹ / ₄	12	7	18 ¹ / ₂	6	10
14	60	8 ¹ / ₄	8 ¹ / ₄	17	7	22	6	11
15	60	9 ¹ / ₄	8 ¹ / ₂	15	8	25	6	12
16	60	10 ¹ / ₄	9 ¹ / ₂	14	9	27	6	13
18	60	12 ¹ / ₄	10 ¹ / ₂	14 ¹ / ₂	10 ¹ / ₂	26	7	15
20	60	14	11 ¹ / ₂	14 ¹ / ₂	12	26	8	17
22	60	16	12 ¹ / ₂	15	13	30	8	19
24	60	18	13 ¹ / ₂	16	14	32	8	21
26	60	19	14 ¹ / ₂	18	15	34	8	23
30	60	22	16	20	17	32	10	24
36	60	25	17 ¹ / ₂	22	19 ¹ / ₂	36	10	24

All Dimensions In Inches

Duct Openings For Warren Style Low Joists



Depth	A	B	C	D	E	F
10	18	7	24	4x6	5	4 1/2
12	20	9	30	5x9	7	5 3/4
13	20	10	30	5x11	8	6
14	24	11	30	6x10	8 1/2	6 1/2
15	24	12	30	6x12	9 1/2	7
16	24	13	30	6x13	10	7 1/2
17	24	14	30	6x14	10 1/2	7 1/2
18	24	15	30	7x13	11	8
19	24	16	30	7x14	11 1/2	8 3/4
20	24	17	30	7x15	12	8 1/2
21	24	18	30	8x14	12 1/2	9
22	24	19	30	8x15	13	9
24	24	21	30	8x16	14	9 1/4

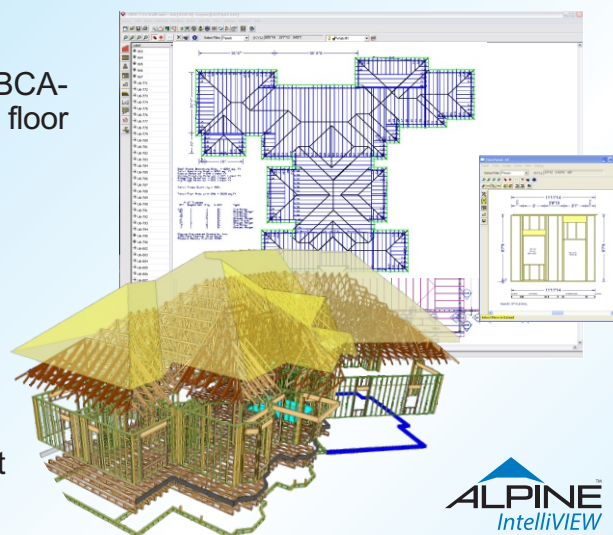


Layout, Design and Engineering Software

Using advanced CAD-based design software, A-1's SBCA-certified truss technicians create highly accurate roof and floor truss layouts for each project.

These designs include traditional plan views and 3-D visualizations that show each component in its proper position, giving builders a clearer understanding of how the floor system will come together before production begins.

From layout and design through manufacturing and delivery, A-1 provides precise, project-specific truss systems built to support quality construction, efficient installation, and dependable field performance.

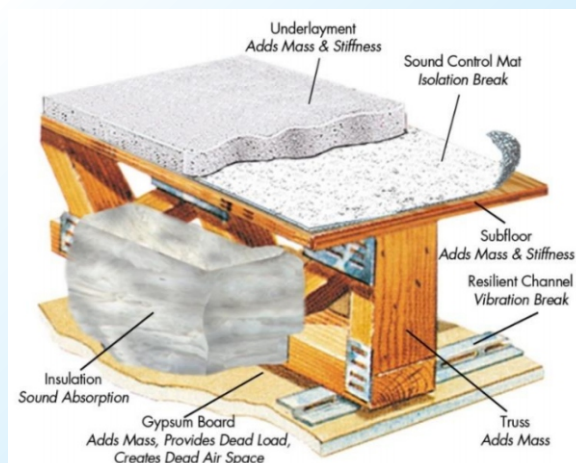


ALPINE
IntelliVIEW

Sound Transmission through Floor Trusses

Common complaints about noise in floor truss systems involve impact sounds such as walking, moving furniture, and dropped objects. When evaluating floor assemblies, the Impact Insulation Class (IIC) rating is typically the most important measure. Because IIC values are often similar to Sound Transmission Class (STC) ratings, meeting one requirement will usually satisfy, or closely approach, the other.

A floor/ceiling assembly's sound performance depends less on the truss type and more on the insulation, sheathing, subflooring, and finish flooring used. Standard materials such as gypsum board and hard-surface flooring provide limited IIC performance. Improved impact-noise control is typically achieved by increasing system mass or incorporating acoustic products such as resilient channels or acoustic underlayment (see Fig. 1).



Sound-control measures address different noise types and are most effective when combined. Batt insulation helps absorb airborne sound but offers limited impact-noise reduction, while carpet with padding reduces impact noise but is less effective for airborne sound. For additional information on sound transmission in wood floor and roof trusses, refer to SBCA Report: **SRR No. 1601-03**.

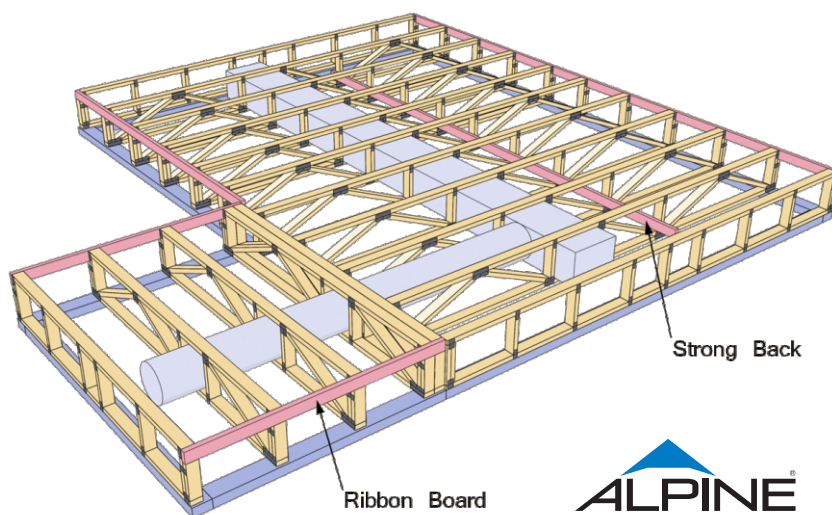
Bracing is Important! Proper truss restraint and bracing are essential for every roof and floor truss system, keeping trusses straight, aligned, and stable while helping prevent buckling or collapse. Each structure requires temporary restraint and bracing during installation and permanent restraint and bracing for the life of the building. Inadequate or improperly installed restraint and bracing can result in structural damage or serious jobsite accidents. Always follow the truss design drawings, manufacturer instructions, and recognized industry standards. For additional guidance, refer to the current edition of the **SBCA Building Component Safety Information** (BCSI-2025): Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses, available at www.sbcacomponents.com

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Performance Facts using
FLOOR TRUSS SYSTEMS



Faster Construction / Saves Money
Longer Clear Spans
Hides Mechanicals
Spaced 24" oc., multiple depths
Cantilever and Balcony Built In
3.5" Width Surface to Glue and Nail to
Cold Air Returns can be Eliminated
Reduce Field Material Losses
Pick-up Interior Point Loads
Custom Designed for Your Project
Commercial & Residential Applications
Trim-able ends for concrete mis-pours
No Humps in Floors
Sound and Fire Ratings
Angled Walls



ALPINE
AN ITW COMPANY

The **Alpine System 42 floor truss system** provides longer, stronger clear spans and greater design flexibility in locating bearing walls and partitions. Because the System 42 floor truss system can be spaced farther apart, fewer are needed. Delivered to the job site ready for installation, the lightweight, rigid floor trusses go up easily and quickly, often without the use of a crane. Wide (3 1/2"), nailable top and bottom chords speed placement of decking and ceiling material without the need of special fasteners or clips. Mechanicals are installed quickly through the opening between webs without notching or furring. Tradesmen are on and off the job faster resulting in earlier completion dates and lower on-site labor costs.

ROOF TRUSSES
FLOOR TRUSSES
EZWALL®

A-1 INDUSTRIES

BUILDING A 100 YEAR COMPANY

As a leading provider of roof trusses, floor trusses, and EZWALL® Innovative Framing Solution™ throughout the Southeast, A-1 has proudly helped set industry standards since 1977.

Building trusses is only part of what we do. A-1 combines advanced manufacturing, proprietary software, automation, robotics, and engineering expertise to deliver integrated structural solutions for residential, multifamily, commercial, and emerging construction markets. From design and estimating through manufacturing, delivery, and support, we work closely with customers to provide project-specific solutions that meet requirements, arrive on time, and support efficient construction in the field.

Contact us today to discuss your next project and discover how A-1 can help you build with confidence. Our mission is **"Using Technology to Change the Way America Builds Homes™."**

A-1 Global Holdings, Inc. is a technology-driven building solutions company and the parent organization of A-1 Industries of Florida, Inc., and A-1 Industries of Georgia, LLC. Headquartered in Fort Pierce, Florida, A-1 currently operates manufacturing facilities in Fort Pierce, Florida, and Bainbridge, Georgia. A-1 employees are eligible to participate in the company's Employee Stock Ownership Plan (ESOP).

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