



onCENTER[®] Residential Floor & Roof Systems

INSTALLATION GUIDE

BlueLink[™] Engineered Products

ENGINEERED LUMBER



Protect from moisture and weather. Keep covered with factory wrap until time of use. Store on dry level ground using support blocks 10" on-center to keep members at least 4" off the ground and to allow air circulation.

STORAGE & HANDLING

DO NOT store BL joists flat. onCENTER[®] LVL and rim board should be stacked horizontally.

DO NOT fit BL joists by top flange with fork.

DO NOT fit BL joists flatwise.

SAFETY PRECAUTIONS

Use safety glasses, gloves, hard hats, and other personal protective equipment when handling and installing onCENTER engineered lumber. Contact BlueLink SDS information.

BRACING REQUIREMENTS

DO NOT allow members to be used as engineered lumber until properly installed and braced.

Joists are variable until properly attached and braced laterally. Failure to provide stability can result in serious accidents.

Roofing joists and beams from rotation at the end supports by use of blocking panels, x-bracing, or continuous closure (rim board, rim joist or structural sheathing).

Install all fasteners in each joist, beam, hanger, blocking panel, x-bracing, or continuous closure as it is.

Lateral restraint, such as a braced wall or existing diaphragm, must be established parallel to the first joist in a run. This can also be accomplished by temporary or permanent diaphragm fasteners to the full length of the 4' of joist in a run.

Ends of cantilevers require temporary bracing on both the top and bottom flanges.

Sheathing must be completely attached to each BL joist before additional loads can be placed on the system.

Joist flanges must remain straight within 1/2" of true alignment.

INSTALLATION NOTES

1. BlueLink onCENTER products must be protected from weather and used only in covered, dry-use conditions (directions in which moisture content of solid green lumber is less than 19%).

2. BL joists must be supported by the bottom flange on walls or beams in all hangers. They must be supported by the top flange by a non-structural edge board, or by bracing into a beam or joist.

3. For BL joists, minimum end bearing length is 10"; minimum intermediate bearing length is 3'0".

4. BL joists LVL must be restrained from rotation at ends and each support. The top (or compression) edge must have continuous lateral support, such as properly installed sheathing directly attached to the compression edge.

5. Engineered lumber must not be installed in direct contact with masonry or concrete.

6. When nail type is not specified in this document, common box or shank nails may be used.

7. When applying to the wide flange of BL joist flanges, maintain spacing within the following ranges:

Clear End Spacing	12" on-Center	16" on-Center	20" on-Center	24" on-Center
End Spacing	12" - 18"	16" - 24"	20" - 30"	24" - 36"
Intermediate Spacing	12" - 18"	16" - 24"	20" - 30"	24" - 36"

NOTES:
1. When using the end of a joist to support, must be placed by 1/2" (1/2" for 120 joist) and supported.
2. To avoid moisture, use a moisture barrier for 6" perimeter on the joist to be used.
3. Do not use long nails. Shorter nails allow attaching joists without splitting.

INSTALLATION CAUTIONS

DO NOT support BL joist by top flange or web.

DO NOT violate hole tab rules.

DO NOT bore out BL joist past face of wall. See detail F16.

DO NOT hardsaw out bottom flange at high end of roof BL joist. See roof detail F21.

DO NOT cut or notch flanges except for cutting to length for bridlewood cuts (see detail F6).

FLOOR SPANS

40 PSF Live Load + 10 PSF Dead Load (L480)

Joist	Span	12" on-Center	16" on-Center	20" on-Center	24" on-Center
BL 40	12'0"	21'-00"	19'-00"	18'-00"	16'-00"
BL 40	14'0"	24'-00"	22'-00"	20'-00"	18'-00"
BL 40	16'0"	27'-00"	25'-00"	23'-00"	21'-00"
BL 40	18'0"	30'-00"	28'-00"	26'-00"	24'-00"
BL 40	20'0"	33'-00"	31'-00"	29'-00"	27'-00"
BL 40	22'0"	36'-00"	34'-00"	32'-00"	30'-00"
BL 40	24'0"	39'-00"	37'-00"	35'-00"	33'-00"
BL 40	26'0"	42'-00"	40'-00"	38'-00"	36'-00"
BL 40	28'0"	45'-00"	43'-00"	41'-00"	39'-00"
BL 40	30'0"	48'-00"	46'-00"	44'-00"	42'-00"

NOTES:
1. Span is maximum clear distance between supports. Uniform loading is assumed.
2. Use load reduction factors for non-uniform loading. See ASCE 7-16, Table 4.7.1.1.
3. For multiple spans, spans must be at least 40% of adjacent span.
4. Deck load reduction factors for non-uniform loading conditions are a result of load combinations. Member design is based on the only member that carries the full design load. Do not exceed the design load on any member.
5. For multiple spans, spans must be at least 40% of adjacent span.
6. Deck load reduction factors for non-uniform loading conditions are a result of load combinations. Member design is based on the only member that carries the full design load. Do not exceed the design load on any member.
7. For multiple spans, spans must be at least 40% of adjacent span.
8. Deck load reduction factors for non-uniform loading conditions are a result of load combinations. Member design is based on the only member that carries the full design load. Do not exceed the design load on any member.

onCENTER FRAMING SYSTEMS

ATTACHMENT AT END BEARING

One 10d nail on each side of each end bearing. See detail F16.

To increase splitting of flange and bearing joist, angle nails on end of 10d nail.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BL JOIST / SMATER JOIST

Blocking where required for load building code for lateral bracing and shear.

One 2d with 1/2" gap on each side of joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEEL OUT JOIST

Beel out on joist to be supported by beam.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

DECK ATTACHMENT TO JOIST

Deck joist must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

JOIST SPACING BELOW PLUMBING WALL

Joist spacing must be 12" on center.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF OPENING FACE MOUNT HANGERS

Face mount hangers must be used for roof openings.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

OPTIONAL OVERHANG EXTENSIONS

Overhang extensions must be used for roof overhangs.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF BRACING WITH PERMITTED VENTILATION

Roof bracing must be installed with permitted ventilation.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEARING PANEL, EXTERIOR

Bearing panels must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

onCENTER RIM BOARD CLOSURE

Rim board closure must be installed on joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BL JOIST / SMATER JOIST

Blocking where required for load building code for lateral bracing and shear.

One 2d with 1/2" gap on each side of joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEEL OUT JOIST

Beel out on joist to be supported by beam.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

DECK ATTACHMENT TO JOIST

Deck joist must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

JOIST SPACING BELOW PLUMBING WALL

Joist spacing must be 12" on center.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF OPENING FACE MOUNT HANGERS

Face mount hangers must be used for roof openings.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

OPTIONAL OVERHANG EXTENSIONS

Overhang extensions must be used for roof overhangs.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF BRACING WITH PERMITTED VENTILATION

Roof bracing must be installed with permitted ventilation.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEARING PANEL, EXTERIOR

Bearing panels must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

onCENTER RIM BOARD CLOSURE

Rim board closure must be installed on joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BL JOIST / SMATER JOIST

Blocking where required for load building code for lateral bracing and shear.

One 2d with 1/2" gap on each side of joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEEL OUT JOIST

Beel out on joist to be supported by beam.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

DECK ATTACHMENT TO JOIST

Deck joist must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

JOIST SPACING BELOW PLUMBING WALL

Joist spacing must be 12" on center.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF OPENING FACE MOUNT HANGERS

Face mount hangers must be used for roof openings.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

OPTIONAL OVERHANG EXTENSIONS

Overhang extensions must be used for roof overhangs.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF BRACING WITH PERMITTED VENTILATION

Roof bracing must be installed with permitted ventilation.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEARING PANEL, EXTERIOR

Bearing panels must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

onCENTER RIM BOARD CLOSURE

Rim board closure must be installed on joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BL JOIST / SMATER JOIST

Blocking where required for load building code for lateral bracing and shear.

One 2d with 1/2" gap on each side of joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEEL OUT JOIST

Beel out on joist to be supported by beam.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

DECK ATTACHMENT TO JOIST

Deck joist must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

JOIST SPACING BELOW PLUMBING WALL

Joist spacing must be 12" on center.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF OPENING FACE MOUNT HANGERS

Face mount hangers must be used for roof openings.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

OPTIONAL OVERHANG EXTENSIONS

Overhang extensions must be used for roof overhangs.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

ROOF BRACING WITH PERMITTED VENTILATION

Roof bracing must be installed with permitted ventilation.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEARING PANEL, EXTERIOR

Bearing panels must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

onCENTER RIM BOARD CLOSURE

Rim board closure must be installed on joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BL JOIST / SMATER JOIST

Blocking where required for load building code for lateral bracing and shear.

One 2d with 1/2" gap on each side of joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

BEEL OUT JOIST

Beel out on joist to be supported by beam.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

DECK ATTACHMENT TO JOIST

Deck joist must be attached to joist.

10d nail bearing length must be 10" on end bearing.

10d nail bearing length must be 10" on end bearing.

