# TANGENT* 

## Decking Substructure



Tangent's Sustainable Lumber has a been used to build decking and boardwalk substructure for over 15 years. Our recycled plastic lumber is reinforced with fiberglass which enhances its stiffness and strength and reduces its thermal expansion and contraction.

Installation uses the same tools and construction techniques as with pressure treated wood. Our GreenCircle Certified recycled material is attractive for sustainability and green building initiatives.

Tangent's durability is outstanding, whatever the environment.

## Features \& Benefits:

- Extensive range of profiles
- Tough: will never splinter, peel, check or delaminate
- Will not rot, corrode or rust; impervious to termite and fungal decay
- Ideally suited for ground contact; will not absorb moisture and will not deteriorate
- Use typical wood working tools; install with joist hangers
- Third-party certified (GreenCircle) recycled content
- Purchase direct from manufacturer or dealer (depending on location)
- Made in the USA


## AVAILABLE SIZES:

Wide range of available profiles in addition to $2 x$ detailed below including $3 x, 4 x, 5 x$, $6 x, 7 x, 8 x, 10 x, 12 x$. Manufactured in standard \& custom lengths per project specs.

| Shape | Nominal <br> Profile | Actual <br> Dimensions <br> (in $\times$ in) | Lengths <br> (ft) |
| :---: | :---: | :---: | :---: |
|  | $2 \times 6$ | $1.46 \times 5.44$ | Lengths <br> up to 16' |
|  | $2 \times 8$ | $1.5 \times 7.4$ | Lengths <br> up to 16, |
|  | $2 \times 10$ | $1.46 \times 9.26$ | Lengths <br> up to 16 |
|  | $2 \times 12$ | $1.46 \times 11.25$ | Lengths <br> up to 16' |



COLORS:
Standard offering is black. Other colors available.


BLACK


GRAY


NORWEGIAN WEATHER WOOD


## CONFIDENTLY DURABLE

No rotting, splintering or peeling with materials that stand the test of time. Our products can withstand year round weather and endure the harshest of environments.


## LASTING BEAUTY

Our boards are manufactured with UV stabilizers throughout so they will never require painting, staining or sealing.

## JOIST SPANS:

Live load @ L/240 - Joists \& decking plus 5 psf dead load @ L/240-650,000 psi secant modulus

| Joist Profile |  | Joist Spacing | ALLOWABLE SPAN <br> Live Load |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 40 psf | 60 psf | 80 psf | 100 psf |
| $2 \times 6$ | 1.5 " $\times 5.5$ " |  | 12" | 8' 8" | 8' 1" | 7' 4" | 6' 10" |
|  |  | 16" | 8' 1" | 7' 4" | 6' 8" | 6' ${ }^{\prime \prime}$ |
|  |  | 24" | 7' ${ }^{\prime \prime}$ | $6^{\prime} 5^{\prime \prime}$ | 5' 10" | 5' 6" |
| $2 \times 8$ | 1.5 "×7.4" | 12 " | 11' $4^{\prime \prime}$ | 10' $9^{\prime \prime}$ | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 2^{\prime \prime}$ |
|  |  | 16" | $10^{\prime \prime} 8^{\prime \prime}$ | $9^{\prime} 10^{\prime \prime}$ | $8^{\prime} 11^{\prime \prime}$ | 8' $4^{\prime \prime}$ |
|  |  | 24" | $9^{\prime} 7$ " | 8'7" | 7'10' | 7' 4" |
| $2 \times 10$ | 1.5 " $\times 9.25^{\prime \prime}$ | 12" | $13^{\prime} 11^{\prime \prime}$ | $13^{\prime} 7 \prime \prime$ | $12^{\prime} 5^{\prime \prime}$ | $11^{\prime} 6^{\prime \prime}$ |
|  |  | $16^{\prime \prime}$ | $13^{\prime \prime} 2^{\prime \prime}$ | $12^{\prime} 5^{\prime \prime}$ | 11' ${ }^{\prime \prime}$ | 10' 6" |
|  |  | 24" | 11' $11^{\prime \prime}$ | 10' 10" | $9^{\prime} 11^{\prime \prime}$ | $9^{\prime} 2^{\prime \prime}$ |
| $2 \times 12$ | $1.5^{\prime \prime} \times 11.25^{\prime \prime}$ | 12" | $16^{\prime} 6^{\prime \prime}$ | 16' $6^{\prime \prime}$ | 15' ${ }^{\prime \prime}$ | $14^{\prime} \mathrm{O}^{\prime \prime}$ |
|  |  | $16^{\prime \prime}$ | 15' $8^{\prime \prime}$ | 15' ${ }^{\prime \prime}$ | $13^{\prime \prime} 9^{\prime \prime}$ | 12' 9" |
|  |  | 24" | $14^{\prime} 4^{\prime \prime}$ | $13^{\prime} 2^{\prime \prime}$ | $12^{\prime} \mathrm{O}^{\prime \prime}$ | $11^{\prime} 2^{\prime \prime}$ |



## SUSTAINABLY MADE

Our boards don't need to be treated like wood and are environmentallyfriendly. Made from recycled materials, our lumber won't leach chemicals into our environment.


## EASE OF CARE

Our material is impervious to termites, insect and fungal decay, moisture cannot be absorbed and will not cause deterioration. Truly an ultra low maintenance product.

## MADE IN THE USA

Made in the United States with exceptional quality. Our engineers conduct ongoing testing to numerous ASTM standards.


## GIRDER SUPPORT POST SPACING WITH 2 POSTS

## 60 psf Live load @ L/360

Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile | \# of Girder Plies | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | 5' | $6^{\prime}$ | $7{ }^{\prime}$ | 8' | 9' | 10' | 11' | 12' | 13' | 14' | 15' | 16' |
|  |  | Post Spacing ( $\mathrm{ft}^{\prime}$ in") |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \times 6$ | 2 | $6^{\prime} 10^{\prime \prime}$ | 6' $\mathbf{4 \prime}^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | $5^{\prime} 8^{\prime \prime}$ | $5^{\prime} 5^{\prime \prime}$ | $5^{\prime} 2^{\prime \prime}$ | $5^{\prime} 0^{\prime \prime}$ | $4^{\prime} 10^{\prime \prime}$ | $4^{\prime} 9^{\prime \prime}$ | $4^{\prime} 7 \prime$ | $4^{\prime} 6^{\prime \prime}$ | $4^{\prime} 5^{\prime \prime}$ | $4^{\prime} 3^{\prime \prime}$ |
|  | 3 | $7{ }^{\prime \prime}$ | 7'3' | $6^{\prime} 10^{\prime \prime}$ | 6'6" | $6^{\prime} 2^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | $5^{\prime} 9^{\prime \prime}$ | 5'7" | $5^{\prime} 5^{\prime \prime}$ | $5^{\prime} 3^{\prime \prime}$ | $5^{\prime} 2^{\prime \prime}$ | $5^{\prime} 0^{\prime \prime}$ | $4^{\prime} 11^{\prime \prime}$ |
| $2 \times 8$ | 2 | 8' $11^{\prime \prime}$ | $8^{\prime} 5^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $7{ }^{\prime \prime}{ }^{\prime \prime}$ | $7{ }^{\prime} 0 \prime$ | $6^{\prime} 9^{\prime \prime}$ | 6'7" | $6^{\prime} 5^{\prime \prime}$ | $6^{\prime} 3^{\prime \prime}$ | $6^{\prime} 1^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | $5^{\prime} 10$ " |
|  | 3 | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 4^{\prime \prime}$ | $8^{\prime} 11^{\prime \prime}$ | 8'7" | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime \prime} 1^{\prime \prime}$ | 7' $9^{\prime \prime}$ | 7' 6" | 7' 4" | 7' 1' | $6^{\prime} 11^{\prime \prime}$ | 6' $\mathbf{9}^{\prime \prime}$ | $6^{\prime} 8^{\prime \prime}$ |
| $2 \times 10$ | 2 | 10' $10^{\prime \prime}$ | 10'3' | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 5^{\prime \prime}$ | $9^{\prime} 1^{\prime \prime}$ | 8' 9" | 8' 6" | 8' ${ }^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' 11' | 7'8' | 7' 6" | $7{ }^{\prime \prime}{ }^{\prime \prime}$ |
|  | 3 | 11' 10" | 11'4" | 10'10" | $10^{\prime \prime} 5^{\prime \prime}$ | 10'1" | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime \prime} 6^{\prime \prime}$ | $9^{\prime} 4^{\prime \prime}$ | $9^{\prime} 1^{\prime \prime}$ | $8^{\prime} 11^{\prime \prime}$ | 8' $8^{\prime \prime}$ | 8' 6" | $8^{\prime} 4^{\prime \prime}$ |
| $2 \times 12$ | 2 | $12^{\prime} 9^{\prime \prime}$ | $12^{\prime} 1^{\prime \prime}$ | $11^{\prime} 6^{\prime \prime}$ | 11' $1^{\prime \prime}$ | $10^{\prime} 8^{\prime \prime}$ | $10^{\prime} 4^{\prime \prime}$ | $10^{\prime} 1^{\prime \prime}$ | 9' 9' | $9^{\prime} 7 \prime$ | $9^{\prime} 4^{\prime \prime}$ | $9^{\prime} 2^{\prime \prime}$ | $8^{\prime} 11^{\prime \prime}$ | $8^{\prime} 9^{\prime \prime}$ |
|  | 3 | $13^{\prime} 10^{\prime \prime}$ | $13^{\prime \prime}{ }^{\prime \prime}$ | $12^{\prime} 9^{\prime \prime}$ | $12^{\prime} 3^{\prime \prime}$ | 11' $11^{\prime \prime}$ | $11^{\prime} 6^{\prime \prime}$ | 11' ${ }^{\prime \prime}$ | $10^{\prime} 11^{\prime \prime}$ | $10^{\prime} 8^{\prime \prime}$ | $10^{\prime} 6^{\prime \prime}$ | $10^{\prime} 3^{\prime \prime}$ | $10^{\prime} 1^{\prime \prime}$ | $9^{\prime} 11^{\prime \prime}$ |

## 80 psf Live load @ L/360

Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile | \# of Girder Plies | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | 5' | $6^{\prime}$ | $7{ }^{\prime}$ | 8' | 9' | $10^{\prime}$ | 11' | 12' | 13' | 14' | 15' | 16' |
|  |  | Post Spacing ( $\mathrm{ft}^{\prime}$ in") |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \times 6$ | 2 | 6' ${ }^{\prime \prime}$ | $5^{\prime \prime} 9^{\prime \prime}$ | $5^{\prime \prime} 5^{\prime \prime}$ | $5^{\prime} 2^{\prime \prime}$ | $4^{\prime} 11^{\prime \prime}$ | $4^{\prime} 9^{\prime \prime}$ | $4^{\prime \prime} 7$ | $4^{\prime} 5^{\prime \prime}$ | $4^{\prime} 3^{\prime \prime}$ | $4^{\prime} 2^{\prime \prime}$ | $4^{\prime} 1^{\prime \prime}$ | $4^{\prime} 0^{\prime \prime}$ | $3^{\prime} 11^{\prime \prime}$ |
|  | 3 | 7'1" | $6^{\prime} 7 \prime$ | $6^{\prime} 2^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | 5'7" | $5^{\prime \prime}{ }^{\prime \prime}$ | $5^{\prime \prime} 3^{\prime \prime}$ | $5^{\prime} 1^{\prime \prime}$ | $4^{\prime} 11^{\prime \prime}$ | 4' ${ }^{\prime \prime}$ | $4^{\prime} 8^{\prime \prime}$ | $4^{\prime} 7 \prime \prime$ | $4^{\prime} 6^{\prime \prime}$ |
| $2 \times 8$ | 2 | $8^{\prime} 4^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $7{ }^{\prime \prime}{ }^{\prime \prime}$ | $6^{\prime} 11^{\prime \prime}$ | $6^{\prime \prime} 8^{\prime \prime}$ | $6^{\prime} 5^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | $6^{\prime} 0^{\prime \prime}$ | $5^{\prime} 10 \prime$ | $5^{\prime} 8^{\prime \prime}$ | $5^{\prime} 6^{\prime \prime}$ | $5^{\prime} 5^{\prime \prime}$ | $5^{\prime} 3^{\prime \prime}$ |
|  | 3 | 9'7" | 8' $11^{\prime \prime}$ | $8^{\prime} 4^{\prime \prime}$ | 7' 11' | 7'7" | $7{ }^{\prime \prime}{ }^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $6^{\prime} 10^{\prime \prime}$ | $6^{\prime} 8^{\prime \prime}$ | 6' 6" | 6' $4^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | $6^{\prime} 0 \prime \prime$ |
| $2 \times 10$ | 2 | $10^{\prime \prime}{ }^{\prime \prime}$ | $9^{\prime} 10^{\prime \prime}$ | 9'3' | $8^{\prime} 10^{\prime \prime}$ | $8^{\prime \prime}{ }^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' 10" | 7'7" | $7{ }^{\prime \prime}{ }^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $7{ }^{\prime} 0 \prime$ | $6^{\prime} 10^{\prime \prime}$ | $6^{\prime} 8 \prime$ |
|  | 3 | 12' ${ }^{\prime \prime}$ | 11' ${ }^{\prime \prime}$ | 10'7" | 10'1" | $9^{\prime} 8^{\prime \prime}$ | $9^{\prime \prime}{ }^{\prime \prime}$ | 8' $11{ }^{\prime \prime}$ | 8' 8' | $8^{\prime \prime} 5^{\prime \prime}$ | 8' ${ }^{\prime \prime}$ | 8' O" | 7' 10" | 7' $8^{\prime \prime}$ |
| $2 \times 12$ | 2 | $12^{\prime} 11^{\prime \prime}$ | $12^{\prime} \mathrm{O}^{\prime \prime}$ | $11^{\prime} 4^{\prime \prime}$ | 10' $\mathbf{9}^{\prime \prime}$ | 10' ${ }^{\prime \prime}$ | $9^{\prime} 11^{\prime \prime}$ | $9^{\prime} 6^{\prime \prime}$ | 9'3' | $9^{\prime} 0^{\prime \prime}$ | $8^{\prime} 9^{\prime \prime}$ | 8' 6" | 8' $\mathbf{4}^{\prime \prime}$ | $8^{\prime} 2^{\prime \prime}$ |
|  | 3 | $14^{\prime} 10^{\prime \prime}$ | 13' $\mathbf{9}^{\prime \prime}$ | $12^{\prime} 11^{\prime \prime}$ | $12^{\prime} 4^{\prime \prime}$ | $11^{\prime} 9^{\prime \prime}$ | $11^{\prime} 4^{\prime \prime}$ | $10^{\prime} 11^{\prime \prime}$ | $10^{\prime} 7 \prime \prime$ | $10^{\prime \prime} 3^{\prime \prime}$ | $10^{\prime} 0^{\prime \prime}$ | $9^{\prime} 9^{\prime \prime}$ | $9^{\prime} 6^{\prime \prime}$ | $9^{\prime} 4^{\prime \prime}$ |

100 psf Live load @ L/360
Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile | \# of Girder Plies | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | 5' | $6 '$ | 7' | 8' | 9' | 10' | 11' | 12' | 13' | 14' | 15' | 16' |
|  |  | Post Spacing ( $\mathrm{ft}^{\prime}$ in") |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \times 6$ | 2 | $5^{\prime \prime} 9^{\prime \prime}$ | $5^{\prime} 4^{\prime \prime}$ | $5^{\prime} \mathrm{O}^{\prime \prime}$ | $4^{\prime} 9^{\prime \prime}$ | $4^{\prime} 7 \prime$ | $4^{\prime} 5^{\prime \prime}$ | $4^{\prime \prime}{ }^{\prime \prime}$ | $4^{\prime} 1^{\prime \prime}$ | $4^{\prime} 0^{\prime \prime}$ | $3^{\prime} 11^{\prime \prime}$ | $3^{\prime} 9^{\prime \prime}$ | $3^{\prime \prime} 8^{\prime \prime}$ | 3'7" |
|  | 3 | 6'7" | $6^{\prime} 1^{\prime \prime}$ | 5' 9' | 5' 5' | 5' ${ }^{\prime \prime}$ | $5^{\prime} 0^{\prime \prime}$ | 4' 10" | $4^{\prime} 8^{\prime \prime}$ | $4^{\prime \prime} 7$ | $4^{\prime} 5^{\prime \prime}$ | $4^{\prime} 4^{\prime \prime}$ | $4^{\prime} 3^{\prime \prime}$ | 4' ${ }^{\prime \prime}$ |
| $2 \times 8$ | 2 | 7' ${ }^{\prime \prime}$ | 7'3' | $6^{\prime} 9^{\prime \prime}$ | $6^{\prime} 5^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | 5' $11^{\prime \prime}$ | 5' 9' | 5'7" | $5^{\prime} 5^{\prime \prime}$ | $5^{\prime} 3^{\prime \prime}$ | $5^{\prime} 1^{\prime \prime}$ | $4^{\prime} 0^{\prime \prime}$ | $4^{\prime} 11^{\prime \prime}$ |
|  | 3 | 8' 11' | 8'3' | 7' 9" | 7' 5' | 7' 1' | 6' 9' | 6' 7 " | 6' $4^{\prime \prime}$ | 6' ${ }^{\prime \prime}$ | $6^{\prime} 0^{\prime \prime}$ | 5' 10" | 5' 9" | 5' 7' |
| $2 \times 10$ | 2 | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 2^{\prime \prime}$ | 8' 7 " | 8' ${ }^{\prime \prime}$ | 7' 10" | 7' 6" | 7' ${ }^{\prime \prime}$ | $7{ }^{\prime} 0^{\prime \prime}$ | $6^{\prime} 10 \prime$ | 6' 8' | 6' 6" | 6' $\mathbf{4 \prime}^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ |
|  | 3 | 11'3" | 10' ${ }^{\prime \prime}$ | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 4^{\prime \prime}$ | $8^{\prime \prime} 11^{\prime \prime}$ | $8^{\prime \prime} 7$ | $8^{\prime \prime} 4^{\prime \prime}$ | $8^{\prime} 0^{\prime \prime}$ | 7' 10" | 7'7' | $7{ }^{\prime \prime}$ | 7'3' | 7'1" |
| $2 \times 12$ | 2 | $12^{\prime} \mathrm{O}^{\prime \prime}$ | 11' ${ }^{\prime \prime}$ | $10^{\prime} 6^{\prime \prime}$ | $10^{\prime} 0^{\prime \prime}$ | $9^{\prime} 6^{\prime \prime}$ | $9^{\prime} 2^{\prime \prime}$ | $8^{\prime} 10^{\prime \prime}$ | 8'7" | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' 11" | 7' ${ }^{\prime \prime}$ | 7'7' |
|  | 3 | $13^{\prime \prime} 9^{\prime \prime}$ | 12' 9' | $12^{\prime} \mathrm{O}^{\prime \prime}$ | $11^{\prime \prime} 5^{\prime \prime}$ | $10^{\prime} 11^{\prime \prime}$ | $10^{\prime} 6^{\prime \prime}$ | $10^{\prime} 2^{\prime \prime}$ | 9' 10" | $9^{\prime} 6^{\prime \prime}$ | 9'3' | $9^{\prime} 1^{\prime \prime}$ | $8^{\prime} 10^{\prime \prime}$ | 8' 8' |

GRIDER BEAM SUPPORT POST SPACING: 3 OR MORE SUPPORTS
60 psf Live load @ L/360
Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile | \# of Girder Plies | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | $5^{\prime}$ | $6{ }^{\prime}$ | $7{ }^{\prime}$ | 8' | 9' | 10' | 11' | 12' | 13' | 14' | 15' | 16' |
|  |  | Post Spacing (ft' in") |  |  |  |  |  |  |  |  |  |  |  |  |
| 2x6 | $2$ | $\begin{gathered} 9^{\prime} 3^{\prime \prime} \\ 10^{\prime} 5^{\prime \prime} \end{gathered}$ | $\begin{gathered} 8^{\prime} 7^{\prime \prime} \\ 9^{\prime} 10^{\prime \prime} \end{gathered}$ | $\begin{array}{ll} 8^{\prime} & 1^{\prime \prime} \\ 9^{\prime} & 3^{\prime \prime} \end{array}$ | $\begin{aligned} & 7^{\prime} 8^{\prime \prime} \\ & 8^{\prime} 99^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 7^{\prime} 4^{\prime \prime} \\ & 8^{\prime} 5^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 7^{\prime \prime} 1^{\prime \prime} \\ & 8^{\prime} 1^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 6^{\prime} 10^{\prime \prime} \\ & 7^{\prime} 10^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 6^{\prime} 7^{\prime \prime} \\ & 7^{\prime} 7 \end{aligned}$ | $\begin{aligned} & 6^{\prime} 5^{\prime \prime} \\ & 7^{\prime} 4^{\prime \prime} \end{aligned}$ | $\begin{array}{ll} 6^{\prime} & 3^{\prime \prime} \\ 7^{\prime} & 2^{\prime \prime} \end{array}$ | $\begin{aligned} & 6^{\prime} 1^{\prime \prime} \\ & 7^{\prime} 0^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 5^{\prime} 111 "_{\prime \prime}^{\prime \prime} \\ & 6^{\prime} 10 \end{aligned}$ | $\begin{aligned} & 5^{\prime} 10^{\prime \prime} \\ & 6^{\prime} 8^{\prime \prime} \end{aligned}$ |
| 2x8 | $2$ | $\begin{aligned} & 12^{\prime} 2^{\prime \prime} \\ & 13^{\prime} 4^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 11^{\prime} 6^{\prime \prime} \\ & 12^{\prime} 8^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 10^{\prime} 11^{\prime \prime} \\ & 12^{\prime} 2^{\prime \prime} \end{aligned}$ | $\begin{gathered} 10^{\prime} 4^{\prime \prime} \\ 11^{\prime \prime} 8^{\prime \prime} \end{gathered}$ | $\begin{aligned} & 9^{\prime} 111 "_{\prime \prime \prime}^{11} \\ & 11^{\prime \prime} 3 \end{aligned}$ | $\begin{gathered} 9^{\prime} 6^{\prime \prime} \\ 10^{\prime} 11^{\prime \prime} \end{gathered}$ | $\begin{gathered} 9^{\prime} 3^{\prime \prime} \\ 10^{\prime} 7^{\prime \prime} \end{gathered}$ | $\begin{gathered} 8^{\prime} 111 "_{\prime \prime}^{\prime \prime} \\ 10^{\prime} 3^{\prime \prime} \end{gathered}$ | $\begin{array}{ll} 8^{\prime} & 8^{\prime \prime} \\ 9^{\prime} & 11^{\prime \prime} \end{array}$ | $\begin{aligned} & 8^{\prime} 5^{\prime \prime} \\ & 9^{\prime} \quad 8^{\prime \prime} \end{aligned}$ | $\begin{array}{ll} 8^{\prime} & 3^{\prime \prime} \\ 9^{\prime} & 5^{\prime \prime} \end{array}$ | $\begin{array}{ll} 8^{\prime} & 1^{\prime \prime} \\ 9^{\prime} & 3 \prime \prime \end{array}$ | $\begin{aligned} & 7^{\prime} 11 "_{\prime \prime \prime} \\ & 9^{\prime} 0 \end{aligned}$ |
| 2×10 | $2$ | $\begin{aligned} & 14^{\prime} 9^{\prime \prime} \\ & 16^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 13^{\prime} 11^{\prime \prime} \\ & 15^{\prime \prime} 4^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 13^{\prime} 4^{\prime \prime} \\ & 14^{\prime} 9^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 12^{\prime} 9^{\prime \prime} \\ & 14^{\prime} 2^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 12^{\prime \prime} 4^{\prime \prime} \\ & 13^{\prime} 9^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 11^{\prime} 11^{\prime \prime} \\ & 13^{\prime} 4^{\prime \prime} \end{aligned}$ | $\begin{gathered} 11^{\prime \prime} 7 " \\ 12^{\prime} 11^{\prime \prime} \end{gathered}$ | $\begin{aligned} & 11^{\prime} 3^{\prime \prime} \\ & 12^{\prime} 7^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 11^{\prime} 0^{\prime \prime} \\ & 12^{\prime} 4^{\prime \prime} \end{aligned}$ | $\begin{gathered} 10^{\prime \prime} 8^{\prime \prime} \\ 12^{\prime \prime} \end{gathered}$ | $\begin{aligned} & 10^{\prime} 5^{\prime \prime} \\ & 11^{\prime \prime} 10^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 10^{\prime} 2^{\prime \prime} \\ & 11^{\prime \prime} 7 \end{aligned}$ | $\begin{gathered} 10^{\prime} 0^{\prime \prime} \\ 11^{\prime \prime} 4^{\prime \prime} \end{gathered}$ |
| 2×12 | $2$ | $\begin{gathered} 17^{\prime} 3^{\prime \prime} \\ 18^{\prime} 10^{\prime \prime} \end{gathered}$ | $\begin{aligned} & 16^{\prime} 5^{\prime \prime} \\ & 18^{\prime} 0^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 15^{\prime} 8^{\prime \prime} \\ & 17^{\prime} 3^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 15^{\prime} 1^{\prime \prime} \\ & 16^{\prime} 8^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 14^{\prime} 6^{\prime \prime} \\ & 16^{\prime} 2^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 14^{\prime} 1^{\prime \prime} \\ & 15^{\prime} \end{aligned} 8^{\prime \prime}$ | $\begin{aligned} & 13^{\prime} 8^{\prime \prime} \\ & 15^{\prime} 3^{\prime \prime} \end{aligned}$ | $\begin{gathered} 13^{\prime} 4^{\prime \prime} \\ 14^{\prime} 10^{\prime \prime} \end{gathered}$ | $\begin{aligned} & 13^{\prime} 0^{\prime \prime} \\ & 14^{\prime} 6^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 12^{\prime} 8^{\prime \prime} \\ & 14^{\prime} 3^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 12^{\prime} 5^{\prime \prime} \\ & 13^{\prime} 11^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 12^{\prime} 2^{\prime \prime} \\ & 13^{\prime} 8^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 11^{\prime} 11^{\prime \prime} \\ & 13^{\prime} 5{ }^{\prime \prime} \end{aligned}$ |

## 80 psf Live load @ L/360

Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile | \# of Girder Plies | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | 5' | $6 '$ | 7' | 8' | 9' | $10^{\prime}$ | 11' | 12' | 13' | 14' | 15' | 16' |
|  |  | Post Spacing ( $\mathrm{ft}^{\prime}$ in") |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \times 6$ | 2 | 8' 5" | $7^{\prime} 10^{\prime \prime}$ | 7'4" | $7{ }^{\prime \prime}$ | $6^{\prime} 8^{\prime \prime}$ | $6^{\prime \prime}{ }^{\prime \prime}$ | 6' ${ }^{\prime \prime}$ | $5^{\prime} 0^{\prime \prime}$ | $5^{\prime} 10^{\prime \prime}$ | $5^{\prime} 8 \prime$ | $5^{\prime} 6^{\prime \prime}$ | $5^{\prime \prime} 5^{\prime \prime}$ | $5^{\prime} 4^{\prime \prime}$ |
|  | 3 | $9^{\prime \prime} 7$ | 8' $11{ }^{\prime \prime}$ | $8^{\prime \prime} 5^{\prime \prime}$ | $8^{\prime} 0^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $7^{\prime \prime}{ }^{\prime \prime}$ | $6^{\prime} 10^{\prime \prime}$ | $6^{\prime} 8^{\prime \prime}$ | $6^{\prime} 6^{\prime \prime}$ | 6' $\mathbf{4 \prime}^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | $6^{\prime} 1^{\prime \prime}$ |
| $2 \times 8$ | 2 | $11^{\prime \prime} 4^{\prime \prime}$ | $10^{\prime} 7 \prime \prime$ | $9^{\prime} 11^{\prime \prime}$ | $9^{\prime} 5^{\prime \prime}$ | $9^{\prime} 0^{\prime \prime}$ | $8^{\prime \prime} 8^{\prime \prime}$ | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' $7^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | 7' 6 " | $7^{\prime \prime} 4^{\prime \prime}$ | $7^{\prime \prime} 2^{\prime \prime}$ |
|  | 3 | $13^{\prime} 0^{\prime \prime}$ | 12' $1^{\prime \prime}$ | $11^{\prime \prime} 4^{\prime \prime}$ | 10' $9^{\prime \prime}$ | $10^{\prime} 4^{\prime \prime}$ | $9^{\prime} 11^{\prime \prime}$ | 9'7" | 9'3' | $9^{\prime} 0^{\prime \prime}$ | 8' 9' | 8'7" | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime} 2^{\prime \prime}$ |
| $2 \times 10$ | 2 | $14^{\prime} 5^{\prime \prime}$ | $13^{\prime} 4^{\prime \prime}$ | 12'7" | 11' 11' | 11' ${ }^{\prime \prime}$ | $11^{\prime} \mathrm{O}^{\prime \prime}$ | $10^{\prime \prime} 7$ | $10^{\prime \prime} 3^{\prime \prime}$ | 10' $0^{\prime \prime}$ | 9' 9' | 9' 6" | $9^{\prime} 3^{\prime \prime}$ | $9^{\prime} 1^{\prime \prime}$ |
|  | 3 | 16'1" | $15^{\prime} 4^{\prime \prime}$ | 14' ${ }^{\prime \prime}$ | 13' $8^{\prime \prime}$ | 13'1" | 12'7' | 12' ${ }^{\prime \prime}$ | 11' $9^{\prime \prime}$ | $11^{\prime \prime}{ }^{\prime \prime}$ | 11'1" | 10'10" | 10'7" | 10' ${ }^{\prime \prime}$ |
| $2 \times 12$ | 2 | $17^{\prime} 3^{\prime \prime}$ | $16^{\prime} 4^{\prime \prime}$ | $15^{\prime} 4^{\prime \prime}$ | $14^{\prime} 7^{\prime \prime}$ | $13^{\prime} 11^{\prime \prime}$ | $13^{\prime} 5^{\prime \prime}$ | 12' 11" | $12^{\prime} 7^{\prime \prime}$ | $12^{\prime} 2^{\prime \prime}$ | 11'10" | 11' 7 " | $11^{\prime} 4^{\prime \prime}$ | 11' $1^{\prime \prime}$ |
|  | 3 | $18^{\prime} 10^{\prime \prime}$ | 18' $0^{\prime \prime}$ | 17' ${ }^{\prime \prime}$ | $16^{\prime} 8^{\prime \prime}$ | $16^{\prime} 0^{\prime \prime}$ | $15^{\prime} 4^{\prime \prime}$ | $14^{\prime} 10^{\prime \prime}$ | $14^{\prime} 4^{\prime \prime}$ | $13^{\prime} 11^{\prime \prime}$ | $13^{\prime} 7^{\prime \prime}$ | $13^{\prime} 3^{\prime \prime}$ | $12^{\prime} 11^{\prime \prime}$ | 12' $8^{\prime \prime}$ |

100 psf Live load @ L/360
Joists, decking, beam plus 5 psf dead load @ L/360-650,000 psi secant modulus

| Girder Profile |  | Length of Joist (ft) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $4^{\prime}$ | $5^{\prime}$ | $6^{\prime}$ | $7{ }^{\prime}$ | 8' | 9' | 10' | 11' | 12' | 13' | $14^{\prime}$ | 15' | 16' |
|  |  | Post Spacing ( $\mathrm{ft}^{\prime}$ in") |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \times 6$ | 2 | 7' $10^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | $6^{\prime} 10^{\prime \prime}$ | $6^{\prime} 6^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | $5^{\prime} 9^{\prime \prime}$ | $5^{\prime \prime} 7$ | $5^{\prime \prime} 5^{\prime \prime}$ | $5^{\prime} 3^{\prime \prime}$ | $5^{\prime} 2^{\prime \prime}$ | $5^{\prime} 0^{\prime \prime}$ | $4^{\prime} 11{ }^{\prime \prime}$ |
|  | 3 | $8^{\prime} 11^{\prime \prime}$ | $8^{\prime \prime}{ }^{\prime \prime}$ | 7' 10" | $7^{\prime \prime}{ }^{\prime \prime}$ | $7{ }^{\prime \prime}{ }^{\prime \prime}$ | $6^{\prime \prime} 10^{\prime \prime}$ | $6^{\prime \prime} 7$ | $6^{\prime} 4^{\prime \prime}$ | $6^{\prime} 2^{\prime \prime}$ | $6^{\prime} 0^{\prime \prime}$ | $5^{\prime} 11^{\prime \prime}$ | $5^{\prime \prime} 9^{\prime \prime}$ | $5^{\prime} 8^{\prime \prime}$ |
| $2 \times 8$ | 2 | 10'7" | 9' $9^{\prime \prime}$ | 9'3' | $8^{\prime} 9^{\prime \prime}$ | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime} 1^{\prime \prime}$ | 7' 9' | $7^{\prime} 6^{\prime \prime}$ | 7' 4" | 7' 1' | $6^{\prime} 11^{\prime \prime}$ | 6' 9' | $6^{\prime} 8^{\prime \prime}$ |
|  | 3 | $12^{\prime} 1^{\prime \prime}$ | 11' ${ }^{\prime \prime}$ | 10'7" | $10^{\prime} 0^{\prime \prime}$ | 9'7" | $9^{\prime} 3^{\prime \prime}$ | $8^{\prime} 11^{\prime \prime}$ | 8'7" | $8^{\prime} 4^{\prime \prime}$ | $8^{\prime} 2^{\prime \prime}$ | $7^{\prime} 11^{\prime \prime}$ | 7' ${ }^{\prime \prime}$ | 7' 7" |
| $2 \times 10$ | 2 | $13^{\prime \prime} 4^{\prime \prime}$ | $12^{\prime} 5^{\prime \prime}$ | $11^{\prime} 8^{\prime \prime}$ | 11' 1" | 10'7" | $10^{\prime} 2^{\prime \prime}$ | $9^{\prime} 10^{\prime \prime}$ | $9^{\prime} 6^{\prime \prime}$ | $9^{\prime} 3^{\prime \prime}$ | $9^{\prime} 0^{\prime \prime}$ | $8^{\prime} 10 \prime$ | 8' 7" | 8' 5" |
|  | 3 | 15' ${ }^{\prime \prime}$ | 14' ${ }^{\prime \prime}$ | 13' $3^{\prime \prime}$ | 12' 8' | 12' ${ }^{\prime \prime}$ | 11'8" | 11' ${ }^{\prime \prime}$ | 10' 11" | 10'7" | 10' $\mathbf{4}^{\prime \prime}$ | 10'1" | 9' 10" | 9'8" |
| $2 \times 12$ | 2 | $16^{\prime} 4^{\prime \prime}$ | $15^{\prime} 2^{\prime \prime}$ | 14'3' | $13^{\prime} 7^{\prime \prime}$ | 12' 11" | $12^{\prime} 5^{\prime \prime}$ | $12^{\prime} 0^{\prime \prime}$ | $11^{\prime \prime} 8^{\prime \prime}$ | 11'4" | $11^{\prime} \mathrm{O}^{\prime \prime}$ | 10' $\mathbf{9}^{\prime \prime}$ | $10^{\prime} 6^{\prime \prime}$ | $10^{\prime \prime}{ }^{\prime \prime}$ |
|  | 3 | $18^{\prime \prime}{ }^{\prime \prime}$ | 17' $4^{\prime \prime}$ | $16^{\prime} 4^{\prime \prime}$ | 15' $6^{\prime \prime}$ | $14^{\prime} 10^{\prime \prime}$ | $14^{\prime} 3^{\prime \prime}$ | $13^{\prime} 9^{\prime \prime}$ | $13^{\prime} 4^{\prime \prime}$ | 12' $11^{\prime \prime}$ | 12' 7 " | $12^{\prime} 4^{\prime \prime}$ | $12^{\prime} \mathrm{O}^{\prime \prime}$ | 11' 9' |

