## How to build a staircase like a pro.

,WIISUREWOOD-LNL

## Over-The-Post System



Identify Your Type of Post-ło-Post Staircase:


Open Staircase with Square Top Balusters and Shoerail

Open Staircase with Pin Top Balusters


Closed Staircase with Square Top Balusters and Kneewall


## Selecting Your Parts:

There are several styles and options for your treads, risers, balusters and newel posts. Below are the most common. Other items are available by special order. Check with your store representative.

## Balusters, Newel Posts, Handrails, and Shoerails:

## Pin Top Baluster:



Pin top balusters used with solid handrail.

6010-S Solid handrail

## Treads and Risers:


$\begin{array}{ccc}\text { Starting } & \text { Starting } & \text { Landing } \\ \text { Newel } & \text { Newel } & \text { Newel }\end{array}$

| Newel | Newel | Newel |
| :---: | :---: | :---: |
| $48^{\prime \prime}$ | $54^{\prime \prime}$ | $59^{\prime \prime}$ |

Square Top Baluster:


6010-P
Plowed handrail
Fillet $1-1 / 4^{\prime \prime}$
6045
Shoerail $1-1 / 4^{\prime \prime}$

8090
Landing Tread
Mounting Hardware:


J-Anchor with molding
Rail

D Half

Newel:
For Wall Finishing
Half newels available to math newel style.

Check local building codes to ensure compliance. All stair parts shown in this brochure are for interior use only. Treads - Select one tread for each step.

Risers - Select one riser for each step. Select one more riser than treads per each staircase.

Landing Tread - Select sufficient lineal footage for the entire baloony and width of stairs at each landing.

Return Nosing - If stair is open on one side, select one tread return nosing per step. If two-sided, select two per step.
Starting Newel* - Use ot the bottom of the staircase.
Landing Newel* - Use at the landing corner of an L-shaped stair and at the second floor landing.

Level Run Newel* - If the balcony is 10 feet or longer, use a newel every 5 or 6 feet. Place a newel at every corner. The Landing Newel may be used, but be sure to match the top block with the newel used at the top of the stairway for consistency.

Rosette or Half Newel - Select either a rosette or half newel for each handrail connecting to a wall.

Newel Mounting Hardware (J-Anchor) - Select one newel mounting kif for each newel post mounted on top of a tread.

Rake Balusters*- Select the 34" baluster for the front baluster on each tread and the $36^{\prime \prime}$ baluster for the back baluster on each tread. If sing 3 balusters per tread, use the $36^{\prime \prime}$ baluster for the middle baluster on each tread.

Rake Balusters for Kneewall Staircase*- Select the 34" baluster at a rate of 2 per tread. Standard placement is 4 "on center. Check local building code for your area.

Level Run Balusters*- Use the $36^{\prime \prime}$ baluster for all $36^{\prime \prime}$ height balconies and the 41" baluster for all 41 " height balconies. Standard placement is 4"on center. Check local building code for your area.

Handrail - Buy $13^{\prime \prime}$ of handrail for each tread or step. Buy enough for all level runs.

Shoerail for Rake - Buy $13^{\prime \prime}$ of corresponding shoerail for each tread or step (shoerail or kneewall stairs only).
Shoerail for Balcony (optional) - Buy enough to cover all Level Runs.

Plugs -Select two wood plugs for every newel mounting using lag bolts. Select one plug for each handrail rail bolt used. Select one plug for every handrail or shoerail mounting using a lag bolt or wood screw.
*Note:
These guidelines are for a rake handrail height of $36^{\prime \prime}-41^{\prime \prime}$. Longer newels and balusters may be required for a different handrail height.

Part number Quantity Selected Needed
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- $\qquad$
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$\qquad$


C Rosettes:


Round Rosette

Operation:
Measuring and Leveling

Gluing Carpenter's glue and construction adhesive
Screw Driving
Drilling

Finishing

Cutting $\quad$ Miter box and saw (fine-tooth) hand or power circular saw or standard hand saw

Nailing Hammer, nail set, $1 / 2^{\prime \prime}$ and $1^{\prime \prime}$ finishing nails

## Tools Needed:

Metal measuring tape, hand levels, (torpedo and $4^{\prime}$ level), framing square

Screwdriver (manual or power), $3^{\prime \prime}$ wood screws
Hand drill, drill guide and $1 / 8^{\prime \prime}, 1 / 4^{\prime \prime}, 3 / 8^{\prime \prime}, 5 / 8^{\prime \prime}, 3 / 4^{\prime \prime}, 1^{\prime \prime}$ wood bits

Sandpaper, steel wool, wood file, wood chisel, finishing stain, rags, tack cloth, etc.

## 5

## Getting Started - Tread and Riser Installation:

To properly install solid oak treads and risers, you must first remove the existing steps to expose the rough framing. Leave the beginning riser at base of steps (A). Measure and cut each step separately to ensure tight fit. (B). Pre-drill, apply construction adhesive and nail into place. For added strength, screw treads to risers from behind (C). Complete each step before continuing on to next step.


Landing Tread
Landing tread can be used with $3 / 4^{\prime \prime}$ oak flooring along a landing when solid oak treads and risers are used. Landing tread can be used along a balcony with oak flooring. Properly cut miters and attach directly to sub floor.

## Tread Return Nosing Installation

Cut and miter tread return nosing to fit. Adds a finished look to the tread edge.

## Marking Your Staircase for Installation <br> Layout your staircase directly on your treads and landings. Carefully mark Newel and Baluster positions and centerlines.

Starting Newel Height


With newel in position where it is to be mounted, slide short end of framing square along slope of stairway.
A) Slide into post as shown. Make mark.
B) Measure down 1 " from top of newel square. Make mark.
C) The difference between the two marks " $A$ " and " $B$ " is what will be cut off bottom of newel. Proceed with newel installation.

## Landing Newel Height

A) Height of the handrail should be between $36^{\prime \prime}$ and $42^{\prime \prime}$. Check local building codes.
B) Place the top of the handrail one inch below the top block of the newel.


## Newel Post Attachment

Trim and Fasten the Newel Posts


## (a. Attaching Handrail for Pin Top Balusters:


A) Mark baluster placement on treads allowing for equal spacing.

Drill treads the same size and depth as pin on bottom of baluster.

## $7 b$ <br> Attaching Handrail for Square Top Balusters:



Square top balusters are installed after the bottom shoerail and plowed handrail are installed.

A) Lay handrail and shoerail along stairs, marking where they intersect with newels. Place rail on side and cut along marks.
B) Attach handrail using option \#1 ( $3^{" w o o d ~ s c r e w s) ~ o r ~ o p t i o n ~ \# 2 ~(4-1 / 2 " ~ l a g ~ b o l t s ~ t h r o u g h ~}$ front of rail). Both options require pre-drilling a pilot hole. Attach shoerail using option \#1 ( $3^{\prime \prime}$ wood screws), option \#2 (toe-nailed finishing nails) or option \#3 (screwed to kneewall).

## Handrail

## Shoerail


*Most codes require 4"on center spacing, but you should check your local building codes.

## 8. Finish to Wall and Wall Rail Installation:



Attach rosette or half newel directly to handrail as shown. Secure first to handrail using nails or screws, then secure to wall.


Wall Rail Styles:
$\qquad$
D) Rotate handrail $180^{\circ}$ on stairs so balcony side of handrail is at base of stairs. Drill holes using $5 / 8^{\prime \prime}$ drill bit a minimum of $3 / 4^{\prime \prime}$ deep into handrail. Use drill guide set to proper angle

BALCONY


Balcony end of handrail
C) Locate baluster holes in solid handrail. Mark center of handrail

E) Using newels as guide, mark handrail and cut to proper length. Follow instructions for attaching newels.

For balconies, follow same procedures, keeping handrail on flat surface when drilling.


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## Over-The-Post System


Identify Your Type of
Over-The-Post Staircase:


Open Staircase with Turnout Starting Fitting

Open Staircase with
Volute Starting Fitting

Starting Newel Post


Open Staircase with Starting Easing Fitting


## Selecting Your Parts:

There are several styles and options for your treads, risers, balusters and newel posts. Below are the most common. Other items are available by special order. Check with your store representative.


## Handrail, Ends and Wall Rails:



## Choose Gooseneck Style:

With Cap
 № Cap

Each newel post must be covered with a fitting. The floor plans to the left illustrate the fitting components needed for each landing situation.

## Choose Starting Fitting:



Use at the bottom of the stairway over the Starting Newel. Volutes and Turnouts are available left hand or right hand.
Non-Stock Fittings Available UPS Quick-Ship. See store personnel.

Check local building codes to ensure compliance.
All stair parts shown in this brochure are for interior use only. Treads - Select one tread for each step.

Risers - Select one riser for each step (except the starting step). Select one more riser than treads per each staircase.

Landing Tread - Select sufficient lineal footage for the entire balcony and width of stairs at each landing.

Return Nosing - If stair is open on one side, select one tread return nosing per step. If two-sided, select two per step.

Starting Fitting - Select either a Volute, Turnout, or Starting Easing.

Starting or Landing Newel* - Use at the bottom of the stairway and at the second floor landing. If the balcony is 10 feet or longer, use the starting newel every 5 or 6 ft . Place a newel at every corner under a quarterturn.

Intermediate Landing Newel* - Use ot the intermediate landing corner of a U-or L-shaped stair.

Rosette - Select a rosette for each handrail connection into a wall.

Newel Mounting Hardware (J-Anchor) - Select one newel mounting kit for each newel post mounted on top of a tread.

Balusters for Starting Fittings* - Each volute requires (6)1-1/4" x $41^{\prime \prime}$ balusters, or (4)1-1/4 or $1-3 / 4^{\prime \prime} \times 41^{\prime \prime}$ balusters. Each furnout requires (2) $1-1 / 4^{\prime \prime} \times 41^{\prime \prime}$ balusters or (1)1-3/4" $\times 41^{\prime \prime}$ baluster. Each starting easing requires (1) 41 " baluster.

Rake Balusters* - Select the $34^{\prime \prime}$ baluster for the front baluster on each tread and the $36^{\prime \prime}$ baluster for the back baluster on each tread. If using 3 balusters per tread, use the $36^{\prime \prime}$ baluster for the middle baluster on each tread.

Level Run Balusters* - Use the $36^{\prime \prime}$ baluster for all $36^{\prime \prime}$ height balconies and the 41 " baluster for all 41 " height balconies. Standard placement is $4^{\prime \prime}$ on center. Check local building code for your area.

Handrail - Buy $13^{\prime \prime}$ of handrail for each tread or step. Buy enough for all level runs.

Plugs - Select two wood plugs for every newel mounting using lag bolts. Select one plug for each handrail rail bolt used.

Handrail Mounting Hardware - Select one Rail Bolt Kit for each handrail-to-handrail connection required.

Gooseneck Fittings - Select the appropriate gooseneck fitting for each straight, U or L-shaped staircase newel.
*Note: These guidelines are for a rake handrail height of $36^{\prime \prime}-41^{\prime \prime}$. Longer newels and balusters may be required for a different handrail height.

Operation:
Measuring and Leveling

Cutting $\quad$ Miter box and saw (fine-tooth) hand or power circular saw or standard hand saw
Nailing Hammer, nail set, $l^{\prime \prime}$ finishing noils
Gluing Carpenter's glue and construction adhesive
Screw Driving Screwdriver (manual or power), $3^{\prime \prime}$ wood screws
Driling Hand drill, drill guide and $1 / 8^{\prime \prime}, 1 / 4^{\prime \prime}, 3 / 8^{\prime \prime}, 5 / 8^{\prime \prime}, 3 / 4^{\prime \prime}, 1^{\prime \prime}$ wood bits
Finishing Sandpaper, steel wool, wood file, wood chisel, finishing stain, rags, tack cloth, etc.

## Tools Needed:

Metal measuring tape, hand levels, (torpedo and $4^{\prime}$ level), framing square

5 Getting Started - Tread and Riser
To properly install solid oak treads and risers, you must first remove the existing steps to expose the rough framing. Leave the beginning riser at base of steps (A). Measure and cut each step separately to ensure tight fit. (B). Pre-drill, apply construction adhesive and nail into place. For added strength, screw treads to risers from behind (C). Complete each step before continuing on to next step.

## Landing Tread

Landing tread can be used with $3 / 4^{\prime \prime}$ oak flooring along a landing when solid oak treads and risers are used. Landing tread can be used along a balcony with oak flooring. Properly cut miters and attach directly to sub floor.

## Tread Return Nosing Installation

Cut and miter tread return nosing to fit. Adds a finished look to the tread edge.


## Marking Your Staircase for Installation

Layout your staircase directly on your treads and landings. Carefully mark Newel and Baluster positions and centerlines.


The balustrade centerline and newel centerpoints should be laid out. On a kneewall stair, the balustrade should be centered on the kneewall. On an open-tread stair, the centerline should be $1 / 2$ of the baluster square in from the face of the stringer, $i . \mathrm{e} .5 / 8^{4}$ for a $1-1 / 4^{\prime \prime}$ baluster.


Turnout Starting Fitting Layout


Starting Easing Fitting Layout

Assemble the handrail on top of the stair treads prior to installing the newel posts. Use rail bolts and glue at each fitting connection.


1/4" Dia. Rail 3/8" Dia. $\quad$ " Dia.


## 8

## Measure and Trim Newel Posts

The rake rail height should be between $36^{\prime \prime}-42^{\prime \prime}$ ( HI ) (check local building codes). Center the assembled handrail over the newel locations. Measure the distance between the tread and the bottom of the handrail fitting (A1 and A2). Also measure the rake rail thickness ( TI ). Use the following formula to calculate the starting newel height.

If the newel starts from the floor or a lower tread, add that distance as well.


## Newel Post Installation:

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\mathrm{HI}+\mathrm{Al}-\mathrm{II}=\text { Starting Newel Height }
$$



Apply glue to ends. Assemble and install nut. Tighten nut with wrench. Fill access hole with wood plug.

A) Temporarily position assembled handrail onto newels.
B) Use level to mark the handrail with baluster centers.
C) While handrail is on newels, drill baluster holeswith drill guide. Drill holes using $5 / 8^{\prime \prime}$ drill bit a minimum of $3 / 4^{\prime \prime}$ deep into handrail.
D) Remove handrail from newels and drill baluster holes in treads. Glue and insert balusters. Toe-nail with 1 " finishing nails.
E) Apply glue to top of newels and balusters and attach handrail.
Rail Bolt Installation

