 Installer is responsible for quality workmanship and meeting all building codes. Always wear safety goggles. MADE IN THE USA

## Component List:

A) $32^{\circ}$ Elbow
B) $36^{\circ}$ Elbow
C) $40^{\circ}$ Elbow
D) Wall Bracket
E) $5^{\circ}$ Elbow
F) End Cap
G) $90^{\circ}$ Outside Elbow
H) $90^{\circ}$ Inside Elbow
I) P-Loop Return
J) 8 " Straight Connector
K) $11 / 2 \times 8$ ' 8 " or 10 ' Straight Handrail
L) Return Bracket
M) In-Line Bracket
N) Inside Corner Bracket
O) Touch Up Paint Available (Sold Separately)

## Before You Start

## Color Guard Secondary Handrail Overview:

It is the responsibility of the installer to meet or exceed all code and safety requirements, and to obtain all required building permits. These instructions are only a guide and may not address every circumstance. The deck and railing installer should determine and implement appropriate installation techniques for each situation.
Secondary Handrail height, measured above stair tread nosing, or finish surface of ramp slop shall be uniform, not less than 34 inches and not more than 38 inches, as stated in the 2021 International Building Code *
1012.2 Height. Please check local building codes as code
 interpretation may vary by municipality.
Start all Secondary Handrail installations by laying out and marking the desired height of the top of the Secondary Handrail on all posts and mounting surfaces. This Secondary Handrail layout line will be used in the following steps for mounting all components. Include one In-Line Bracket every 72 inches or less and one near every straight connector. When cutting Secondary Handrail, use a miter saw with a fine-toothed carbide tipped blade with at least 80 teeth. File the inner diameter and

## Handrail height:

 ribs of the handrail for better engagement.

## 2Install the Return Bracket

Align the return bracket according to the Secondary Handrail layout line and mark attachment hole positions.
Pre-drill and attach return brackets to end posts with 3 supplied, color-matched fasteners.
Measure the distance between return brackets and cut the secondary handrail to length. Remove one of the return brackets for installation of the secondary handrail. Insert one end of the secondary handrail into the attached return bracket and then place the return bracket that was removed onto the other end of the secondary handrail. Re-attach the return bracket to the post.

To secure the secondary handrail to the bracket, pre-drill with $11 / 64^{\prime \prime}$ drill bit and then attach the handrail to the bracket using the appropriate colored screw provided. Using any other size can cause screw or thread failure.


## (3) Install In-line Bracket

Place a mark 3-3/8" below the handrail layout line to establish placement of the In-line Bracket mounting fastener.

Draw a parallel line 3-3/8" below the handrail line to establish the placement of the top two screw holes.


Attach bracket to mounting surface using supplied screws.

Pre-drill holes in handrail with 11/64" drill bit. Using any other size can cause screw or thread failure.


## (4) Install Straight Connector

For maximum strength, all handrail joints should be supported by a handrail bracket at the joint, or the nearest possible location.

Insert connector into ends of straight sections, pre-drill with $11 / 64$ " drill bit and secure to the handrail with fasteners supplied.
Fasten connector to one rail before inserting connector to other rail.
Wall Bracket, $90^{\circ}$ Outside Elbow \& Return Bracket have an integral connector; all other components will need the 8 " straight connector.


## 5) Install the P-Loop Return

Position handrail loop in desired location. Pre-fit the P-loop in place to make any necessary marks for cutting.
Once cuts have been completed and loop is ready to install, attach to handrail system using a 8" Straight Connector following the instructions outlined in Step \#4.

Attach P-loop to the mounting surface using an In-line Bracket and a Return Bracket as shown in Steps \#2 and \#3.


## - Install $90^{\circ}$ Outside Elbow

Pre-fit the two handrail straight sections together on in-line handrail brackets. Straight rail sections should extend far enough to allow for scribing and final cutting.

Place the $90^{\circ}$ Outside Elbow in line with each of the straight rail sections. Mark and cut straight rail sections.


Pre-fit the outside corner bracket into the straight rail sections, if all components are in line, mark reference points.

Permanently attach straight rail and outside corner bracket assembly by pre-drilling the handrail and bracket using 11/64" drill bit and fasteners supplied.


