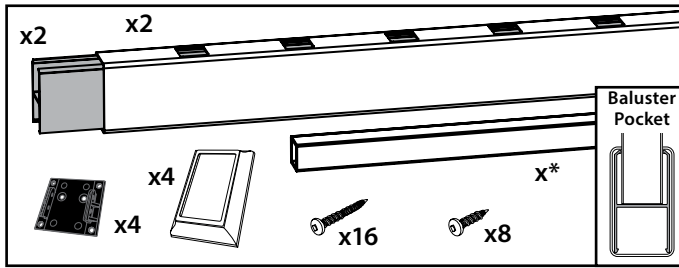


# V210 & V220 VINYL RAILING INSTALLATION GUIDE

# FAIRWAY RAILING™

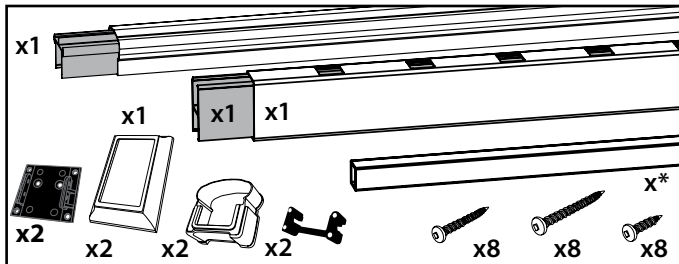
BY **Envision**  
OUTDOOR SPACES PRODUCTS

Check all local building codes for design load requirements for your railing application. FAIRWAY® V200 Series Vinyl Railing is manufactured to the standards outlined in ASTM F964 and has been tested according to AC174-09 criteria and is approved to meet the requirements for Guardrails as outlined for pertaining IRC (Residential) and IBC (Commercial) applications as documented in the Code Compliance Research Report, CCRR-0153.



### V210 LEVEL Vinyl Railing Kits Include:

- 2 ea. - 2" x 3-1/2" V210 Vinyl Rail
- 2 ea. - V210 Aluminum Insert
- 4 ea. - V210 Mounting Bracket (Bracket and Trim Ring)
- 1 ea. - Pack S.S. Mounting Screws
- \* Vinyl Baluster - see grid below

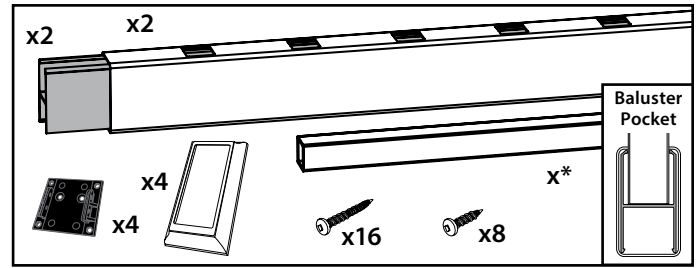


### V220 LEVEL Vinyl Railing Kits Include:

- 1 ea. - V220 Vinyl Top Rail
- 1 ea. - 2" x 3-1/2" V210 Vinyl Bottom Rail
- 1 ea. - V220 Aluminum Insert (Top Rail)
- 1 ea. - V210 Aluminum Insert (Bottom Rail)
- 2 ea. - V220 Mounting Bracket (Bracket and Trim Ring)
- 2 ea. - V210 Mounting Bracket (Bracket and Trim Ring)
- 1 ea. - Pack S.S. Mounting Screws
- \* Vinyl Baluster - see grid below

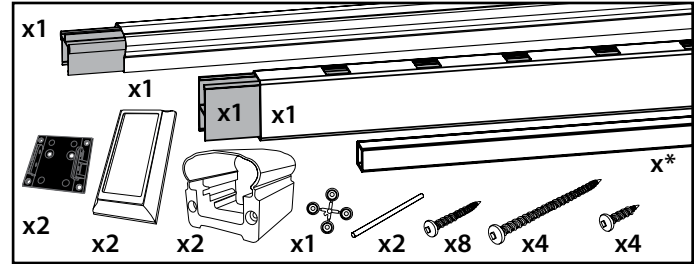
#### \* Number of Vinyl Balusters Included in Level Kits:

	Square	Turned
6' Railing Kit	13	14
8' Railing Kit	18	19
10' Railing Kit	22	24



### V210 STAIR Vinyl Railing Kits Include:

- 2 ea. - 2" x 3-1/2" V210 Vinyl Rail
- 2 ea. - V210 Aluminum Insert
- 4 ea. - V210 Stair Mounting Bracket (Bracket and Trim Ring)
- 1 ea. - Pack S.S. Mounting Screws
- \* Vinyl Baluster - see grid below



### V220 STAIR Vinyl Railing Kits Include:

- 1 ea. - V220 Vinyl Top Rail
- 1 ea. - 2" x 3-1/2" V210 Vinyl Bottom Rail
- 1 ea. - V220 Aluminum Insert (Top Rail)
- 1 ea. - V210 Aluminum Insert (Bottom Rail)
- 2 ea. - V220 Stair Mounting Bracket (3/16" S.S. Pins & Screw Plugs)
- 2 ea. - V210 Stair Mounting Bracket (Bracket and Trim Ring)
- 1 ea. - Pack S.S. Mounting Screws & Pins
- \* Vinyl Baluster - see grid below

#### \* Number of Vinyl Balusters Included in Stair Kits:

	Square	Turned
6' Railing Kit	12	13
8' Railing Kit	17	18

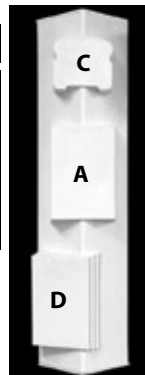
### OPTIONAL FAIRWAY® RAILING BRACKET ADAPTERS



- A - 45° V210 Rail Bracket Adapter
- B - 22.5°/45° Internal Bracket
- C - 45° V220 Rail Bracket Adapter
- D - 22.5° V210/V220 Contour Rail Bracket Adapter
- E - V210 Round Column Bracket Adapter (6"-10")
- F - V220 Round Column Bracket Adapter (6"-10")

### Cleaning

If your railing has any loose dirt on it from the installation, simply hose it off or wipe with a soft cloth. To remove any stubborn dirt or stains use Simple Green and #0000 steel wool.



**Always use safety equipment when installing these products.**

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.

**Fairway Architectural Railing Solutions shall not be held liable for improper or unsafe installations.**

### Suggested Tools

- Measuring tape
- Pencil
- Drill
- 5/32" drill bit
- 7/32" drill bit
- #2 square drive bit
- Power miter saw
- Carbide blade
- Plastic speed square

# V210 & V220 VINYL RAILING INSTALLATION GUIDE



**NOTE:** If V210 rail bracket trim ring will not snap on black mounting bracket, make sure bracket to post mounting screws are not over-tightened.

## STEP 1 • POST/MOUNTING SURFACE PREPARATION

Plumb post/mounting surface.  
Slide vinyl post sleeve and one piece post trim ring over post.

## STEP 2 • BOTTOM RAIL & BRACKET PREPARATION

**A)** Determine height of bottom rail. This should be no more than 4" and no less than 2" for 36" high railing and no greater than 2" for 42" high railing. Make a pencil mark at bottom of the bottom rail on the post. Measure up 3/8" above previous mark, then square and center the bottom of the black mounting bracket. Mark screw holes in the four (4) corners of the bracket and then pre-drill four (4) 5/32" holes. Screw the bracket base into place with four (4) #12 x 1-1/4" pan head screws. Repeat on opposite post.

**B)** After the bottom black mounting bracket is in place, measure from **bottom of black mounting bracket** up and mark with pencil. Please use the following measurements in accordance with product style and height:

36" V210 Rail = 31-3/4"      •      36" V220 Rail = 31-1/4"  
42" V210 Rail = 38-1/4"      •      42" V220 Rail = 37-3/4"

This will be the mounting mark for the **bottom of the top black mounting bracket**. Square and center the top black mounting bracket on mark and pre-drill four (4) 5/32" holes. Screw into place using four (4) #12 x 1-1/4" for V210 Railing or four (4) #10 x 2" pan head screws for V220 Railing. Repeat on opposite post.

**C)** Measure the inside span between black mounting brackets for bottom rail. (Make sure you have equal and maximum amount of spacing between baluster pocket and post on each end.) Cut bottom rail to length squarely with a power miter box or hacksaw. You may cut vinyl and aluminum insert at same time.\*

## STEP 3 • INSTALL BOTTOM RAIL

**A)** With bottom rail cut to length, slide bracket trim ring onto each end of bottom rail, flat side towards end, facing post. (TIP: You may want to cut blocks to proper height for rail to rest on.) Set bottom rail into place and align bottom rail with bottom rail height bottom mark from **Step 2A**.

**B)** With the bottom rail in place, insert one (1) #8 x 1" self-tapping pan head screw through one of the holes along the side of the black mounting bracket, through vinyl rail and into aluminum insert. **Only one (1) screw per side is needed.** Slide bracket trim ring onto black mounting bracket. Repeat on opposite post.

**NOTE:** If bracket trim ring will not snap on black mounting bracket, make sure mounting screws (bracket to post connection) are not over-tightened.

## STEP 4 • INSTALL BALUSTERS & TOP RAIL

**A)** Measure the inside span between black mounting brackets for top rail. Cut top rail to length to match bottom rail. If post is plumb, top rail should be same length as bottom rail. Make sure distance from baluster pocket to post on each end is the same for both top and bottom rail. Place a baluster in each hole. Slide bracket trim ring on both ends of top rail, flat side towards end, facing post. From one end, begin to insert top of balusters into corresponding pocket holes and be sure rail slides down into black mounting brackets side guides.

**B)** Once all balusters are in place, the top rail will rest in the black mounting bracket. Insert one (1) #8 x 1" for V210 railing, (1) #10 x 1" for V220 railing self-tapping pan head screw through one of the holes along the side of the black mounting bracket, through vinyl rail and into aluminum insert. **Only one (1) screw per side is needed.** Slide bracket trim ring onto black mounting bracket. Repeat on opposite post.

**NOTE:** If bracket trim ring will not snap on black mounting bracket, make sure mounting screws (bracket to post connection) are not over-tightened.

## STEP 5 • CUT VINYL POST SLEEVE TO HEIGHT

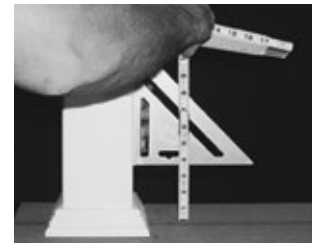
After your railing is installed, you may wish to trim the top of the vinyl post sleeves before installing post caps. We recommend measuring up 2-1/2" to 3-1/2" from the top of the mounting bracket trim ring and making a pencil mark prior to cutting. **NOTE:** Finished post height with post cap may be adjusted for personal preference and appearance. Once all marks are satisfactory, cut the vinyl sleeve using a hand or power saw. (Be sure to cut top of post square.)

**You are now ready to install your post cap.**

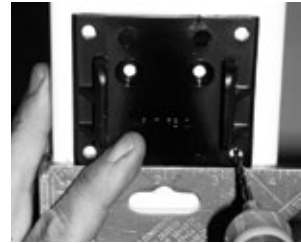
Apply a small amount of PVC glue or silicone caulk to the inside lip of the post cap and mount in place.



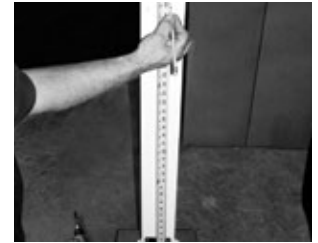
STEP 1



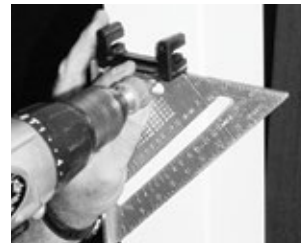
STEP 2A



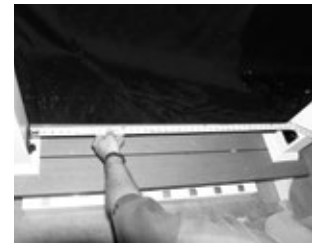
STEP 2A



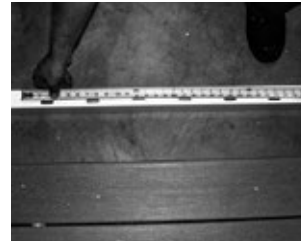
STEP 2B



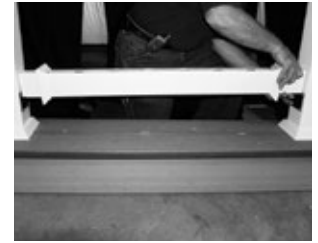
STEP 2B



STEP 2C



STEP 2C



STEP 3A



STEP 3B



STEP 4A



STEP 4A



STEP 4B



STEP 5



STEP 5

\*See saw blade manufacturer's specs for proper blade

# V210 & V220 VINYL RAILING INSTALLATION GUIDE

**NOTE:** If V210 rail bracket trim ring will not snap on black mounting bracket, make sure bracket to post mounting screws are not over-tightened.



**STEP 1**

## **STEP 1 • POST/MOUNTING SURFACE PREPARATION**

Plumb post/mounting surface. Slide vinyl post sleeve and post trim ring over post. (See Rise/Run Chart on next page for proper angle.)



**STEP 2**

## **STEP 2 • BOTTOM RAIL & BRACKET PREPARATION**

**A)** Place one end of the bottom rail on deck surface and the other end on the last stair tread nosing. (Baluster pockets up.)

**B)** Measure distance from the mounting surface to the first baluster. Make sure you have maximum and equal distance between baluster pockets at both ends of the bottom rail. With the bottom rail set in the proper baluster spacing, draw a vertical line with a pencil on the inside of the mounting surface where the post and rail meet. Repeat on opposite end of rail.

**C)** With bottom rail marked, deduct 1/4" from each rail end to allow for black mounting bracket. Cut bottom rail to length. You may cut both aluminum and vinyl at the same time with a power miter box or hack saw.\*



**STEP 3A**

## **STEP 3 • INSTALL BOTTOM RAIL, BRACKET & TOP RAIL PREPARATION**

**A)** Slide black mounting brackets onto the ends of the bottom rail and center on end of rail. Place rail with black mounting bracket between posts set to proper height off deck and bottom tread nosing. Mark the top of black mounting brackets on post. (Check with local building code for height and opening requirements.)

**B)** Remove the black mounting bracket from the ends of bottom rail, square and center brackets with the mark on the posts. Mark the screw holes in the four (4) corners of the black mounting bracket. Pre-drill four (4) 5/32" holes. Install black mounting brackets with four (4) #12 x 1-1/4" pan head screws.

**C)** With both black mounting brackets screwed to mounting surfaces, slide bracket trim rings on end of rail, flat side towards mounting surface. (TIP: If pitch is greater than 32° cut along marks on inside of all **V210 rail** bracket trim rings.) Set bottom rail into black mounting brackets making sure rail is centered. (TIP: You may want to cut blocks to proper height for rail to rest on.) Insert one (1) #8 x 1" self-tapping pan head screw through one of the holes along the side of the black mounting bracket, through vinyl rail and into aluminum insert. Only one (1) screw per side is needed. Slide bracket trim ring onto black mounting bracket. Repeat on opposite post.

**NOTE:** If bracket trim ring will not snap on black mounting bracket, make sure mounting screws (bracket to post connection) are not over-tightened.



**STEP 3B**

**D)** Insert a baluster into the baluster pocket closest to the post at each end of stair. Set top rail in place over balusters. Measure the distance from baluster to post at bottom rail and adjust the top rail to match. Draw a vertical line with a pencil on the inside of the mounting surface where the post and rail meet. Repeat on opposite end of rail.



**STEP 3C**

## **STEP 4 • INSTALL BALUSTERS & TOP RAIL FOR V210 VINYL RAILING**

(Skip **STEP 4** if using V220 rail)

**A)** With top rail marked, deduct 1/4" from each rail end to allow for black mounting bracket. Cut top rail to length.

**B)** Slide black mounting brackets on each end of rail. Insert two (2) end balusters in bottom rail, match up with top rail and align top rail in between posts. With top rail in place and black mounting bracket centered on rail ends, mark black mounting bracket position on post. Remove the black mounting bracket from the ends of top rail, square and center brackets with the mark on the posts. Mark the screw holes in the four (4) corners of the black mounting bracket. Pre-drill four (4) 5/32" holes. Install black mounting brackets with four (4) #12 x 1-1/4" pan head screws.

**C)** With black mounting brackets in place, you may now insert your balusters in bottom rail baluster pockets. With balusters in place, slide bracket trim rings on each end of top rail, flat side towards mounting surface. Starting at the bottom of stair run, slide top rail into black mounting bracket. Insert balusters into baluster pockets as you work upward to top of stair. Continue up to top of stair run. Insert one (1) #8 x 1" self-tapping pan head screw through one of the holes along the side of the black mounting bracket, through vinyl rail and into aluminum insert. Only one (1) screw per side is needed. Slide bracket trim ring onto black mounting bracket. Repeat on opposite post.

**D)** Make sure all four bracket trim ring rings are snapped over black mounting brackets.

**NOTE:** If bracket trim ring will not snap on black mounting bracket, make sure mounting screws (bracket to post connection) are not over-tightened.



**STEP 3D**

\*See saw blade manufacturer's specs for proper blade



# V210 & V220 VINYL RAILING INSTALLATION GUIDE

## STEP 5 • CUT V220 TOP RAILS

With both ends of top rail marked from **STEP 3D**, place the bottom (baluster pocket side) against the back stop of the miter box. Match up miter cut with line marked on top rail and cut top rail to length. You may cut both aluminum and vinyl at the same time.\*

## STEP 6 • CUT V220 STAIR BRACKET

**A)** Measure the distance from the end of rail to the baluster pocket (so V220 stair bracket will not cover baluster pocket). Mark bottom of V220 stair bracket with this measurement. Make sure mounting screws are facing towards balusters.

**B)** Slide V220 stair bracket onto a piece of scrap V220 rail and cut at same angle as top rail. (**TIP:** Use another V220 stair bracket to hold railing level in miter box for a correct angle cut.)

## STEP 7 • INSTALL 3/16" S.S. PINS IN V220 STAIR BRACKET

(3/16" S.S. pins keep rail from pulling out of V220 rail bracket under load.)

**A)** With both V220 stair brackets cut to match top rail, slide V220 stair bracket onto top rail and hold flush with end of top rail. Make a mark on both sides of contour stair bracket.

**B)** Remove V220 stair bracket. Measure from marks toward the end of the top rail 1/2" and down 1/8" from bottom of bead on the side of top rail. Where the lines intersect, drill a 7/32" hole through the vinyl and aluminum (make sure aluminum is flush with vinyl) on both sides of top rail. Slide V220 stair brackets onto top rail, insert 3/16" S.S. pin and engage pin into V220 stair brackets.

## STEP 8 • INSTALL BALUSTERS & V220 TOP RAIL

Install all balusters into bottom rail. Start at the bottom of stair run and one by one insert balusters into top rail. Set rail in place and center on mounting surface. Insert two (2) #10 x 4" pan head screws into V220 stair bracket. While keeping V220 stair bracket square and centered on mounting surface, start screw enough to mark mounting surface. Push top rail to one side and pre-drill a 5/32" hole at same angle as mounting screw. Set rail in place and install mounting screws. Insert fill plugs, two (2) per V220 stair bracket, using PVC glue or silicone caulk to hold in place.

## STEP 9 • CUT VINYL POST SLEEVE TO HEIGHT

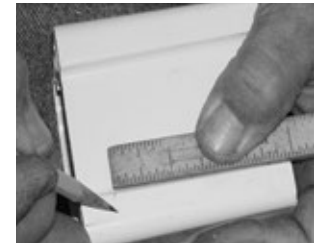
After your railing is installed, you may wish to trim the top of the vinyl post sleeves before installing post caps. We recommend measuring up 2-1/2" to 3-1/2" from the top of the mounting bracket trim ring and making a pencil mark prior to cutting. **NOTE:** Finished post height with post cap may be adjusted for personal preference and appearance. Once all marks are satisfactory, cut the vinyl sleeve using a hand or power saw. (*Be sure to cut top of post square.*)

**You are now ready to install your post cap.**

Apply a small amount of PVC glue or silicone caulk to the inside lip of the post cap and mount in place.



STEP 6A



STEP 6B



STEP 6B



STEP 7B



STEP 7B



STEP 7B



STEP 8



STEP 9

RUN in Inches

	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
3.5	28	27	25	24	22	21	20	19	18	18	17	16	16	15	15	14	14	13
4.0	32	30	28	27	25	24	23	22	21	20	19	18	18	17	17	16	15	15
4.5	35	33	31	29	28	27	25	24	23	22	21	21	20	19	18	18	17	17
5.0	38	36	34	32	30	29	28	27	25	24	23	23	22	21	20	20	19	18
5.5	40	38	36	35	33	31	30	29	28	27	26	25	24	23	22	21	21	20
6.0	43	41	39	37	35	34	32	31	30	29	28	27	26	25	24	23	22	22
6.5	45	43	41	39	37	36	34	33	32	31	29	28	27	27	26	25	24	23
7.0	47	45	43	41	39	38	36	35	34	32	31	30	29	28	27	27	26	25
7.5	49	47	45	43	41	40	38	37	36	34	33	32	31	30	29	28	27	27
8.0	51	49	47	45	43	42	40	39	37	36	35	34	33	32	31	30	29	28
8.5	53	51	49	47	45	43	42	40	39	38	36	35	34	33	32	31	30	30
9.0	54	52	50	48	47	45	43	42	41	39	38	37	36	35	34	33	32	31
9.5	56	54	52	50	48	47	45	44	42	41	40	38	37	36	35	34	33	32
10.0	57	55	53	51	50	48	46	45	44	42	41	40	39	38	37	36	35	34

Calculated Angle in Degrees

\*See saw blade manufacturer's specs for proper blade