

# Palisade Vinyl Railing

## STAIR RAIL Installation Instructions



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 installer should determine and implement the appropriate installation techniques for each situation.



**VINYLAST INC or any of its distributors shall not be held liable for improper or unsafe installations.**

### **Step 1 Safety Precautions**

Check all local building codes for design load requirements for your railing applications. Our products meet or exceed F964 and also the requirements of the Boca Building Code section 1615.8, pertaining to railing. Always use safety equipment when installing our vinyl railing system.

### **Step 2 Preparation**

Install and prepare all mounting surfaces and posts to which your new maintenance-free railing will be installed. We suggest covering wood post with our matching vinyl post sleeves or wraps. Finish with our post caps and base trim rings.

### **Step 3 Laying Out and Cutting Bottom Rail**

- a) With posts and mounting surfaces prepared, you are now ready to mark and cut bottom rail to length. First, place the bottom rail on the deck surface and the other end on the last stair tread nosing. (Baluster pockets up.)
- b) Next, you need to check the distance from the mounting surface to the first baluster. Make sure you have maximum and equal distance at both ends of the bottom rail. With the bottom rail set in the proper location, make a vertical pencil mark on the inside of the mounting surface where the post and rail meet.
- c) With the bottom rail marked, deduct 1/4" from each rail end to allow for black mounting bracket. You may cut both aluminum and vinyl at the same time with a power miter box or hack saw. (See saw blade manufacture's specs for proper blade.)

### **Step 4 Mounting Bottom Rail**

- a) With bottom rail cut to length, slide the black mounting bracket onto the ends of bottom rail and center on end of rail. Set rail with black mounting bracket between posts. Set to proper height off deck and bottom tread nosing and mark the top of the brackets on post. (Check with local building code for height requirements.)
- b) Remove the black mounting bracket from the ends of the bottom rail and square and center brackets with the mark on the posts. Mark the screws 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 mounting brackets screwed to mounting surfaces, slide trim covers on ends of rail, flat side towards mounting surface. (Tip: If pitch is greater than 32° cut along marks on inside of bracket.) 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.) Make sure mounting screws are not over-tightened. This may prevent trim covers from properly snapping onto bracket. With bottom rail set in place, you may now install a #10 x 1" self-tapping pan head screw in to one of the holes along the side of the bracket. Only one screw per side is needed.
- d) Insert a baluster into the baluster pocket closest to the post at each end of stair. Set top rail in place over balusters. With top rail in place, measure the distance from baluster to post at bottom rail and adjust the top rail to match. Make vertical pencil mark on top rail where mounting surface and top rail intersect to denote stair angle. (If you wish to adjust the height of the top rail by cutting balusters, you may do so now.)

### **Step 5 Cutting "Contour Top Rails"**

With both ends of top rail marked, 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. You may cut both aluminum and vinyl at the same time.

### **Step 6 Cutting "Contour Stair Brackets"**

- a) With top rail cut to length, measure the distance from the end of rail to the baluster pocket (this is so mounting bracket will not cover baluster pocket.) Mark bottom of bracket with this measurement. Make sure mounting screws are facing towards balusters.
- b) Slide onto a piece of scrap contour rail and cut at same angle of top rail. (Tip: Slide another piece of bracket onto hold flush in miter box.)

# Palisade Vinyl Railing (Part 2)

## STAIR RAIL Installation Instructions



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 installer should determine and implement the appropriate installation techniques for each situation.



[www.palisaderail.com](http://www.palisaderail.com)

**VINYLAST INC or any of its distributors shall not be held liable for improper or unsafe installations.**

### Step 7 Installing Balusters & "Contour Top Rail"

With top rail brackets mounted to top rail, install all balusters into bottom rail. Start at the bottom of stair run and one by one insert balusters into the top rail. With balusters inserted in top rail, set rail in place and center on mounting surface. Insert two (2) #10 x 4" pan head screws into bracket. While keeping bracket square and centered on mounting surface, start screw enough to mark mounting surface. Push top rail to one side and pre-drill a 1/8" hole at same angle as mounting screw. Set rail in place and install mounting screws. With screws in place, insert fill plugs (two (2) per bracket) using PVC glue or silicone caulk to hold in place.

### Step 8 Cutting Vinyl Post Sleeve To Height

After your railing is installed, you may need 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 cover 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 top inside lip of the cap and mount in place.

### Step 90 Clean Up

Your job is now complete. Should your railing have 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 Simply Green.

### RISE OVER RUN CALCULATION

		RUN in inches																	
		6.5	7	7.5	8	8.5	9	9.5	10	10.5	11.5	11.5	12	12.5	13	13.5	14	14.5	15
RISE in inches	3.5	28	27	25	24	22	21	20	19	18	18	17	16	16	15	15	14	14	13
	4	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	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	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	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	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	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	57	55	53	51	50	48	46	45	44	42	41	40	39	38	37	36	35	34	

Stock Stair Railing are Available with a  
29° - 35° Standard or a 36° - 41° Steep Step

36° - 41°

29° - 35°

Calculated Angel in Degrees