

# City of Portland Approved Products for Residential Seismic Strengthening

Please specify the products that will be used in the submitted details.

## **Post-Installed Anchors**

Expansion Anchors: Anchors must be hot dip galvanized or stainless steel at exterior applications.

Manufacturer	Product	ICC-ES Report	Embedment Depth	
			½" ϕ	¾" ϕ
Hilti	Kwik Bolt TZ	ESR-1917	2 3/8"	3 5/8"
Simpson	Strong-Bolt	ESR-3037	2 3/4"	3 3/8"
Powers	Power-Bolt+	ESR-3260	3 1/4"	3 3/4"
Powers	Power-Stud+	ESR-2818	2 1/2"	3-3/8"

Adhesive Anchors: Anchor rods must be hot dip galvanized or stainless steel at exterior applications.

Manufacturer	Product	ICC-ES Report	Embedment Depth	
			½" ϕ	¾" ϕ
Hilti	HIT-HY 200	ESR-3187	2-3/4"	3-1/8"
Simpson	SET-XP	ESR-2508	4-1/4"	5"
Powers	Pure50+	ESR-3576	2-3/4"	3-1/8"

Screw Anchors: Screw anchors may NOT be used at exterior applications.

Manufacturer	Product	ICC-ES Report	Embedment Depth	
			½" ϕ	¾" ϕ
Hilti	Kwik HUS-EZ	ESR-3027	4-1/2"	n/a
Simpson	Titen HD	ESR-2713	3-1/2"	3-1/2"
Powers	Wedge-Bolt+	ESR-2526	3-3/8"	3-3/8"

Other post-installed anchors will be approved by the City of Portland BDS provided they have a current ICC-ES Report that states their use is applicable for resisting seismic tension and shear loads in cracked and uncracked concrete having a compressive strength,  $f'_c$ , of 2500 psi minimum.

## **Anchor Side Plates**

Simpson UFP10, Simpson FAP, or equivalent. Hardware must be hot dip galvanized or stainless steel at exterior applications.

## **Framing Anchors**

Simpson A35 or equivalent