

POWER-Sert™ Adhesive Insert Anchors

wej-it
HIGH-PERFORMANCE ANCHORS

Description

The POWER-Sert Adhesive Anchor is a proprietary internally threaded insert designed for use with structural adhesive. Our unique **undercut design requires less adhesive and a shallow embedment** while providing superior holding values in a variety of materials. Our exclusive **FRICION-FIT™** locks adhesive in place and allows immediate fastening of the fixture during cure time*. The POWER-Sert adhesive insert anchor is the ultimate problem solver!

Features and Benefits

- ▶ **Exclusive FRICION-FIT design** allows immediate fastening of fixture while adhesive cures*
- ▶ **Unique undercut design on lobes** provides superior holding values
- ▶ **Knurling between lobes** prevents rotation
- ▶ **Slightly larger bottom lobe** creates a keying effect at the deepest anchor point
- ▶ **Machine-lathed from a single piece of steel or stainless steel** – no weak points
- ▶ **Proprietary design** allows close edge distance and spacing
- ▶ **Does not apply expansion forces** to base material, allowing shorter spacing and edge distance requirements
- ▶ **Vibration-resistant** – adhesive bond withstands more seismic vibration loading than most standard mechanical anchors
- ▶ **Easy installation**
 - Can be installed with fixtures or equipment already in place**
 - No special tools required
 - **Shallow and small diameter** hole helps avoid drill-through and hitting rebar
- ▶ **Uses half the amount of epoxy** compared to other adhesive insert anchors
- ▶ Acceptable materials
 - Normal Weight Concrete
 - Light Weight Concrete
 - Solid Masonry

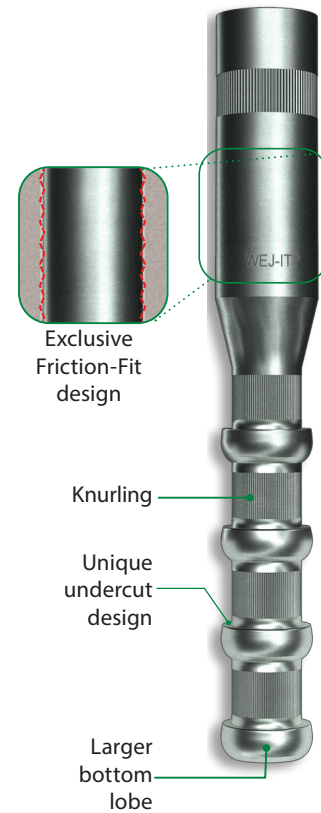
* FRICION-FIT™ without full adhesive cure is for **light-duty, temporary holding only** and produces far less than advertised ultimate holding values.

** Pre-drilled hole in fixture must be large enough to accommodate correct size of carbide-drill bit.

The POWER-Sert™ is now ICC Approved.
Using Specific Adhesive, Report number ESR-4094

Applications

- ▶ Car Lifts
- ▶ Pallet Racking
- ▶ Guard Rails
- ▶ Machine Anchoring
- ▶ Marine Applications
- ▶ Bridge Work



Specifications, Listings and Approvals

Anchor Thread Diameters: 1/4" - 1"

Materials:

- Zinc Plated Carbon Steel
 - AISI C1020 Carbon Steel
 - ASTM B633 Type III, SC1
- Type 304 and 316 Stainless Steel

NOTES:

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** Pre-drilled hole in fixture must be large enough to accommodate correct size of carbide-drill bit.

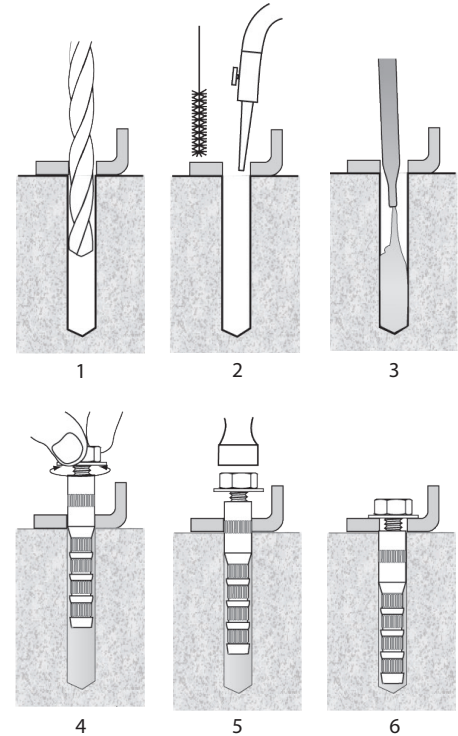
WARNING: NSTB safety recommendations prohibit the use of adhesive anchors in sustained overhead load anchoring applications



Installation Information

Instructions

1. Select the proper size drill bit from the estimating guide. Drill the hole perpendicular to the work surface. To assure full holding power, do not ream the hole or allow the drill to wobble.
2. Thoroughly clean hole with oil-free compressed air and a stiff nylon or wire brush. Repeat cleaning process 3 times. Dust and debris left in hole will significantly reduce the holding capacity of the anchor.
3. Inject Inject-TITE Adhesive into hole to approximately 1/3 to half full. Fill from bottom of hole up.
4. Choose a bolt equal in length to the thread depth plus the material depth. Thread bolt into POWER-Sert anchor so that offset is equal to the thickness of material to be fastened. Insert POWER-Sert anchor into hole with slight twisting motion.
5. Drive anchor home with several sharp hammer blows to the head of the nut.
6. Allow epoxy to cure prior to applying maximum load.



NOTE: Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards.

Installation Data

Thread Size (UNC)	Drill Bit Dia. (in.)	Anchor Size (in.)	Thread Depth (in.)	Min. Hole Depth (in.)	Estimated Anchors Per Adhesive Tube		
					8.5/9.3oz Cartridge	20.5oz Cartridge	28oz Cartridge
1/4 -20	5/16	5/6 x 1-9/16	1/2	1-3/4	165	463	590
5/16 -18	7/16	7/16 x 2-3/8	3/4	2-3/4	52	151	192
3/8 -16	1/2	1/2 x 2-3/4	1	3-1/4	32	86	110
1/2 - 13	5/8	5/8 x 3-11/16	1	4-1/8	19	51	64
5/8 - 11	7/8	7/8 x 5-3/14	1-1/2	6-1/4	6	17	22
3/4 - 10	1	1 x 6/12	1-1/2	7-1/2	5	11	14
1 - 8	1-1/2	1-1/2 x 8-1/2	2	9-1/2	2	4	5

Cure Times

Minimum Substrate Temp.	Cure Time			Minimum Cure Time		
	AWF	Standard Set	Fast Set	AWF	Standard Set	Fast Time
-15F (-26C)	36 hrs	AWF	AWF	N/A	AWF	AWF
0F (-18C)	24 hrs	AWF	AWF	N/A	AWF	AWF
40F (5C)	90 min	FS	48 hrs	N/A	FS	24 hrs
65F (18C)	45 min	48 hrs	36 hrs	N/A	24 hrs	8 hrs
70F (21C)	35 min	36 hrs	24 hrs	N/A	12 hrs	2.5 hrs
80 F (32C)	30 min	24 hrs	12 hrs	N/A	6 hrs	2 hrs
100F (38C)	25 min	12 hrs	6 hrs	N/A	4 hrs	1 hrs

1. Cure Time is time required before adhesive reaches ultimate strength. Minimum Cure Time is the minimum time required before the design or allowable load may be applied. AWF epoxy must COMPLETELY cure before loads are applied, so it has no "minimum" cure time.
2. Anchors are to be undisturbed during minimum cure time.
3. "FS" indicates Fast Set is recommended.
4. "AWF" indicates All Weather Formula is recommended.

Performance Data

Ultimate Tensile Strengths for Static Loads in 4,000 psi Concrete

Carbon Steel				
Thread Size (UNC)	Drill Bit Dia. (in.)	Hole Depth (in.)	Fast-Set Ultimate Tensile Strength (lbs.)	AWF Ultimate Tensile Strength (lbs.)
1/4 – 20	5/16	1-3/4	3380	3540
5/16 – 18	7/16	2-3/4	7500	7880
3/8 – 16	1/2	3-1/4	10630	9220
1/2 – 13	5/8	4-1/8	15110	13110
5/8 – 11	7/8	6-1/4	26300	26300
3/4 – 10	1	7-1/2	46000	32430
1 – 8	1-1/2	9-1/2	64000	–

*Allowable load capacities are calculated using an applied safety factor of 4:1

304 Stainless Steel				
Thread Size (UNC)	Drill Bit Dia. (in.)	Hole Depth (in.)	Fast-Set Ultimate Tensile Strength (lbs.)	AWF Ultimate Tensile Strength (lbs.)
3/8 – 16	1/2	3-1/4	9930	9380
1/2 – 13	5/8	4-1/8	14810	15650

*Allowable load capacities are calculated using an applied safety factor of 4:1

316 Stainless Steel				
Thread Size (UNC)	Drill Bit Dia. (in.)	Hole Depth (in.)	Fast-Set Ultimate Tensile Strength (lbs.)	AWF Ultimate Tensile Strength (lbs.)
1/4 – 20	5/16	1-3/4	3160	2920
5/16 – 18	7/16	2-3/4	7630	7550
3/8 – 16	1/2	3-1/4	10140	9380
1/2 – 13	5/8	4-1/8	13390	16690
5/8 – 11	7/8	6-1/4	26100	28400
3/4 – 10	1	7-1/2	46000	32430
1 – 8	1-1/2	9-1/2	64000	–

*Allowable load capacities are calculated using an applied safety factor of 4:1

***Shear values are determined by the shear values of the bolt in conjunction with the insert.**

- Ultimate values are shown. For static loads, use one-fourth of the maximum tensile and shear capacities for the recommended 4:1 safety factor.
- Information provided only for the use of a qualified design engineer. Use of technical data by persons not qualified could cause serious damage, injury, or even death.
- Install POWER-Sert anchors only with epoxy supplied with anchors or Wej-It Fastening Systems adhesive products.
- Use cure times recommended by epoxy manufacturer before applying full load to anchor.

Edge Distance & Spacing

Catalog Number			Embed. Depth (in.)	Min Edge Dist. (in.)	Min. Spacing (in.)
Carbon Steel	304ss	316ss			
PS2-14	–	PS6-16	1-5/8	1-5/8	2-3/8
PS2-56	–	PS6-56	2-3/8	2-3/8	4-3/4
PS2-38	PSS-38	PS6-38	2-3/4	2-3/4	5-1/2
PS2-12	PSS-12	PS6-12	3-3/4	3-3/4	7-3/8
PS2-58	–	PS6-58	5-3/4	5-3/4	8-5/8
PS2-34	–	PS6-34	6-1/2	6-1/2	9-3/4
PS2-1	–	PS6-1	8-1/2	8-1/2	17



Order Information



Zinc-Plated Carbon Steel

Catalog Number	Thread Size	Anchor Size	Box Quantity	Carton Quantity
PS2-14	1/4 - 20	5/16 x 1-9/16	100	800
PS2-56	5/16 - 18	7/16 x 2-3/8	100	800
PS2-38	3/8 - 16	1/2 x 2-3/4	50	400
PS2-12	1/2 - 13	5/8 x 3-11/16	25	200
PS2-58	5/8 - 11	7/8 x 5-3/4	10	80
PS2-34	3/4 - 10	1 x 6-1/2	5	40
PS2-1	1 - 8	1-1/2 x 8-1/2	5	15



Type 304 Stainless Steel

Catalog Number	Thread Size	Anchor Size	Box Quantity	Carton Quantity
PSS-38	3/8 - 16	1/2 x 2-3/4	50	400
PSS-12	1/2 - 13	5/8 x 3-11/16	25	200



Type 316 Stainless Steel

Catalog Number	Thread Size	Anchor Size	Box Quantity	Carton Quantity
PS6-14	1/4 - 20	5/16 x 1-9/16	100	800
PS6-56	5/16 - 18	7/16 x 2-3/8	100	800
PS6-38	3/8 - 16	1/2 x 2-3/4	50	400
PS6-12	1/2 - 13	5/8 x 3-11/16	25	200
PS6-58	5/8 - 11	7/8 x 5-3/4	10	80
PS6-34	3/4 - 10	1 x 6-1/2	5	40
PS6-1	1 - 8	1-1/2 x 8-1/2	5	15

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