

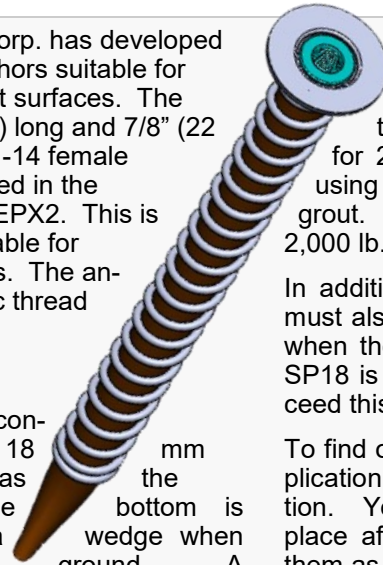
**Overview** Asphalt Anchors Corp. has developed the **BoltHold™** family of anchors suitable for mounting structures to asphalt surfaces. The SP18 anchors are 12" (30 cm) long and 7/8" (22 mm) in diameter, with a 7/16" -14 female thread. The anchor is cemented in the ground using a special grout EPX2. This is a strong anchor, and it is suitable for speed bumps and shear loads. The anchor is also available in Metric thread (SP18-M12) on special order.

**Description** The SP18 is constructed from a thick-walled 18 mm Zinc plated steel tube acting as the backbone of the anchor. The bottom is flared and sealed to act as a wedge when pushing the anchor into the ground. A welded steel spiral along the length of the anchor provides for a strong bond with the grout. The top of the anchor incorporates a welded female 7/16" thread and a large head.

The head prevents the anchor from dropping below the surface, and guards the thread from the grout spilling into it. The washer prevents static pull forces on the anchor when the structure is attached to the anchor. Such forces are likely if the head of the anchor is smaller than the hole in the base of the structure being attached; in the latter case, as the bolt is tightened, the anchor would be pulled up into the base.

**About Asphalt:** Asphalt is a relatively weak surface, and care must be taken when installing structures to that surface. Asphalt will flow under pressure over time, and does not support expansion-type anchors that are so effective in concrete.

A significant increase in the anchor's shear force resistance is derived from the gravel surface below the asphalt. The compacted gravel resists sideways forces (shear). Bonding the anchor to the gravel, in addition to the bond to the asphalt adds shear resistance.



**Force Rating** The resistance of the installed anchors to extraction depends greatly on the nature of the asphalt and the gravel below it. The SP18 is pull-rated for 2,500 lb. (1,200 Kg or 11KN) if installed using a 1" (25 mm) hole and our recommended grout. At ground level, the anchors can resist 2,000 lb. (900 Kg) of shear force (see note 1).

In addition to pull and shear forces, the anchor must also resist rotational torque which is applied when the bolt is tightened into the anchor. The SP18 is rated for **280** in-lb of torque. Do not exceed this torque when installing the anchor.

To find out if the anchors are suitable for your application, the safe way is to make a test installation. You will be able to leave the anchors in place after the test without the need to remove them as they are flush with the roadway surface.

**Grout Selection** The term "grout" is used here in a broad meaning; the actual materials can be certain cements and epoxies.

In general, the grout must be self-leveling (meaning that it flows easily, to fill in all the crevices and voids). It must cure to a hard material and must be immune to extended exposure to water and temperature fluctuations.

The most cost effective anchoring results are achieved using our EPX2 expanding cement. You will need about 5.2 FL oz (154 cc) of mixture per anchor. The EPX2 is available from AAC in self contained bags that cover 1.2 anchors or in 10 lb. tubs good for 16 anchors.



Cartridge-type epoxies are available in the market which work well but are 3-5 times more expensive.

**Installation** The installation requires drilling a 1" (25 mm) hole, 12" (30 cm) deep, into the asphalt and the gravel below it. The hole is filled with grout and the anchor is dropped in. If the anchor meets resistance as it is pushed in, use a dead-blow hammer (sand hammer) to gently drive

the anchor, or place a piece of wood between the hammer and the anchor's head.

The anchor is ready for use in 15 minutes (depending on the grout and ground temperature).

For installation in low temperatures, see AN36.

Always consult the latest installation instructions before installing these anchors. A comprehensive installation manual is available on our web site under "Library". The online manual is updated regularly to reflect the availability of grouts, new installation techniques and user feedback.

### **Packing**

The **BoltHold SP18** anchors are packaged 6 anchors to a "set" carton. 9 Sets are packaged in a Master carton which holds 54 SP18. Each anchor includes a 1.25" long grade 5 bolt and 1" diameter washer.

**Coating:** The standard anchors and hardware are zinc plated. A Dacromet coating is available, offering 100 times the rust resistance of the standard Zinc plated anchors. However, Dacromet coated anchors can not be used with the EPX2 dues to a chemical interaction between them.

### **Tariffs**

The SP18 are shipped under schedule 60. HTS code (export) 7316.00.0000

### **Anchor Metrics**

Anchor Length	12" (300 mm)
Anchor body diameter	7/8" (22 mm)
Anchor head diameter	1.35" (43 mm)
Anchor weight	0.82 lb. (0.4 Kg)
Internal Thread	7/16"-14 UNC
Maximum bolt length	8"
Typical pull resistance	2,500 lb. (1,200 Kg)
Shear resistance	2,000 lb. (900 Kg)
Max torque	280 lb-in
Grout volume required	154 cc (5.2 oz)
SP18 per EPX2 bag/tub	1.2 / 16
<b>SKU 6-pack Zinc</b>	<b>01-6318.71K</b>
<b>SKU 6-pack Dacromet</b>	<b>01-6318.71K-D</b>
<b>SKU 304 Stainless</b>	<b>01-6318.7SK</b>

### **Kit Packing Information**

Anchors per Set	6
Bolts and washers per set	6
Set Carton dimensions, mm	110 x 346 x 60
Set Carton dimensions, inch	4.3" x 13.6" x 2.4"
Set Carton weight	2.5 Kg 5.5 lbs
Set Carton Volume	0.003 CBM
Number of anchors per Master	54
Master Carton dimensions, mm	360 x 355 x 212
Master Carton dimensions, inch	14.2 x 14 x 8.3
Master Carton Weight	22 Kg 48 lb.
Master carton Volume	0.027 CBM

**Note 1:** When installing anchors close together, de-rate the pull strength of the additional anchors by 6% for every 1 inch less than 12. Thus an arrangement of

4 anchors at 4" apart will resist a total pull force of 6,400 lbs (2,500 + (3 x (52% x 2500))).



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