

**Overview** Asphalt Anchor Corp. has developed the **BoltHold SP** family of anchors suitable for mounting structures to *asphalt* surfaces. The SP10-38 anchors are 6" (15 cm) long and 5/8" (18 mm) in diameter, with a 3/8"-16 female thread. (See separate datasheet for the SP10-M10 with metric M10 thread.) The anchor is bonded to the asphalt using a special grout EPX2.

The SP10-38 is recommended for applications where shear forces are moderate (1,000 lb. or less per anchor)

**Description** The SP10-38 is constructed from a thick-walled 9/16" (14 mm) tube. The bottom is flared and sealed to act as a wedge when pushing the anchor into the ground. A welded spiral along the length of the anchor provides a strong bond with the grout. The top of the anchor incorporates a large washer with internal female thread.

The washer 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 through the hole into the base.

The standard SP10 is made of zinc plated steel, with 10 hour salt spray rating. A Dacromet-coated version (SP10-38-D) offers enhanced rust protection (1,000 hours salt spray rating). An all-stainless steel version is available (SP10-38S). Each anchor comes pre-installed with a 1" long hex-head bolt and a 1" washer.

**About Asphalt:** Asphalt is a relatively weak surface, and care must be taken when installing structures to that surface. This is particularly so when the asphalt is less than 5" (120 mm) thick, as is the case in most US parking lots and driveways. The asphalt will flow under pressure over time, and will not resist expansion-type wedge 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, using grout also adds pull resistance. For applications that require a higher shear resistance (such as speed bumps and structures that are subject to high wind forces), it is recommended to use the longer SP12 anchors or the SP18 heavy duty version.

**Force Rating** The resistance of the installed anchors to extraction depends on the nature of the asphalt and the gravel below it. The SP10-38 is pull-rated for 1,500 lb. (680Kg or 6.7KN) if installed using a 7/8" (22 mm) or 1" (25mm) hole and the recommended grout. At ground level, the anchor can resist at least 1,000 lb. (475 Kg) of shear force (see note 1).

The anchors are also rated for rotary torque; this torque is exerted when tightening the attaching bolt. This torque generates an internal pull stress on the thread, as well as a rotating force on the anchor against the asphalt. The SP10-38 is rated for **200 in-lb. torque**.

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 our special cement or most 2-part hard 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. Do not use Kwikset or Rockite.

You will need about 3 Fluid oz (1/3 cup) or 80 cc of grout per anchor. The grout is available from AAG as the EPX2, in self contained bags that cover 2 anchors. The EPX2 is also available in 10 lb. tubs.





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Cartridge-type epoxies work well and are available on the market, but they are 3-5 times more expensive than the cement product.

**Installation** The installation requires drilling a 7/8" to 1" hole, 6" deep, into the asphalt and the gravel below it. The hole is filled with grout/water mix and the anchor is dropped in. The anchor is ready for use in 15 minutes (longer in temperatures below 70F). If installing in temperatures below 45F, consult the Anchor Installation guide for alternatives to our grout.

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 SP10-38** anchors are packaged 6 anchors to a "Set" carton. 9 Sets are packaged in a Master carton which holds 54 SP10-38.

### **Tariffs**

The SP10-38 are shipped under schedule 60. HTS code (export) 7318.19.0000

### **Anchor Metrics**

Anchor Length	6" (150 mm)
Anchor body diameter	5/8" (18 mm)
Anchor washer diameter	1.35" (43 mm)
Washer thickness	0.08" (2 mm)
Anchor weight	0.2 lb. (0.1 Kg)
Internal Thread	3/8"-16 UNC
Bolt allowed depth	4" (100 mm)
Finish SP10-38	Zinc plating
Finish SP10-38S	Stainless steel
Finish SP10-38-D	Dacromet 320
Typical pull resistance	1,500 lb (680 Kg)
Grout volume required	80cc (2 FL oz )
SP10-38 per EPX2 bag	2
<b>SP10-38 6-pack SKU</b>	<b>01-6310.38K</b>
<b>SP10-38S 6-pack SKU</b>	<b>01-6310.3SK</b>
<b>Sp10-38-D 6-pack SKU</b>	<b>01-6310.38K-D</b>

### **Kit Packing Information**

Anchors per Set	6
Set Carton dimensions, mm	106 x 186 x 53
Set Carton dimensions, inch	4.2" x 7.3" x 2.1"
Set Carton weight	1.14 Kg 2.5 lbs
Set Carton Volume	0.001 CBM
Number of anchors per Master	54
Master Carton dimensions, mm	200 x 340 x 191
Master Carton dimensions, inch	7.8 x 13.4 x 7.5
Master Carton Gross Weight	9 Kg 20 lb.
Master carton Volume	0.013 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 3,840 lbs (1,500 + (3 x (52% x 1500))).



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