

**CARLISLE SURE-SEAL® HP CONCRETE SPIKES**

**GENERAL:**

HP Concrete Spikes are specifically designed to be used with Carlisle's Fastening Plates to secure membrane, insulation and RUSS™ strips. The HP Concrete Spike is designed to offer the best combination of pullout and corrosion resistance and ease of installation.

**TYPICAL PROPERTIES AND CHARACTERISTICS:**

Size Inches (mm)	Weight/Carton Pounds (Kg)	Packaging Fasteners/Carton
1½ (38)	13 (5.9)	500
2 (50)	15 (6.8)	500
2½ (63)	20 (9.1)	500
3 (75)	23 (10.4)	500
3½ (88)	25 (11.3)	500
4 (100)	30 (13.6)	500
4½ (115)	33 (15.0)	500
5 (130)	18 (8.2)	250
5½ (140)	19 (8.6)	250
6 (150)	20 (9.1)	250
6½ (165)	21 (9.5)	250
7 (175)	24 (10.9)	250
7½ (190)	26 (11.8)	250
8 (200)	28 (12.7)	250
8½ (215)	29 (13.1)	250
9 (225)	30 (13.6)	250
9½ (240)	31 (14.1)	250
10 (250)	33 (15.0)	250
11 (280)	15 (6.8)	100
12 (300)	16 (7.3)	100
13 (330)	17 (7.7)	100
14 (355)	18 (8.2)	100
15 (380)	20 (9.1)	100
16 (405)	21 (9.5)	100

	Test Method	Test Conditions	3000 psi Concrete	4000 psi Concrete	5000 psi Concrete
Tension, Lbs (Kg)	ASTM E488	ANSI B94.12 Bits	1100 (500)	1,580 (717)	1,700 (771)
Shear, Lbs (Kg)	ASTM E488	ANSI B94.12 Bits	2500 (1,134)	2,750 (1,247)	3,200 (1,452)

- Large 1/4" (6 mm) diameter spike reduces bending, improves pullout resistance, and extends drill bit life.
- Black epoxy electro-deposition coating provides excellent corrosion resistance, surpassing the FM 4470 corrosion test of less than 15% red rust after 15 cycles in the Kesternich cabinet.
- "S" shape design absorbs pilot hole variances due to drill bit wear and variations in concrete hardness.
- The pre-formed "S" shape also provides three points of contact resulting in superior pullout resistance.
- Mushroom-shaped head style promotes driveability and is compatible with Carlisle's fastening accessories.
- "C" stamped on head for product identification.

#### CAUTIONS AND WARNINGS:

- The pilot hole must be pre-drilled to a sufficient depth to prevent contact between the fastener tip and any accumulated dust in the pre-drilled hole.
- Eye protection is recommended during drilling and installation.
- The spike should not totally penetrate the underside of the deck.

#### INSTALLATION:

Drill a hole with an ANSI standard 1/4" (6 mm) diameter drill bit. Insert the HP Concrete Spike through the appropriate plate and hammer it flush to the surface. The minimum embedment depth is 1 1/4" (31.75 mm).