

# Machine Screw Shields

## Description

The Machine Screw Shield is a corrosion resistant anchor designed to be used with a machine bolt in concrete, block, brick or stone. This 2-piece anchor is made of a zamac alloy sleeve and an internally threaded cone.



## Specifications, Listings and Approvals

**Anchor Thread Diameters:** 3/8" - 1/2"

### Materials:

**Anchor body:** 3-5% Antimonial Lead

**Cone:** Zamac Alloy

**Federal Specifications:** A-A 1922A, Type 1 and FFS-325C, Group 1, Type 1, Class 1

## Key Features & Benefits

- ▶ **Setting tool provided** in each box of anchors
- ▶ Fits into irregular holes
- ▶ **Corrosion Resistant**
- ▶ Shallow embedment
- ▶ **Accepts machine screws**
- ▶ **Internally threaded anchor** allows easy bolt removability and service work

## Applications

- ▶ Railings
- ▶ Removable Applications
- ▶ Windows
- ▶ Shutters

## Installation Information

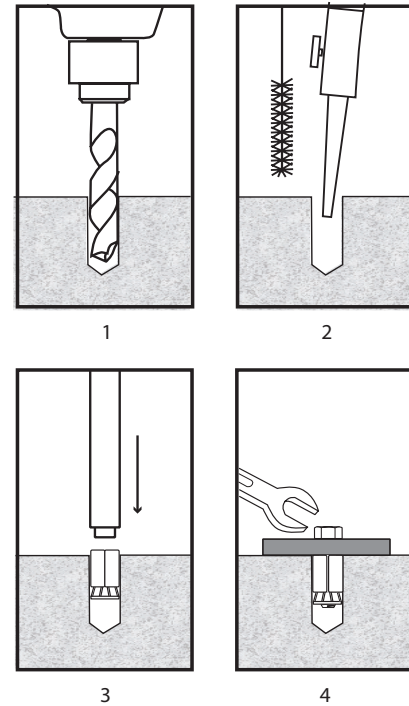
### Instructions

1. Drill the hole perpendicular to the work surface. To assure full holding power, do not ream the hole or allow the drill to wobble.

Drill the hole at least one anchor diameter deeper than the intended embedment, but not closer than two diameters to the bottom (opposite) surface of the concrete.

2. Clean the hole with a nylon brush and compressed air.
3. Insert anchor into the hole. Using setting tool, drive expander shield over cone.
4. Position fixture, insert bolt and tighten.

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



## Installation Data

Catalog No.	Anchor Thread Dia. (in.)	Drill Bit Dia. (in.)	Thread Size (UNC)	Anchor Length (in.)	Threaded Length in Cone (in.)	Installation Torque Approx. (ft.-lbs.)
MS14	1/4	1/2	1/4-20	7/8	19/32	5
MS56	5/16	5/8	5/16-18	1	3/4	7
MS38	3/8	3/4	3/8-16	1-1/4	1	10
MS12	1/2	7/8	1/2-13	1-1/2	1-1/8	15

## Performance Data

### Ultimate and Allowable Loads (lbs.) - Normal-Weight Concrete

Anchor Thread Dia. (in.)	Min. Embed. Depth (in.)	Allowable						Ultimate					
		2,000 psi		4,000 psi		6,000 psi		2,000 psi		4,000 psi		6,000 psi	
		Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
1/4	7/8	305	343	385	350	420	350	1220	1370	1540	1400	1680	1400
5/16	1	398	475	498	525	550	525	1590	1900	1990	2100	2200	2100
3/8	1-1/4	498	685	630	833	735	833	1990	2740	2520	3330	2940	3330
1/2	1-1/2	695	998	878	1118	950	1118	2780	3990	3510	4470	3800	4470

### Ultimate and Allowable Loads (lbs.) Grout-Filled Concrete Masonry

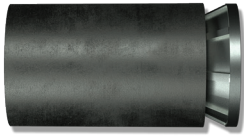
Anchor Thread Dia. (in.)	Min. Embed. Depth (in.)	1,500 psi			
		Allowable		Ultimate	
		Tension	Shear	Tension	Shear
1/4	7/8	178	250	710	1000
5/16	1	295	318	1180	1270
3/8	1-1/4	340	453	1360	1810
1/2	1-1/2	473	643	1890	2570

### Ultimate and Allowable Loads (lbs.) Clay Brick Masonry

Anchor Thread Dia. (in.)	Min. Embed. Depth (in.)	1,500 psi			
		Allowable		Ultimate	
		Tension	Shear	Tension	Shear
1/4	7/8	293	295	1170	1180
5/16	1	345	400	1380	1600
3/8	1-1/4	440	720	1760	2880
1/2	1-1/2	640	908	2560	3630

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

Order Information



Zamac Alloy

Catalog Number	Drill Bit Dia.	Thread Size	Anchor Length	Box Quantity	Carton Quantity
MS36	3/8	10 - 24	5/8	100	1000
MS14	1/2	1/4 - 20	7/8	100	1000
MS14B (Bulk)	1/2	1/4 - 20	7/8	-	1500
MS56	5/8	5/16 - 18	1	50	500
MS38	3/4	3/8 - 16	1-1/4	50	500
MS38B (Bulk)	3/4	3/8 - 16	1-1/4	-	500
MS12	7/8	1/2 - 13	1-1/2	25	250



Machine Screw Shield Tool

Catalog No.	Size	Quantity	Catalog No.	Size	Quantity
MSTOOL14	1/4	1	MSTOOL56	5/16	1
MSTOOL38	3/8	1	MSTOOL12	1/2	1

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