

GENERAL INFORMATION

ULTRACON® SS4

410 Stainless Steel Concrete and Masonry Fasteners

PRODUCT DESCRIPTION

The UltraCon SS4 anchor is a 410 stainless steel screw anchor for light to medium duty applications in concrete and masonry block base materials. The screw anchor is fast and easy to install and provides a neat, finished appearance. UltraCon SS4 anchors feature a Stalgard coating and provide enhanced corrosion resistance over carbon steel fasteners.

GENERAL APPLICATIONS AND USES

- Screen Enclosures
- Storm Shutters
- Light Duty Fixtures
- Light Duty Industrial Mounts

FEATURES AND BENEFITS

- + Special heat treatment to protect inherent corrosion resistance of the 410 stainless steel material
- + Stalgard coating provides 1000 hours of salt spray protection when tested in accordance with ASTM B117

APPROVALS AND LISTINGS

- Tested in accordance with ASTM E488
- Miami-Dade County Notice of Acceptance (NOA) No. 21-0201.08
- Florida Statewide Product Approval FL29068.1

GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors and 05 05 19 - Post-Installed Concrete Anchors. Screw anchors shall be UltraCon SS4 as supplied by DEWALT, Towson, MD. Concrete screw anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

MATERIAL SPECIFICATIONS

Anchor Component	Specification
Anchor Body	410 Stainless Steel
Coating/Plating/Finish	Stalgard® 1000 hour rating per ASTM B117 salt spray test

Note: 410 Stainless Steel fasteners in contact with aluminum and aluminum alloys is not recommended in accordance with AISI SS 502 / SSINA guidelines.

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ULTRACON SS4

HEAD STYLES

- Hex Washer Head
- TrimFit® Flat Head

ANCHOR MATERIALS

- Type 410 Stainless Steel with Stalgard® Coating

ANCHOR SIZE RANGE

- 1/4" diameter x 1-1/4" to 6" lengths

SUITABLE BASE MATERIALS

- Normal-Weight Concrete
- Hollow Concrete Masonry (CMU)
- Grout-Filled Concrete Masonry (CMU)

INSTALLATION SPECIFICATIONS

Anchor Property / Setting Information	Notation	Anchor Diameter, d _a	
		1/4" HEX	1/4" TFH
Anchor Shank Diameter (in)	d _a	0.193	0.193
Ultracon+ Drill Bit Size (in)	d _{bit}	3/16	3/16
Typ. Fixture Clearance hole (in)	d _h	5/16	5/16
Head Height (in)	-	9/64	3/16
Head Width (in)	-	5/16	13/32
Washer O.D. (in)	-	13/32	N/A
Washer Thickness (in)	-	1/32	N/A
Hex Driver (in) / Phillips Driver	-	5/16	#3

1. For minimum nominal embedment depths, h_{nom}, see the performance data tables. The minimum hole depth, h_o, is 1/4-inch more than the selected nominal embedment depth.

410 Stainless Steel UltraCon SS4 Identification

The head markings consist of a "D" for the DEWALT brand, the number "4" for the 410 series stainless steel classification, and the length code

Hex Washer Head



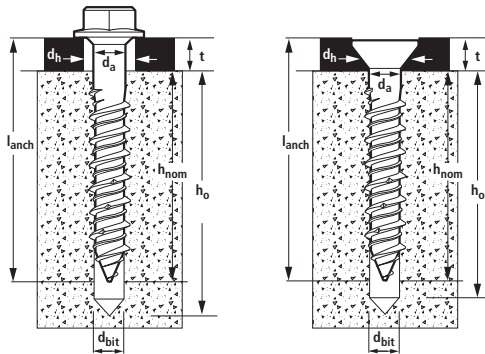
TrimFit Head



UltraCon SS4 Length Code Identification System

Length ID marking on head		□	A	B	C	D	E	F	G	H
Overall anchor length l _{anch} (inches)	From	1"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5-1/2"
	Up to but not including	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5-1/2"	6-1/2"

Anchor Detail

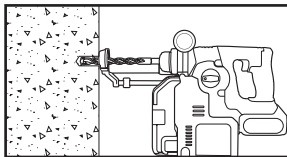


Nomenclature

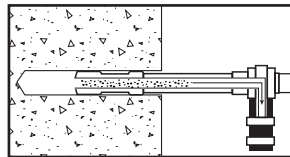
- d_a = Diameter of anchor
- d_{bit} = Diameter of drill bit
- d_h = Diameter of fixture clearance hole
- h_{nom} = Minimum embedment depth
- h = Base material thickness
The minimum value of h should be 1.5h_{nom} or 3" whichever is greater
- h_o = Minimum hole depth

INSTALLATION INSTRUCTIONS

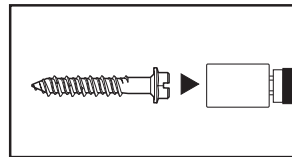
Installation Instruction for UltraCon SS4



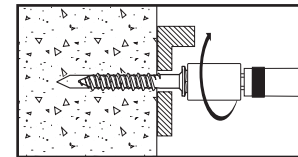
Step 1
Using the proper drill bit size, drill a hole into the base material to the required depth, h_o, which is a 1/4-inch deeper than the minimum embedment depth, h_{nom}.



Step 2
Remove dust and debris from the hole during drilling (e.g. dust extractor) or following drilling (e.g. suction, forced air) to extract loose particles created by drilling.



Step 3
Attach a UltraCon+ installation socket tool for the selected anchor size to a percussion drill and set the drill to rotary only mode. Mount the screw anchor head into the socket. For flat head versions a bit tip must be used with the socket tool.



Step 4
Place the point of the UltraCon SS4 through the fixture into the pre-drilled hole and drive the anchor in one steady continuous motion until it is fully seated at the proper embedment. The driver will automatically disengage from the head of the screw.

PERFORMANCE DATA

Ultimate Load Capacities for UltraCon SS4 in Normal-Weight Concrete¹

Nominal Anchor Diameter	Min. Edge Dist. (in.)	Min. Spacing (in.)	Min. Embed. (in.)	Minimum Concrete Compressive Strength			
				2500 psi		3000 psi	
				Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
1/4	1	1-1/2	1-1/2"	340	265	365	280
			1-3/4"	540	385	580	410
		3	1-1/2"	610	275	660	295
			1-3/4"	1235	510	1330	540
	2-1/2	1-1/2	1-1/2"	720	730	770	775
			1-3/4"	1275	1900	1375	2020
		3	1-1/2"	885	990	955	1050
			1-3/4"	1515	2200	1630	2335

1. Tabulated load values are for anchors installed in uncracked concrete. Concrete compressive strength must be at the specified minimum at the time of installation
2. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working load. Consideration of safety factors of 10 and higher may be necessary depending upon the application such as life safety or overhead.

Allowable Load Capacities for UltraCon SS4 in Normal-Weight Concrete¹



Nominal Anchor Diameter	Min. Edge Dist. (in.)	Min. Spacing (in.)	Min. Embed. (in.)	Minimum Concrete Compressive Strength			
				2500 psi		3000 psi	
				Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
1/4	1	1-1/2	1-1/2"	85	65	90	70
			1-3/4"	135	95	145	100
		3	1-1/2"	150	65	165	70
			1-3/4"	305	125	330	135
	2-1/2	1-1/2	1-1/2"	180	180	190	190
			1-3/4"	315	475	340	505
		3	1-1/2"	220	245	235	260
			1-3/4"	375	550	405	580

1. Allowable load capacities listed are calculated using an applied safety factor of 4.0. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety or overhead.

Ultimate Load Capacities for UltraCon SS4 in Hollow and Grout-Filled Concrete Masonry^{1,2}

Nominal Anchor Diameter (in.)	Min. Edge Dist. (in.)	Min. Spacing (in.)	Min. Embed. (in.)	Hollow Block		Grout-Filled Block	
				Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
1/4	1	1-1/2	1-1/4	530	220	685	280
			2	-	-	1090	280
		3	1-1/4	620	360	950	415
			2	-	-	1460	415
	2-1/2	1-1/2	1-1/4	530	445	1025	455
			2	-	-	1090	900
		3	1-1/4	620	615	1060	1000
			2	-	-	1930	1510

1. Tabulated load values are for anchors installed in grout-filled concrete block conforming to ASTM C90 with a minimum block compressive strength of 2000 psi and minimum grout compressive strength of 1625 psi.
2. Ultimate load capacities must be reduced by a minimum safety factor of 5.0 or greater to determine allowable working load. Consideration of safety factors of 10 and higher may be necessary depending upon the application such as life safety or overhead.

Allowable Load Capacities for UltraCon SS4 in Hollow and Grout-Filled Concrete Masonry¹



Nominal Anchor Diameter (in.)	Min. Edge Dist. (in.)	Min. Spacing (in.)	Min. Embed. (in.)	Hollow Block		Grout-Filled Block	
				Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
1/4	1	1-1/2	1-1/4	105	40	135	55
			2	-	-	215	55
		3	1-1/4	120	70	190	80
			2	-	-	290	80
	2-1/2	1-1/2	1-1/4	105	85	205	90
			2	-	-	215	180
		3	1-1/4	120	120	210	200
			2	-	-	385	300

1. Allowable load capacities listed are calculated using an applied safety factor of 5.0. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety or overhead.

ORDERING INFORMATION

Silver Stalgard® UltraCon SS4

Cat. No.		Screw Size	Approximate Thread Length	Pack Qty.	Carton Qty.
HWH	TFH				
DFM4EUH310	DFM4EUF310	1/4" X 1-1/4"	1-1/8"	100	500
DFM4EUH315	DFM4EUF315	1/4" X 1-3/4"	1-5/8"	100	500
DFM4EUH325	DFM4EUF325	1/4" X 2-1/4"	1-7/8"	100	500
DFM4EUH335	DFM4EUF335	1/4" X 2-3/4"	1-7/8"	100	500
DFM4EUH345	DFM4EUF345	1/4" X 3-1/4"	1-7/8"	100	500
DFM4EUH355	DFM4EUF355	1/4" X 3-3/4"	1-7/8"	100	500
DFM4EUH365	DFM4EUF365	1/4" X 4"	1-7/8"	100	500
DFM4EUH375	-	1/4" X 5"	1-7/8"	100	500
DFM4EUH385	-	1/4" X 6"	1-7/8"	100	500

HWH = Hex Washer Head, TFH = TrimFit® Flat Head

Hex Head UltraCon SS4 Anchors are measured from below the washer while flat head UltraCon SS4 anchors are measured end to end. To select the proper minimum anchor length, determine the embedment depth required (e.g. required to obtain desired load capacity). Then add the thickness of the fixture, including any spacers or shims, to the embedment depth.



UltraCon+ Drill Bits

Cat. No.	Description
DW5382	3/16 x 7" UltraCon+ SDS bit



Installation Kit

Cat. No.	Description
DW5366	UltraCon®+ Installation Kit includes: 5/32" and 3/16" UltraCon+ bit, 1/4" and 5/16" nutsetters, #2 and #3 Phillips bits, Phillips flat head adapter, percussion adapter, drive sleeve and 1/8" allen wrench



Rotary Hammers

Cat. No.	Description
DCH273	20V Max* XR Brushless 1" L-Shape SDS Plus Rotary Hammer
DCH133	20V Max* XR Brushless 1" D-Handle SDS Plus Rotary Hammer
DCH172	ATOMIC 20V MAX 5/8 in. Brushless Cordless SDS Plus Rotary Hammer



Accessories

Cat. No.	Description
DWH303DH	Onboard Dust Extractor for 1" SDS Plus Hammers
DWH050	Large Hammer Dust Extraction - Hole Cleaning
DWH200	Dust Extraction Tube Kit with Hose



Dust Extractors

Cat. No.	Description
DCV585	Flexvolt® 60V Max* Dust Extractor
DVW010	8 Gallon Wet Dry Hepa/Rrp Dust Extractor
DVW012	10 Gallon Wet Dry Hepa/Rrp Dust Extractor
DWH161D1	20V Max* XR Brushless Universal Dust Extractor Kit



MECHANICAL ANCHORS

ULTRACON® SS4
4-10 Stainless Steel Concrete and Masonry Fasteners