

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 Applications

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

- 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. Concrete 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 | Type 410 Stainless Steel |
| Coating/Plating/Finish | Stalgard® 1000 hour rating for ASTM B 117 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
- Stalgard® Coating

ANCHOR SIZE RANGE

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

SUITABLE BASE MATERIALS

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

INSTALLATION SPECIFICATIONS

| Dimension | Anchor Diameter, d | |
|----------------------------------|--------------------|-----------|
| | 1/4" HEX | 1/4" TFFH |
| Ultracon+ Drill Bit Size (in) | 3/16 | 3/16 |
| Typ. Fixture Clearance hole (in) | 5/16 | 5/16 |
| Head Height (in) | 9/64 | 3/16 |
| Head Width (in) | 5/16 | 13/32 |
| Washer OD (in) | 13/32 | N/A |
| Washer Thickness (in) | 1/32 | N/A |
| Hex Driver (in)/ Phillips Driver | 5/16 | #3 |

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

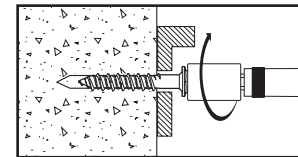
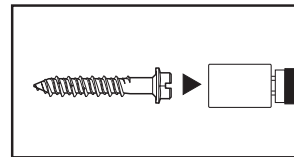
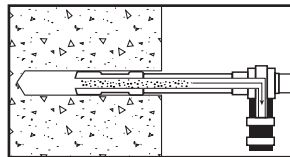
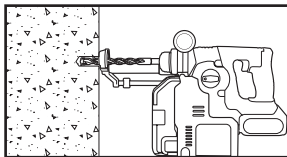
Hex Washer Head



TrimFit Head



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 UltraCon SS4.

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" |

Installation Table for Aggre-Gator in Concrete¹

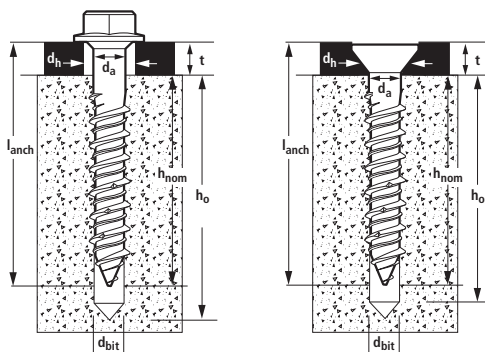
| Anchor Property/ Setting Information | Notation | Units | Nominal Anchor Diameter |
|--|-----------|-------|-------------------------|
| | | | 1/4 |
| Anchor Shank Diameter | d_a | in. | 0.194 |
| Typ. diameter of hole clearance in fixture | d_h | in. | 5/16 |
| Nominal drill bit diameter | d_{bit} | in. | 3/16" UltraCon+ Bit |
| UltraCon+ bit tolerance range | - | in. | .202-.206 |
| Minimum nominal embedment depth | h_{nom} | in. | 1-1/2 |
| Minimum hole depth | h_o | in. | 1-3/4 |
| Hex Head Socket size | - | in. | 5/16 |
| Phillips Bit Size | - | No. | 3 |

1. The minimum base material thickness must be $1.5h_{nom}$ or 3", whichever is greater.

Installation Table for Aggre-Gator in Masonry

| Anchor Property/ Setting Information | Notation | Units | Nominal Anchor Diameter |
|--|-----------|-------|-------------------------|
| | | | 1/4 |
| Anchor Diameter | d_a | in. | 0.194 |
| Diameter of clearance hole in fixture | d_h | in. | 5/16 |
| Nominal drill bit diameter | d_{bit} | in. | 3/16" UltraCon+ Bit |
| UltraCon+ bit tolerance range | - | in. | .202-.206 |
| Minimum nominal embedment depth (Grout Filled Masonry) | h_{nom} | in. | 1-1/4 |
| Minimum hole depth (Grout Filled Masonry) | h_o | in. | 1-1/2 |
| Minimum nominal embedment (Hollow Masonry) | h_{nom} | in. | 1-1/4 |
| Minimum hole depth (Hollow Masonry) | h_o | in. | 1-1/2 |
| Hex Head Socket size | - | in. | 5/16 |
| Phillips Bit Size | - | No. | 3 |

Anchor Detail



Nomenclature

- d = 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

Ultimate Load Capacities for UltraCon SS4 in Normal Weight Concrete

| 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 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 Concrete

| 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.
2. Allowable loads suggested herein are only valid when both the minimum anchor center-to-center spacing and minimum edge distances are complied with.

Ultimate Load Capacities for UltraCon SS4 in Hollow and Grout-Filled Concrete Masonry

| 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 C-90 with a minimum block compressive strength of 2000 psi and minimum grout compressive strength of 1624 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 Masonry

| 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.
2. Allowable loads suggested herein are only valid when both the minimum anchor center-to-center spacing and minimum edge distances are complied with.

ORDERING INFORMATION

Silver Stalgard® UltraCon SS4

| Cat. No. | | Screw Size | Standard Box | Standard Carton |
|------------|------------|---------------|--------------|-----------------|
| HWH | TFH | | | |
| DFM4EUH310 | DFM4EUF310 | 1/4" X 1-1/4" | 100 | 500 |
| DFM4EUH315 | DFM4EUF315 | 1/4" X 1-3/4" | 100 | 500 |
| DFM4EUH325 | DFM4EUF325 | 1/4" X 2-1/4" | 100 | 500 |
| DFM4EUH335 | DFM4EUF335 | 1/4" X 2-3/4" | 100 | 500 |
| DFM4EUH345 | DFM4EUF345 | 1/4" X 3-1/4" | 100 | 500 |
| DFM4EUH355 | DFM4EUF355 | 1/4" X 3-3/4" | 100 | 500 |
| DFM4EUH365 | DFM4EUF365 | 1/4" X 4" | 100 | 500 |
| DFM4EUH375 | - | 1/4" X 5" | 100 | 500 |
| DFM4EUH385 | - | 1/4" X 6" | 100 | 500 |

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

One straight shank drill bit included in each standard box

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 to obtain the 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 |



Accessories

| Cat. No. | Description |
|----------|---|
| DWH303DH | Onboard Dust Extractor for 1 in. 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 |
| DWW010 | 8 Gallon Wet Dry Hepa/Rrp Dust Extractor |
| DWW012 | 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

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