DEWALT.

ANCHORS & FASTENERS

Product Submittal/Substitution Request

T0:				
PROJECT:				
PROJECT LOCATION:				
Specified item:				
Section	Page	Paragraph	Description	
PRODUCT SUB	MIT TAL / SUBST	ITUTION REQUESTED:		

The attached submittal package includes the product description, specifications, drawings, and performance data for use in the evaluation of the request.

SUBMITTED I	BY:	
Name:		Signature:
Company:		
Address:		
Date:	Telephone:	Fax:
FOR USE BY	THE ARCHITECT AND/OR	NEER
Approved	Approved as Noted	Not Approved
(If not approved, plea	ase briefly explain why the product was	cepted.)
By:		Date:

Remarks:

DEWALT® UltraCon® SS4 Submittal Section:

Product Pages:

- General Information
- Installation Instructions
- Design Tables
- Ordering Information



Offline version available for download at <u>www.dewaltdesignassist.com</u>.

DEWALT developed the DEWALT Design Assist (DDA) anchor software to enable users to input technical data into a dynamic model environment-to visualize, consider, and specify anchors in today's changing engineering climate.

For a demonstration of the latest version of PDA, contact us at <u>anchors@DEWALT.com</u>

ECHANICAL

ANCHORS



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 U

- 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 /	Notation	Anchor Diameter, da				
Setting Information	NULALIUII	1/4" HEX	1/4" TFH			
Anchor Shank Diameter (in)	da	0.193	0.193			
Ultracon+ Drill Bit Size (in)	dbit	3/16	3/16			
Typ. Fixture Clearance hole (in)	dh	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			
 For minimum nominal embedment depths, h_{om}, see the performance data tables. The minimum hole depth, h_o, is 1/4-inch more than the selected nominal embedment depth. 						

Oon CCA Longth Oods Identification Custom

Aracon 554 Lengui code identification System										
Length ID ma	arking on head		A	В	C	D	E	F	G	H
Overall anchor length	From	1"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5-1/2"
$\ell_{\sf anch}$ (inches)	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



da h

- Nomenclature = Diameter of anchor
- d_{bit} = Diameter of drill bit
- $d_h =$ Diameter of fixture clearance hole

consist of a "D" for the DEWALT brand, the number "4" for the

410 series stainless

the length code

steel classification, and

- Minimum embedment depth h_{nom} =
 - Base material thickness =
 - The minimum value of h should be 1.5hnom or 3" whichever is greater
- Minimum hole depth $h_0 =$

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, ho, which is a 1/4-inch deeper than the minimum embedment depth, hnom.

-1 U .Þ 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.

410 Stainless Steel UltraCon SS4 Identification TrimFit Head The head markings

Hex Washer Head

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ANCHORS

ANICAL

410 Stainless Steel Concrete and Masonry Fasteners C TRAC



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PERFORMANCE DATA

Ultimate Load Capacities for UltraCon SS4 in Normal-Weight Concrete¹

					Minimum Concrete C	ompressive Strength		
Nominal Anchor	Min. Edge Dist.	Min. Spacing	Min. Embed.	250) psi	300	D psi	
Diameter	Diameter (in.)	(in.) (in.)	(in.)	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)	
		1 1/0	1-1/2"	340	265	365	280	
		3	1-3/4"	540	385	580	410	
			1-1/2"	610	275	660	295	
1/4			3	3	1-3/4"	1235	510	1330
1/4		1-1/2	1-1/2"	720	730	770	775	
	2-1/2 1-3/4"		1-3/4"	1275	1900	1375	2020	
		1-1/2"	885	990	955	1050		
		3	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 Concrete

					Minimum Concrete C	ompressive Strength		
Nominal Anchor	Min. Edge Dist.	Min. Spacing	Min. Embed.	2500) psi	3000 psi		
Diameter (in.) (in.)		(in.)	(in.) (in.)	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)	
		1 1/0	1-1/2"	85	65	90	70	
	1	3	1-1/2	1-3/4"	135	95	145	100
			1-1/2"	150	65	165	70	
1/4			1-3/4"	305	125	330	135	
1/4		1 1/0	1-1/2"	180	180	190	190	
	2-1/2	1-1/2	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	Min Edgo Dict	Min Spacing	Min Embod	Hollow	/ Bock	Grout-Filled Block	
Diameter (in.)	er (in.) (in.)		(in.)	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
	1	1 1/0	1-1/4	530	220	685	280
		1-1/2	2	-	-	1090	280
			0	1-1/4	620	360	950
1/4 2-1/2	3	2	-	-	1460	415	
	1.1/0	1-1/4	530	445	1025	455	
	0.1/0	1-1/2	2	-	-	1090	900
	2-1/2	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 Masonry'

Nominal Anchor	Min Edgo Dict	Min Spacing	Min Embod	Hollov	v Bock	Grout-Filled Block	
Diameter (in.)	Diameter (in.)		(in.)	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)
		1 1/0	1-1/4	105	40	135	55
	1	1-1/2	2	-	-	215	55
	2	1-1/4	120	70	190	80	
		3	2	-	-	290	80
1/4	1/4	1.1/0	1-1/4	105	85	205	90
		1-1/2	2	-	-	215	180
2-1/2		1-1/4	120	120	210	200	
		3	2	-	-	385	300
1. Allowable load capa	acities listed are calculate	d using an applied safety	/ factor of 5.0. Considerat	tion of safety factors of 1	0 or higher may be neces	sary depending on the a	pplication, such as life

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.

410 Stainless Steel Concrete and Masonny Fasteners

JLTRACON® SS4

ORDERING INFORMATION

Silver Stalgard® UltraCon SS4

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Cat. No.		Screw Size	Approximate	Pack Otv	Carton Otv	
HWH	TFH	OUTCW DILC	Thread Length	Tuok qty:	ourton qty.	
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
DWV012	10 Gallon Wet Dry Hepa/Rrp Dust Extractor
DWH161D1	20V Max* XR Brushless Universal Dust Extractor Kit



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