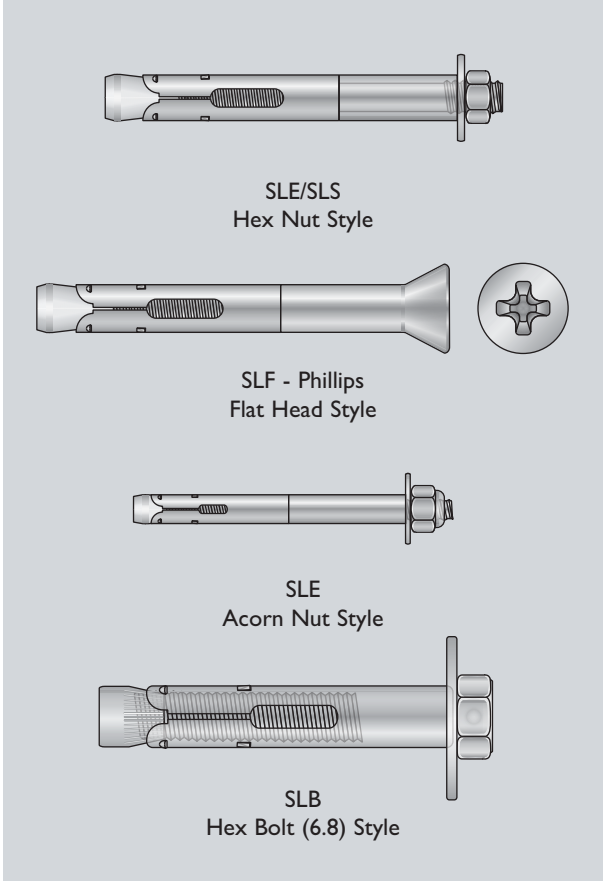
SLEEVE ANCHOR

DESCRIPTION

The UCAN sleeve anchor is a medium duty anchor ideal for applications in concrete, hollow block and brick. It is a mechanical expansion anchor assembled with an expansion sleeve, spacer, nut and washer. It is also available with flat head and hex bolt head types.



FEATURES

- Through fastening
- Anchor size is same as drill bit size
- Greater expansion than other types of anchors
- Suitable for hollow materials
- Long expansion sleeve
  (less concentration of stress on masonry)

LIMITATIONS

- Not recommended for uncured concrete (less than 7 days old), lightweight concrete, masonry block or brick

TYPICAL APPLICATIONS

- Fastening into block and brick
- Shelving and racking
- Window and door frames
- Sill plates
- Cable trays

MATERIAL SPECIFICATIONS

Anchor Component	Material Standard	Mechanical Properties	
		Fy	Fu
Carbon steel anchor body	AISI C 1008-C1010	248.2 MPa (36 ksi)	413.7 MPa (60 ksi)
Carbon steel spacer and expansion sleeves	cold rolled steel		
Stainless steel (304) anchor body, spacer and expansion sleeves	AISI grade 304	241.3 MPa (35 ksi)	586.1 MPa (85 ksi)
Corrosion protection (carbon steel anchors)	ASTM B633 - 98e1	0.0002" (5 micron) electrodeposited	

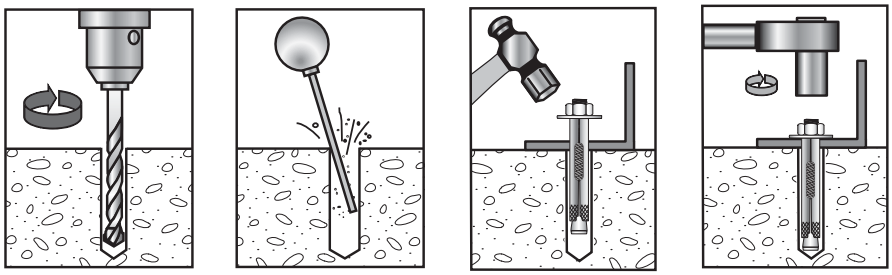
SLEEVE ANCHOR

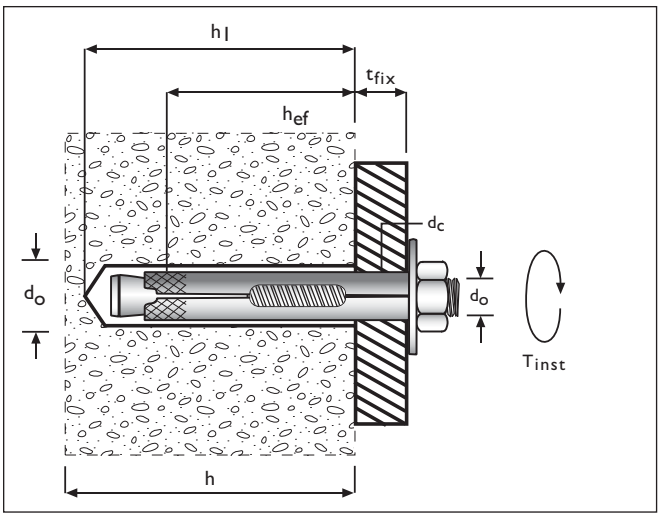
INSTALLATION

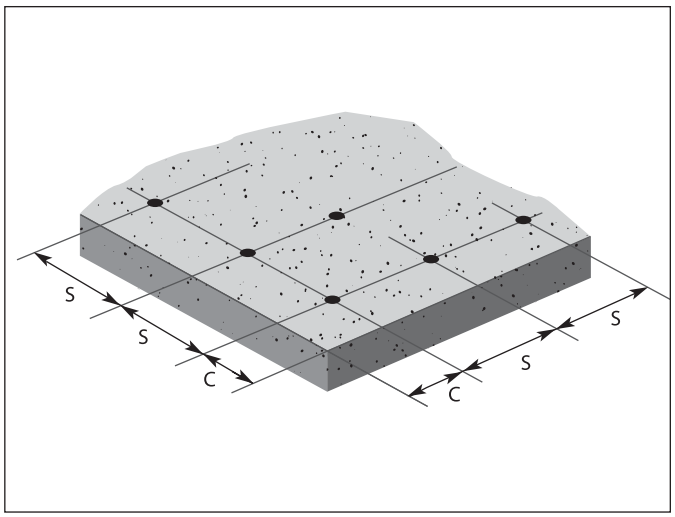
SLEEVE ANCHOR SETTING DETAILS

Details	Anchor size					
	1/4	5/16	3/8	1/2	5/8	3/4
Anchor size / Drill bit / hole nominal diameter d_o (in)	1/4	5/16	3/8	1/2	5/8	3/4
Internal thread dia. d_a (in)	3/16	1/4	5/16	3/8	1/2	5/8
Clearance hole dia. d_c (in)	5/16	3/8	7/16	9/16	11/16	13/16
Effective embedment / hole depth h_{ef} / h_1 (in)	1-1/8	1-7/16	1-1/2	2-1/4	2-3/4	3-3/8
Required anchor spacing for 100% performance s (in)	2-1/2	3	3-3/4	5	6-1/4	7-1/2
Minimum anchor spacing s_{min}	1-1/4	1-1/2	1-7/8	2-1/2	3-1/8	3-3/4
Required edge distance for 100% performance c (in)	1-1/4	1-1/2	1-3/4	2-1/4	3-1/8	3-3/4
Minimum edge distance c_{min}	5/8	3/4	1	1-1/4	1-1/2	1-7/8
Minimum base material thickness h (in)	3	3	3	4	4-1/2	5
Max. installation torque T_{inst} (ft x lbf)	3	5	12	20	50	85

Note: Carbide tipped drill bits shall conform to ANSI B 212.15







DESIGN DATA

AVERAGE ULTIMATE LOADS
Normal weight stone aggregate concrete

Anchor Size	Embedment	2000 psi (14.0 MPa)				4000 psi (27.6 MPa)			
		Tension		Shear		Tension		Shear	
in	inch (mm)	lbf	kN	lbf	kN	lbf	kN	lbf	kN
1/4	1-1/8 (28)	959	4.3	1,428	6.4	1,342	6.0	n/a	n/a
5/16	1-7/16 (36)	1,248	5.6	2,169	9.7	1,327	5.9	n/a	n/a
3/8	1-1/2 (38)	1,625	7.2	3,064	13.6	2,311	10.3	n/a	n/a
1/2	2-1/4 (57)	3,172	14.1	5,017	22.3	4,743	21.1	n/a	n/a
5/8	2-3/4 (69)	4,556	20.3	8,552	37.9	6,179	27.5	n/a	n/a
3/4	3-3/8 (76)	6,943	30.9	10,036	44.6	9,525	42.4	n/a	n/a

ALLOWABLE LOADS
Normal weight stone aggregate concrete

Anchor Size	Embedment	2000 psi (14.0 MPa)				4000 psi (27.6 MPa)			
		Tension		Shear		Tension		Shear	
in	inch (mm)	lbf	kN	lbf	kN	lbf	kN	lbf	kN
1/4	1-1/8 (28)	240	1.1	357	1.6	335	1.5	n/a	n/a
5/16	1-7/16 (36)	312	1.4	542	2.4	332	1.5	n/a	n/a
3/8	1-1/2 (38)	406	1.8	766	3.4	578	2.6	n/a	n/a
1/2	2-1/4 (57)	793	3.6	1,254	5.6	1,185	5.3	n/a	n/a
5/8	2-3/4 (69)	1,139	5.1	2,138	9.5	1,545	6.9	n/a	n/a
3/4	3-3/8 (76)	1,736	7.7	2,509	11.2	2,381	10.6	n/a	n/a

LOAD ADJUSTMENT FACTORS - ANCHOR SPACING

Anchor Spacing	Anchor Diameter					
(inch)	1/4	5/16	3/8	1/2	5/8	3/4
1-1/4	0.70					
1-1/2	0.76	0.70				
1-7/8	0.85	0.78	0.70			
2-1/2	1.00	0.90	0.80	0.70		
2-3/4	1.00	0.95	0.84	0.73		
3		1.00	0.88	0.76		
3-1/8			0.92	0.79	0.70	
3-3/4			1.00	0.85	0.75	0.70
4-1/4				0.91	0.80	0.74
5				1.00	0.88	0.81
5-3/4					0.95	0.87
6-1/4					1.00	0.91
7						0.98
7-1/2						1.00

SLEEVE ANCHOR

LOAD ADJUSTMENT FACTORS - EDGE DISTANCE

SHEAR

Edge Dist.	Anchor Diameter					
inch	1/4	5/16	3/8	1/2	5/8	3/4
5/8	0.50					
3/4	0.60	0.50				
1	0.93	0.63	0.50			
1-1/4	1.00	0.83	0.67	0.50		
1-1/2		1.00	0.80	0.60		
1-3/4			0.93	0.70	0.50	
1-7/8			1.00	0.75	0.55	0.50
2-1/4				0.90	0.68	0.60
2-1/2				1.00	0.77	0.67
2-3/4					0.86	0.73
3-1/8					1.00	0.83
3-1/2						0.93
3-3/4						1.00

TENSION

Edge Dist.	Anchor Diameter					
inch	1/4	5/16	3/8	1/2	5/8	3/4
5/8	0.60					
3/4	0.72	0.60				
1	0.86	0.69	0.60			
1-1/4	1.00	0.87	0.69	0.60		
1-1/2		1.00	0.83	0.76	0.60	
1-3/4			0.93	0.83	0.62	
1-7/8			1.00	0.85	0.73	0.60
2-1/4				0.90	0.74	0.62
2-1/2				1.00	0.76	0.66
2-3/4					0.88	0.74
3-1/8					1.00	0.87
3-1/2						0.95
3-3/4						1.00

ANCHOR SELECTION

Hex Nut Style

Part No.	Bolt Dia. (inch)	Anchor Dia. (inch)	Anchor Length (inch)	Min. Embedment (inch)	Fastens material up to (inch)
SLE14138*	3/16	1/4	1-3/8	1	3/8
SLE14214*	3/16	1/4	2-1/4	1	1-1/4
SLE516112	1/4	5/16	1-1/2	1	1/2
SLE516212	1/4	5/16	2-1/2	1	1-1/2
SLE38178	5/16	3/8	1-7/8	1-1/4	5/8
SLE383	5/16	3/8	3	1-1/4	1-3/4
SLE12214	3/8	1/2	2-1/4	1-1/2	3/4
SLE123	3/8	1/2	3	1-1/2	1-1/2
SLE124	3/8	1/2	4	1-1/2	2-1/2
SLE126	3/8	1/2	6	1-1/2	4-1/2
SLE58214	1/2	5/8	2-1/4	2	1/4
SLE58414	1/2	5/8	4-1/4	2	2-1/4
SLE586	1/2	5/8	6	2	4
SLE34212	5/8	3/4	2-1/2	2-1/4	1/4
SLE34414	5/8	5/8	4-1/4	2-1/4	2
SLE34614	5/8	3/4	6-1/4	2-1/4	4

*Acorn Nut

Hex Bolt Style

Part No.	Bolt Dia. (inch)	Anchor Dia. (inch)	Anchor Length (inch)	Min. Embedment (inch)	Fastens material up to (inch)
SLB38178	5/16	3/8	1-7/8	1-3/8	1/4
SLB38214	5/16	3/8	2-1/4	1-3/8	7/8
SLB383	5/16	3/8	3	1-3/8	1-5/8
SLB12214	3/8	1/2	2-1/4	1-3/4	1/2
SLB12234	3/8	1/2	2-3/4	1-3/4	1
SLB124	3/8	1/2	4	1-3/4	2-1/4

ANCHOR SELECTION CONT'D

Flat Head Style

Part No.	Bolt Dia. (in)	Anchor Dia. (in)	Anchor Length (in)	Min. Embedment (in)	Fastens material up to (in)
SLF14138	3/16	1/4	1-3/8	1	3/8
SLF142	3/16	1/4	2	1	1
SLF143	3/16	1/4	3	1	2
SLF144	3/16	1/4	4	1	3
SLF14514	3/16	1/4	5-1/4	1	4-1/4
SLF516212	1/4	5/16	2-1/2	1	1-1/2
SLF516312	1/4	5/16	3-1/2	1	2-1/2
SLF38234	5/16	3/8	2-3/4	1-1/4	1-1/2
SLF384	5/16	3/8	4	1-1/4	2-3/4
SLF385	5/16	3/8	5	1-1/4	3-3/4
SLF386	5/16	3/8	6	1-1/4	4-3/4

Hex Nut Style (Stainless Steel)

Part No.	Bolt Dia. (inch)	Anchor Dia. (inch)	Anchor Length (inch)	Min. Embedment (inch)	Fastens material up to (inch)
SLS14138	3/16	1/4	1-3/8	1	3/8
SLS516112	1/4	5/16	1-1/2	1	1/2
SLS516212	1/4	5/16	2-1/2	1	1-1/2
SLS38178	5/16	3/8	1-7/8	1	7/8
SLS383	5/16	3/8	3	1-1/4	1-3/4
SLS123	3/8	1/2	3	1-1/2	1-1/2

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Square brackets [...] indicate alternatives, data required, or need for the specifier to fill in information.

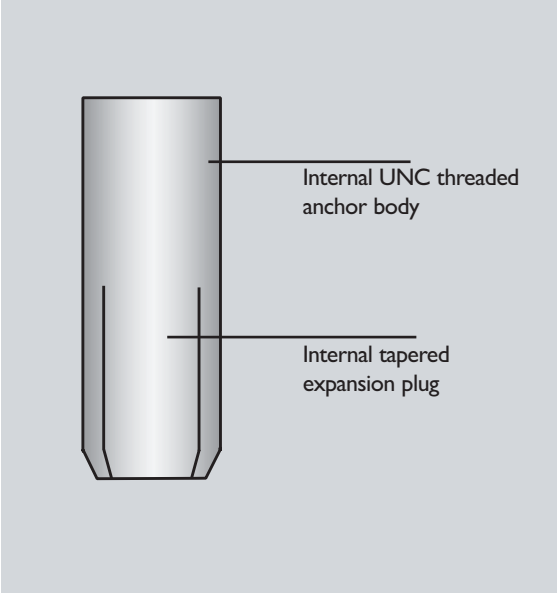
ANCHORS (FASTENERS)

Expansion anchors shall be [diameter and length to suit load and fixture requirements] UCAN Sleeve Anchors, supplied by UCAN Fastening Products. Anchors to be [zinc plated and have grade ASTM A307 carbon steel] [Type 304 Stainless Steel] anchor body, and installed according to the manufacturers published instructions.

DROP-IN ANCHOR

DESCRIPTION

The UCAN drop-in anchor is an internally threaded anchor which is pre-assembled with an internal expansion plug. These fire resistant anchors are available in both carbon steel and stainless steel. The carbon steel anchor is zinc plated to extend corrosion protection. The stepped installation tool allows for correct anchor setting. The anchor is designed to deliver consistent holding power at shallow embedment.



FEATURES

- Pre-assembled design
- Can be used in flush or countersunk applications

LIMITATIONS

- Not recommended for uncured concrete (less than 7 days old), light weight concrete, masonry block or brick

TYPICAL APPLICATIONS

- Sprinkler systems
- Cable trays
- Pipes and valves support
- Pallet racking
- Machinery Installation
- Precast wall inserts

APPROVAL / LISTINGS

- FM (Factory Mutual)
  Project identifier # 3015451
- Passed the seismic test acceptance criteria for expansion anchors (Tested by Trow/Ryerson report # BRBS006659IE)

MATERIAL SPECIFICATIONS

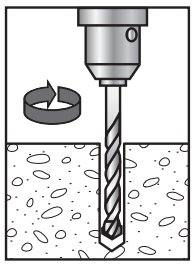
Anchor Component	Material Standard	Mechanical Properties	
		F_y	F_u
Carbon steel anchor body	AISI C 1008R	248.2 MPa (36 ksi)	413.7 MPa (60 ksi)
Stainless steel (304) anchor body	AISI grade 304	241.3 MPa (35 ksi)	586.1 MPa (85 ksi)
Corrosion protection (carbon steel anchors)	ASTM B633 - 07	0.0002" (5 micron) electrodeposited	

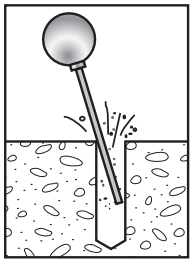
DROP-IN ANCHOR

INSTALLATION

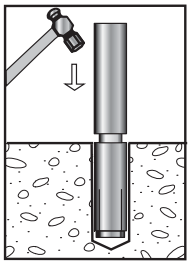
Details	Anchor size				
	1/4	3/8	1/2	5/8	3/4
Anchor size / Internal thread dia. d_a (in)	1/4	3/8	1/2	5/8	3/4
Drill bit / hole nominal diameter d_o (in)	3/8	1/2	5/8	7/8	1
Drill bit / hole nominal diameter for metric drop-ins d_o (mm)	8	12	n/a	20	n/a
Effective embedment / hole depth h_{ef} / h_1 (in)	1	1-1/2	2	2-1/2	3
Required anchor spacing for 100% performance s (in)	2-1/2	3-3/4	5	6-1/4	7-1/2
Minimum anchor spacing s_{min}	1-1/4	1-3/4	2-1/2	3-1/8	3-3/4
Required edge distance for 100% performance c (in)	3	4-1/2	6	7-1/2	9
Minimum edge distance c_{min}	1-1/2	3	4	5	6
Minimum bas material thickness h (in)	3	3-1/2	4	5	6
Max. installation torque T_{inst} (ft x lbf)	4	10	22	35	80

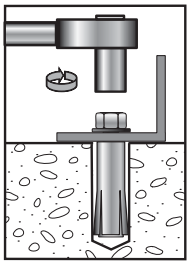
Note: Carbide tipped drill bits shall conform to ANSI B 212.15



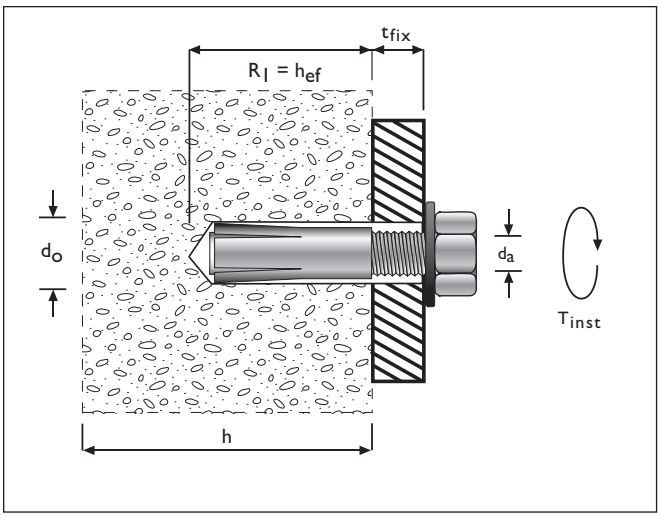


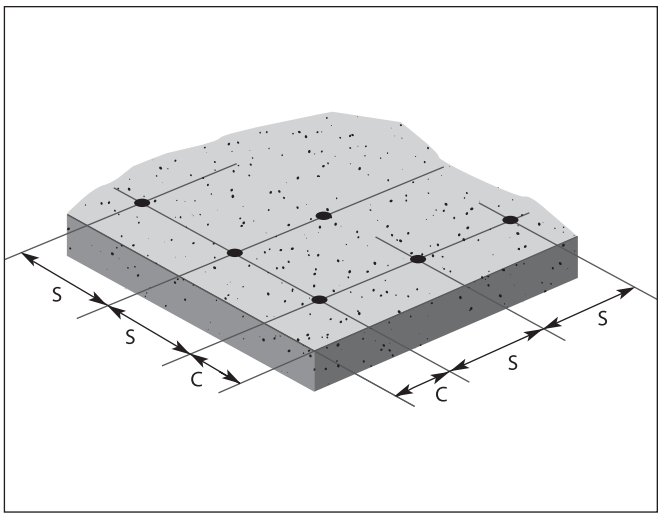
Set drilling depth so that anchor will be flush with concrete.





Use proper setting tool to drive plug down until tool's shoulder is flush with top of anchor.





ANCHOR SELECTION

Size	Part Number	Thread Size inch	Thread Depth inch	Drill (hole) dia. inch	Anchor length inch
Carbon Steel / Zinc Plated					
1/4	IPA 1438	1/4 -20	7/16	3/8	1
1/4	IPA 14516	1/4 -20	7/16	8 mm	1
3/8	IPA 3812	3/8 -16	5/8	1/2	1-1/2
3/8	IPA 381532	3/8 -16	5/8	12 mm	1-1/2
1/2	IPA 1258	1/2 -13	3/4	5/8	2
5/8	IPA 5878	5/8 -11	1	7/8	2-1/2
5/8	IPA 582532	5/8 -11	1	20 mm	2-1/2
3/4	IPA 341	3/4 -10	1-1/4	1	3-1/8
Stainless Steel / AISI 304					
1/4	IPS 1438	1/4 -20	7/16	3/8	1
3/8	IPS 3812	3/8 -16	5/8	1/2	1-1/2
1/2	IPS 1258	1/2 -13	3/4	5/8	2
5/8	IPS 5878	5/8 -11	1	7/8	2-1/2
3/4	IPS 341	3/4 -10	1-1/4	1	3-1/8

DESIGN DATA

AVERAGE ULTIMATE LOADS
Normal weight stone aggregate concrete

Anchor Size	Emb.	2000 psi (14 MPa)				4000 psi (27.6 MPa)				6000 psi (41 MPa)			
		Tension		Shear		Tension		Shear		Tension		Shear	
inch	inch	lbs	kN	lbs	kN	lbs	kN	lbs	kN	lbs	kN	lbs	kN
1/4	1	2,115	9.41	1,850	8.23	2,167	9.64	2,150	9.56	3,045	13.54	2,350	10.45
3/8	1-1/2	2,630	11.70	3,950	17.57	3,960	17.61	5,250	23.35	5,367	23.87	5,300	23.58
1/2	2	5,045	22.44	6,090	27.09	6,239	27.75	8,150	36.25	8,814	39.21	9,420	41.90
5/8	2-1/2	5,450	24.24	10,068	44.78	8,681	38.61	13,000	57.83	13,553	60.29	14,700	65.39
3/4	3	10,665	47.44	16,500	73.40	12,080	53.73	19,500	86.74	16,028	71.30	21,200	94.30

Notes: Tested for Seismic loading by Trow/Ryerson report # BRBS0066591E.
The ultimate shear values are based on SAE Grade 5 (F_u=120ksi) bolts.

DROP-IN ANCHOR

DESIGN DATA

ALLOWABLE LOADS
Normal weight stone aggregate concrete

Anchor Size	Emb.	2000 psi (14 MPa)				4000 psi (27.6 MPa)				6000 psi (41 MPa)			
		Tension		Shear		Tension		Shear		Tension		Shear	
inch	inch	lbs	kN	lbs	kN	lbs	kN	lbs	kN	lbs	kN	lbs	kN
1/4	1	529	2.35	463	2.06	542	2.41	538	2.39	761	3.39	588	2.61
3/8	1-1/2	658	2.92	988	4.39	990	4.40	1,313	5.84	1,342	5.97	1,325	5.89
1/2	2	1,261	5.61	1,523	6.77	1,560	6.94	2,038	9.06	2,204	9.80	2,355	10.48
5/8	2-1/2	1,363	6.06	2,517	11.20	2,170	9.65	3,250	14.46	3,388	15.07	3,675	16.35
3/4	3	2,666	11.86	4,125	18.35	3,020	13.43	4,875	21.69	4,007	17.82	5,300	23.58

Note: Allowable loads maybe increased by 33⅓ % for short term loading due to Seismic forces.
The allowable shear values are based on SAE Grade 5 (F_u=120ksi) bolts.

LOAD ADJUSTMENT FACTORS ANCHOR SPACING
(Tension & Shear Loads)

Anchor Spacing	Anchor Diameter				
inch	1/4	3/8	1/2	5/8	3/4
1-1/4	0.50				
1-1/2	0.60				
1-3/4	0.70	0.50			
2	0.80	0.65			
2-1/2	1.00	0.69	0.50		
3-1/8		0.84	0.63	0.50	
3-3/4		1.00	0.75	0.60	0.50
4-1/4			0.85	0.68	0.57
5			1.00	0.80	0.67
5-3/4				0.92	0.77
6-1/4				1.00	0.83
7					0.93
7-1/2					1.00

LOAD ADJUSTMENT FACTORS - EDGE DISTANCE (Tension Load)

Edge Distance	Anchor Diameter				
inch	1/4	3/8	1/2	5/8	3/4
1-1/2	0.80				
2	0.87				
2-1/2	0.93				
3	1.00	0.80			
3-1/2		0.87			
4		0.93	0.80		
4-1/2		1.00	0.85		
5			0.90	0.80	
6			1.00	0.88	0.80
6-1/2				0.92	0.83
7				0.96	0.87
7-1/2				1.00	0.90
8					0.93
9					1.00

LOAD ADJUSTMENT FACTORS - EDGE DISTANCE (Shear Load)

Edge Distance	Anchor Diameter				
inch	1/4	3/8	1/2	5/8	3/4
1-1/2	0.50				
2	0.67				
2-1/2	0.83				
3	1.00	0.50			
3-1/2		0.67			
4		0.83	0.50		
4-1/2		1.00	0.63		
5			0.75	0.50	
6			1.00	0.70	0.50
6-1/2				0.80	0.58
7				0.90	0.67
7-1/2				1.00	0.75
8					0.83
9					1.00

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Square brackets [...] indicate alternatives, data required, or need for the specifier to fill in information.

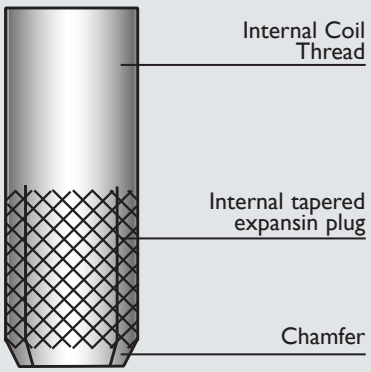
ANCHORS (FASTENERS)

Expansion anchors shall be [diameter and length to suit load and fixture requirements] UCAN Drop-in Anchors, supplied by UCAN Fastening Products. Anchors to be [zinc plated and have grade AISI C1008R carbon steel]
[Type 304 Stainless Steel] anchor body, and installed according to the manufacturers published instructions.

COIL THREADED DROP-IN ANCHOR

DESCRIPTION

The UCAN Coil Threaded Drop-In Anchor is an internally threaded anchor which is preassembled with an internal expansion plug. The anchor is zinc plated to extend corrosion protection. The stepped installation tool allows for reliable anchor setting. The anchor is designed to deliver consistent holding power at shallow embedment.



FEATURES

- Pre-assembled design for use with coil or rope threaded rod
- Can be used in flush or countersunk applications

LIMITATIONS

- Not recommended for uncured concrete (less than 7 days old), light weight concrete, masonry block or brick.

TYPICAL APPLICATIONS

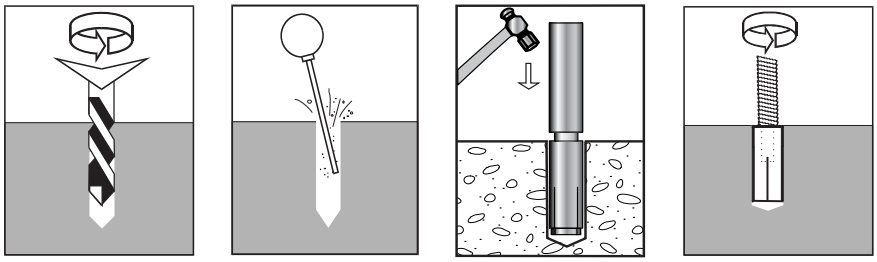
- Concrete formwork

MATERIAL SPECIFICATIONS

Grade AISI C1008 Carbon Steel

- Minimum Tensile Strength - 60,000 psi (420 MPa)
- Average Yield Strength - 36,000 psi (250 MPa)

INSTALLATION



Installation Details

Coil Thread Size	Recommended		Tightening Torque
	Edge Distance	Anchor Spacing	
inch	inch	inch	ft. lbs
1/2	6	5	22
3/4	9	7-1/2	90

COIL THREADED DROP-IN ANCHOR

Anchor Selection

Part No.	Coil Thread Size	Thread Length	Anchor/Hole Diameter	Anchor Length
		inch	inch	inch
CTD1258	1/2" - 6	3/4	5/8	2
CTD341	3/4" - 4.5	1-1/4	1	3-1/8

DESIGN DATA

Average Ultimate Tension Loads

Anchor Size	Embedment	Tension	
		4,000 psi Concrete	2,000 psi Concrete
inch	inch	lbs	lbs
	(mm)	(kN)	(kN)
1/2	2	6,239	5,045
	(50)	(27.7)	(22.4)
3/4	3	12,080	n/a
	(76)	(53.7)	(n/a)

Apply Safety Factor (reduction factor) as per CAN/CSA-S269.3-M92 guidelines for concrete formwork. For all other applications, ensure the working load per anchor does not exceed 1/4 of the tabulated ultimate load, under static loading conditions.

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Square brackets[...] indicate alternatives, data required, or need for the specifier to fill in information.

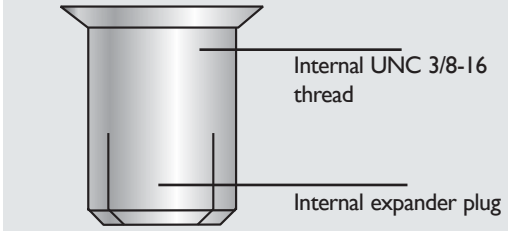
ANCHORS (FASTENERS)

Expansion anchors shall be [diameter and length to suit load and fixture requirements] UCAN Coil Threaded Drop-in Anchors, supplied by UCAN Fastening Products. Anchors to be zinc plated and have grade AISI C1008R carbon steel anchor body , and installed according to the manufacturers published instructions.

STUBI DROP-IN ANCHOR

DESCRIPTION

The UCAN STUBi Drop-in Anchor is an internally threaded, flush mounted expansion anchor, which is pre-assembled with an internal expansion plug. The anchor is zinc plated in accordance with ASTM B633, SC-1, Type III standard. The matching UCAN setting tool allows for correct anchor setting. The anchor is designed to provide reliable fastening in hollow core panels, precast and post tension slabs.



FEATURES

- Pre-assembled with expansion plug
- Lip ensures flush installation
- Shallow embedment design

LIMITATIONS

- Not recommended for uncured concrete (less than 7 days old), lightweight concrete or brick

TYPICAL APPLICATIONS

- Overhead fastenings into hollow core, precast and post tensioned slabs

MATERIAL SPECIFICATIONS

Anchor Body
- AISI C 1008 carbon steel
- Min. Tensile Strength - 60,000 psi (413.7 MPa)

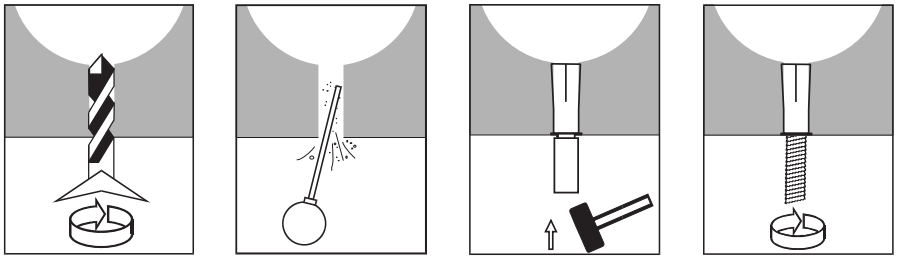
Corrosion Protection
Zinc Plated
- ASTM B633 SC-1, Type III

TECHNICAL DATA

Average Ultimate Loads in 4,000 psi Concrete

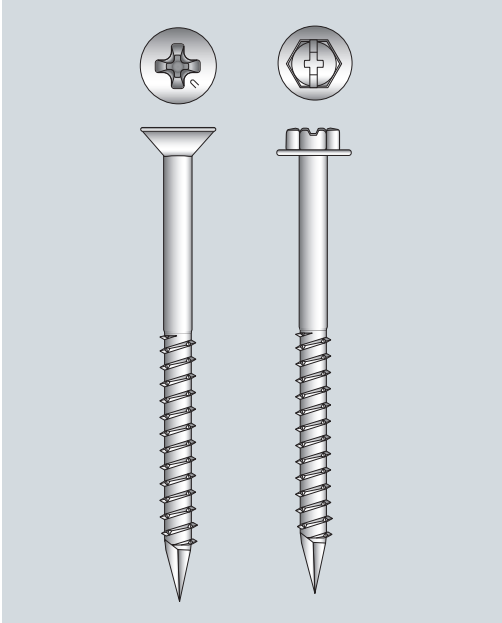
Anchor size	Hole Dia.	Emb.	Tension		Shear	
inch	inch	inch	lbs	kN	lbs	kN
3/8	1/2	3/4	1850	8.23	2950	13.12

INSTALLATION



DESCRIPTION

The UCAN Scru-it™ masonry anchor is manufactured to strict specifications from high quality steel. The proprietary, UCAN designed, scalloped thread cuts deep grooves in a wide variety of masonry materials (solid concrete, block, brick etc.) producing up to three times the holding power of comparable anchors.



FEATURES

- High strength
- Close to edge fastening
- No spalling, cuts cleanly into pre-drilled hole
- Fast and easy installation
- Removable
- Diamond point for easy centering
- RUSPRO™ II coated for maximum corrosion resistance
- Available in Stainless Steel
- Available head styles (Hex head, Flat head with Phillips and Square socket)
- Available in bulk

TYPICAL APPLICATIONS

- Conduit clips
- Strapping or 2x4 studs
- Metal shelf - uprights
- Cladding
- Window frames
- Brick ties

MATERIAL SPECIFICATIONS

Anchor Body

Carbon Steel: AISI C1022 UTS: 73 ksi (503 MPa)
Case Hardened (HRC: 30 - 42)

Stainless Steel: AISI 410 C UTS: 78 ksi (538 MPa)

CORROSION PROTECTION

Ruspro™ II coating:

Multi layer coating provides superior corrosion resistance to sulphur dioxide, salt spray, acids and alkalis as well as having excellent abrasion resistance. Available in blue and silver (Square socket type) colours.

HOURS TO RED RUST *													
	10	20	30	40	50	60	70	100	200	300	400	500	1000
Passivated													
Passivated & Zinc Plated													
Ruspro™ II													

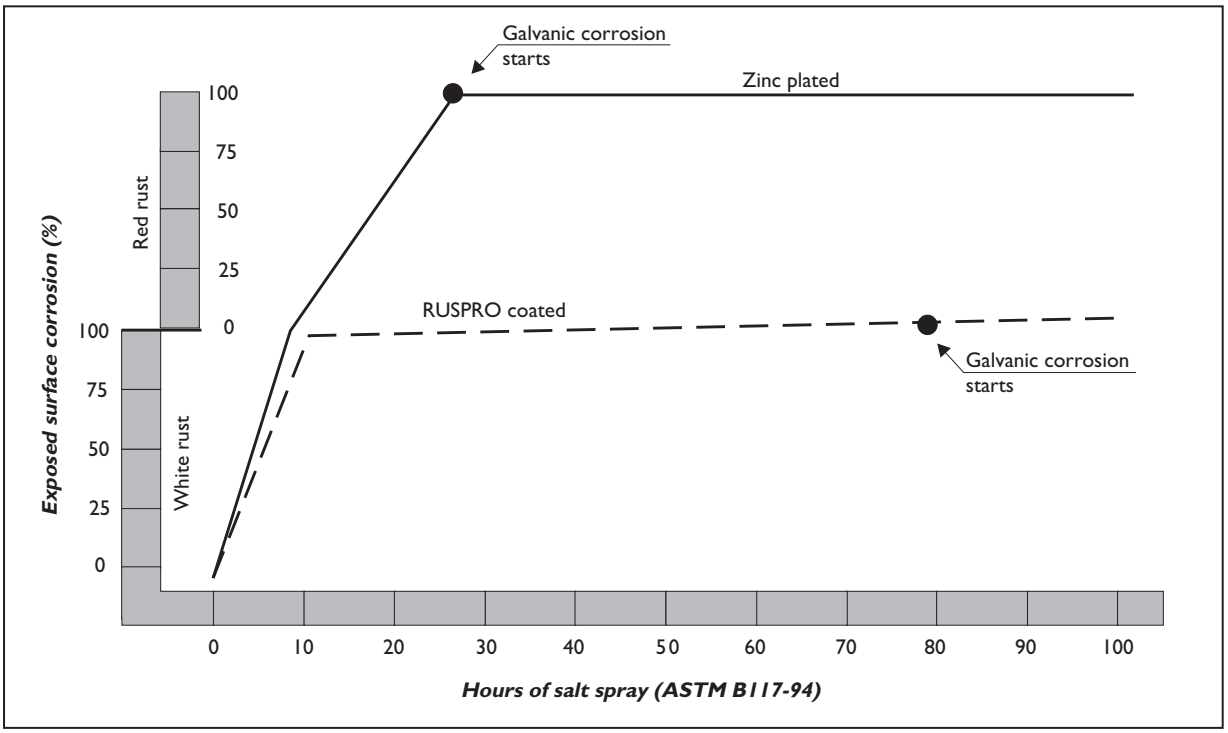
- Per ASTM B117. Test performed on uninstalled fasteners.

DESIGN DATA FOR INSTALLATIONS AFFECTED BY VARIOUS ENVIRONMENTAL CONDITIONS

Reliable fastener design requires fastener performance data in various environmental conditions since the fastening assemblies cannot always be inspected and maintained. UCAN Fastening Products engaged in a comprehensive test program to provide these important data to support correct fastener selection. ORTECH Corporation, an ISO 9002 Canadian Testing Agency performed the following test program:

- Tension and Shear Loading in three different substrates i.e. 30 MPa concrete, concrete hollow and solid block under the following environmental conditions: (see details on page 3)
  - ambient laboratory conditions
  - 100% saturation to simulate exposure of substrate and fastener to rain
  - cold temperature exposure of substrate and fastener at -20°C
- Abrasion resistance testing
- Galvanic corrosion test

Galvanic corrosion test data



Abrasion Resistance Test

RUSPRO™ coated fasteners were installed into hollow concrete block under normal and over-torque conditions. The fasteners were examined under binocular microscope at 7x magnification. After the visual inspection, the specimens were cut to reveal their cross section and were examined metallographically. The test results indicated slight removal of coating at the points of the hex head. None of the specimens displayed damage to the case hardening, indicating the fasteners excellent resistance to abrasion.

Average Ultimate Loads for Installations of 1/4" diameter Scru-it™ in Various Canadian Application Conditions

Hollow Concrete Block

Embedment	Installation Conditions					
	Normal (Ambient)		100% Saturated		Cold (-20°)	
	Tension	Shear	Tension	Shear	Tension	Shear
	lbs	lbs	lbs	lbs	lbs	lbs
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
1"	767	915	847	700	940	679
	(3.4)	(4.1)	(3.8)	(3.1)	(4.2)	(3.0)
1-1/2"	1,155	762	1,329	551	1,404	886
	(5.1)	(3.4)	(5.9)	(2.5)	(6.3)	(3.9)

Solid Concrete Block

Embedment	Installation Conditions					
	Normal (Ambient)		100% Saturated		Cold (-20°)	
	Tension	Shear	Tension	Shear	Tension	Shear
	lbs	lbs	lbs	lbs	lbs	lbs
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
1"	1,121	1,349	1,159	1,570	1,077	956
	(5.0)	(6.0)	(5.2)	(7.0)	(4.8)	(4.3)
1-1/2"	2,257	1,056	1,886	1,155	2,004	1,401
	(10.0)	(4.7)	(8.4)	(5.2)	(8.9)	(6.2)

30 MPa Concrete

Embedment	Installation Conditions					
	Normal (Ambient)		100% Saturated		Cold (-20°)	
	Tension	Shear	Tension	Shear	Tension	Shear
	lbs	lbs	lbs	lbs	lbs	lbs
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
1"	1,521	2,200	1,289	1,452	1,209	946
	(6.8)	(9.8)	(5.7)	(6.5)	(5.4)	(4.2)
1-1/2"	2,444	1,456	2,439	1,575	2,611	1,607
	(10.9)	(6.5)	(10.9)	(7.0)	(11.0)	(7.2)

The above technical data is based on the Ortech test report No.: 96-J53-M0163

TECHNICAL DATA

Screw Size	Embedment	5,000 psi Concrete		Hollow Concrete Block	
		Tension	Shear	Tension	Shear
		lbs	lbs	lbs	lbs
inch	inch	(kN)	(kN)	(kN)	(kN)
3/16	1	1,055 (4.69)	1,181 (5.25)	684 (3.04)	1,248 (5.55)
	1-1/2	2,033 (9.04)	- -	770 (3.42)	- -
1/4	1	1,919 (8.54)	1,932 -	912 (4.06)	2,361 (10.50)
	1-1/2	2,798 (12.45)	- -	1,995 (8.87)	- -

Note: * 1-1/2" embedment is not recommended in extreme hard or dense materials.

SPECIFICATION

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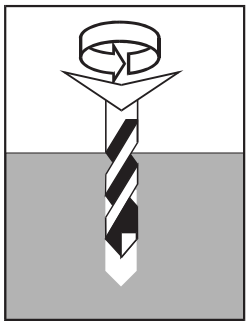
ANCHORS (FASTENERS)

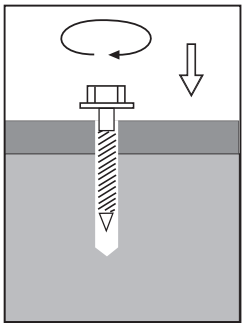
Masonry anchors shall be (diameter, length to suit load and fixture requirements) UCAN SCRU-IT™ Anchors, supplied by Ucan Fastening Products. Anchors to be (type of corrosion protection), and installed according to the manufacturer's published instructions.

ANCHOR SELECTION

Size	Hex Washered Head		Phillips Flat Head		Square Socket Flat Head	Drill Bit
	Blue Ruspro™ II	Stainless Steel	Blue Ruspro™ II	Stainless Steel	Silver Ruspro™ II	(incl.)
3/16 x 3/4	SCH 31634	-	-	-	-	5/32
3/16 x 1-1/4	SCH 316114	-	SCP 316114	SSP 316114	SCR 316114	5/32
3/16 x 1-3/4	SCH 316134	-	SCP316134	-	SCR 316134	5/32
3/16 x 2-1/4	SCH 316214	-	SCP 316214	-	SCR 316214	5-32
3/16 x 2-3/4	SCH 316234	-	SCP 316234	SSP 316234	SCR 316234	5/32
3/16 x 4	SCH 3164	-	SCP 3164	-	-	5/32
1/4 x 1-1/4	SCH 14114	SSH 14114	SCP 14114	-	SCR 14114	3/16
1/4 x 1-3/4	SCH 14134	-	SCP14134	-	SCR 14134	3/16
1/4 x 2-1/4	SCH 14214	-	SCP 14214	-	SCR 14214	3/16
1/4 x 2-3/4	SCH 14234	SSH 14234	SCP 14234	-	SCR 14234	3/16
1/4 x 3-1/4	SCH 14314	-	SCP 14314	-	SCR 14314	3/16
1/4 x 4	SCH 144	-	SCP 144	-	-	3/16
1/4 x 5	SCH 145	-	SCP 145	-	-	3/16
1/4 x 6	-	-	SCP 146	-	-	3/16

INSTALLATION





NOTE:

Apply Sfety Factor to ensure the working load per anchor does not exceed 1/4 of the tablulated ultimate load, under static loading conditions.

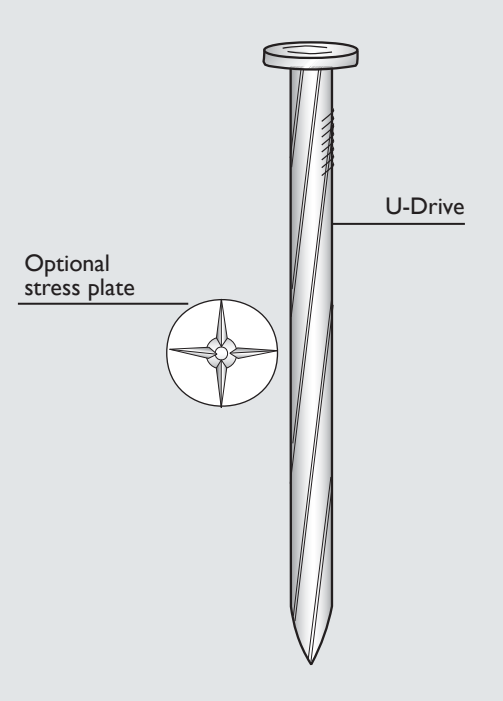
U-DRIVE

DESCRIPTION

The UCAN U-Drive anchor system is a quick, easy and economical method for securely fastening insulation panels, sheet metal and wood to concrete and most masonry.

U-Drive anchors have spiral shanks and are heat treated to facilitate installation. They are also hot dip galvanized for maximum corrosion resistance. When used in conjunction with the special close tolerance U-Drive carbide drill bits, these anchors consistently produce fastenings with superior holding power.

May be used together with U-Drive plastic stress plate for fastening insulation to concrete or masonry.



MATERIAL SPECIFICATIONS

Anchor body — **Heat Treated AISI C1035**

- Minimum tensile strength: 175,000 psi
- Average yield strength: 150,000 psi
- Hardness (Rc): 33-38

Corrosion protection

- The anchor body is hot dip galvanized to a nominal thickness of 0.0018".

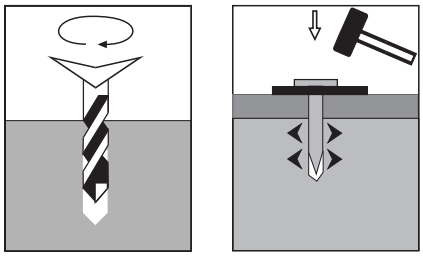
FEATURES

- No special tools required
- Hot dip galvanized
- No head shearing
- Control of embedment
- Excellent shear strength
- High performance at low cost
- Can be used in most types of masonry
- Available in lengths of 1-1/8" - 5"
- Stocked in 100 packs and bulk cartons

TYPICAL APPLICATIONS

- 2 X 4 Sleepers
- Plates
- Stud wall
- Drywall track
- Rigid Insulation
- Lightweight brackets
- Conduit fittings
- Hollow concrete block applications
- Brick tie systems
- Lathing strips

INSTALLATION



ANCHOR SELECTION

Part Number	Anchor Length	Fastens up to	Drill Bit Diameter
	inch	inch	inch
INS118	1-1/8	1/8	0.202
INS112	1-1/2	½	0.202
INS2	2	1	0.202
INS212	2-1/2	1-1/2	0.202
INS3	3	2	0.202
INS312	3-1/2	2-1/2	0.202
INS4	4	3	0.202
INS412	4-1/2	3-1/2	0.202
INS5	5	4	0.202

U-DRIVE

TECHNICAL DATA

Ultimate Tension and Shear Data

Embedment	3000 psi Concrete		Hollow Concrete Block
	Tension	Shear	Tension
	lbs	lbs	lbs
inch	(kN)	(kN)	(kN)
3/4	749 (3.33)	- -	576 (2.56)
1	1,214 (5.40)	1,270 (5.65)	873 (3.75)

STRESS PLATE DATA

Stress Plate	Size	Type	FM Wind Uplift Load Type
SP 1 (100 pack)	3" Round	Plastic	Class 1 insulated concrete roof Construction, Design wind uplift Load: 1-60; 1-90
SP 1M (1000 pack)	3" Round	Plastic	

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Brackets [...] indicate alternatives, data required, or need for the specifier to fill in information.

ANCHORS (FASTENERS)

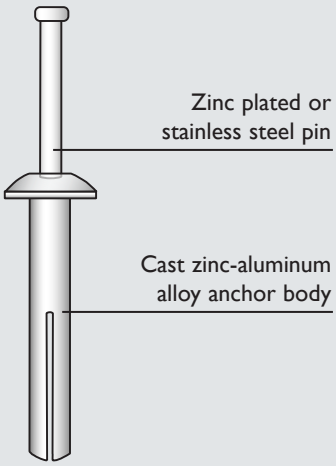
Masonry Fastener shall be UCAN U - Drive [Part number], supplied by UCAN Fastening Products. The hole depth shall be [...] and the U-Drive fastener shall be hot dip galvanized to provide extended corrosion protection. The installation must follow the manufacturer's published instructions.

NOTE:

Apply Safety Factor to ensure the working load per anchor does not exceed 1/4 of the tablulated ultimate load, under static loading conditions.

DESCRIPTION

The UCAN Zamac pinbolt is a light duty, tamperproof anchor which has a zinc plated or stainless steel pin preassembled with a body made from a corrosion resistant zinc/aluminum alloy. They are ideal for all masonry materials including concrete, hollow block, brick and precast.



TYPICAL APPLICATIONS

- Flashing
- Brick ties
- Stud wall
- Lightweight fixtures, signs
- HVAC straps
- Conduit fittings

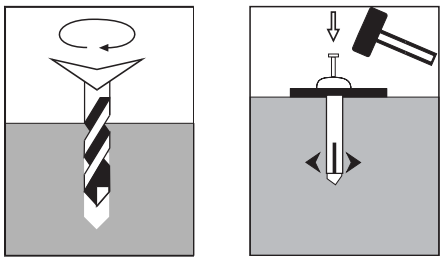
FEATURES

- Tamperproof
- One piece anchor
- Anchor size is hole size
- Through fastening

ANCHOR SELECTION

Part Number		Length	Fastens up to	Drill bit Diameter
Zinc Plated Pin	Stainless Steel Pin	inch	inch	inch
ZAM 31678	-	7/8	1/4	3/16
ZAM 141	ZAM 141SS	1	1/4	1/4
ZAM 14114	ZAM 14114SS	1-1/4	1/2	1/4
ZAM 14112	ZAM 14112SS	1-1/2	3/4	1/4
ZAM 142	-	2	1-1/4	1/4

INSTALLATION



ZAMAC PIN BOLT

DESIGN DATA

Average Ultimate Loads

Diameter	Embedment	3600 psi (25 MPa) Concrete	
		Pullout	Shear
		lbs	lbs
inch	inch	(kN)	(kN)
3/16	3/4	500 (2.22)	725 (3.23)
1/4	3/4	710 (3.16)	1,100 (4.89)
1/4	1	1,020 (4.54)	1,100 (4.8)

NOTE:

Apply Safety Factor to ensure the working load per anchor does not exceed 1/4 of the tablulated ultimate load, under static loading conditions.

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Brackets [...] indicate alternatives, data required, or need for the specifier to fill in information.

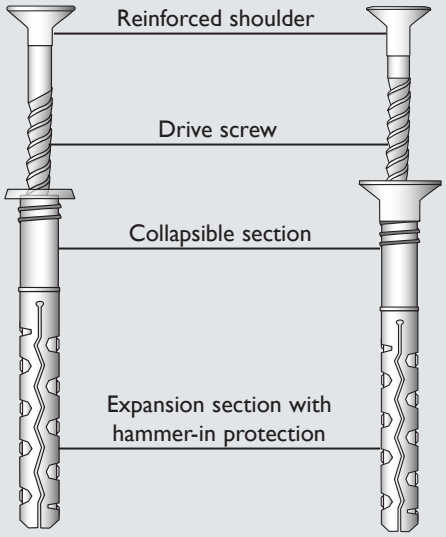
ANCHORS (FASTENERS)

Masonry Fastener shall be UCAN Zamac Pin bolt [Part number], supplied by UCAN Fastening Products. The hole depth shall be [...] and the Zamac Pinbolt shall be tamper proof type with lead / zinc alloy body and zinc plated [stainless] steel setting pin to provide extended corrosion protection. The installation must follow the manufacturer's published instructions.

DRIVE SCREW ANCHOR

DESCRIPTION

The UCAN Drive Screw Anchor is manufactured from a tough and durable Nylon-6 and is preassembled with a zinc plated phillips head screw nail. The reinforced screw head holds the fixture firmly in place. This anchor is suitable for all masonry and concrete base materials.



FEATURES

- Ready to use, assembled fasteners for through fastening
- Impact expansion by hammer
- Removable with a screwdriver
- Environmentally friendly - contains no Cadmium
- Reinforced screw shoulder firmly grips the nylon body neck

TYPICAL APPLICATIONS

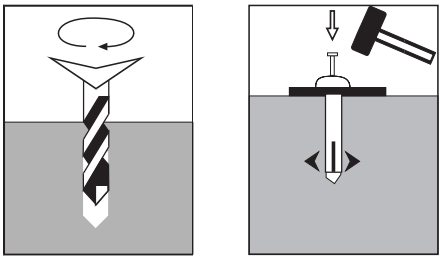
- Conduit clips
- Electrical boxes
- Brick ties
- Flashing
- Tilt-up forms
- Wood sleepers
- Drywall "hat" track

ANCHOR SELECTION

Head Style	Part Number	Anchor Length	Fastens up to	Drill Bit Diameter
		inch	inch	mm
Round Head	MNA530	1-1/4	1/4	5
	MNA540	1-1/2	1/2	5
	MNA550	2	1	5
	MNA635	1-3/8	3/8	6
	MNA650	2	1	6
	MNA670	2-3/4	1-3/4	6
Countersunk Head	MNA850	2	1	8
	MNA860	2-3/8	1	8
	MNA880	3-3/16	1-3/4	8
	MNA8100*	4	2-3/8	8

*This size is not assembled

INSTALLATION



MATERIAL SPECIFICATIONS

Anchor body

- Cadmium free nylon

In-place temperature: -40°C to +80°C
Installation temperature: -10°C to +40°C

Drive screw

- Steel, zinc plated

DRIVE SCREW ANCHOR

TECHNICAL DATA

Average Ultimate Loads

Size	Minimum Embedment	3000 psi Concrete		Hollow Concrete Block*
		Tension	Shear	Tension
		lbs	lbs	lbs
mm	mm	(kN)	(kN)	(kN)
5	25	330 (1.50)	516 (2.3)	225 (1.00)
6	25	560 (2.50)	762 (3.4)	450 (2.00)
8	25	720 (3.20)	1255 (5.6)	670 (3.00)

*Actual results may vary depending on concrete strength and installation conditions.

NOTE:

Apply Safety Factor to ensure the working load per anchor does not exceed 1/5 of the tablulated ultimate load, under static loading conditions.

SPECIFICATION

The following sample specification clause is arranged for inclusion in any one of a variety of master specification sections utilizing the Construction Specifications Canada (CSC) format. Brackets [...] indicate alternatives, data required, or need for the specifier to fill in information.

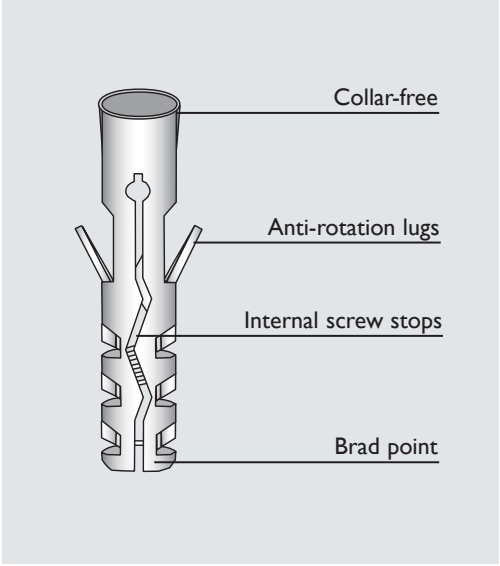
ANCHORS (FASTENERS)

Masonry anchors shall be [diameter, length to suit load and fixture requirements] UCAN Drive Screw Anchors, supplied by UCAN Fastening Products. Anchor shell to be nylon with no cadmium content, and installed according to the manufacturer's published instructions.

MUN NYLON PLUG

DESCRIPTION

The Mun Nylon Plug is made of a tough and durable Nylon-6 which will not crack under impact at low temperatures. It is also suitable for light - medium duty applications in a wide range of base materials.



FEATURES

- Internal screw stop prevents premature expansion
- Collar-free design allows push through installation
- Offset block profile ensures even expansion and firm grip
- Suitable in temperatures (in-place) of -40°C to +80°C.

TYPICAL APPLICATIONS

- Aluminum window frames and supports
- Sign support
- Conduit clips
- Cable clips
- Metal building flashings to concrete

DESIGN DATA

Size	Ultimate Tension Loads	
	Solid Concrete 25 MPa	Solid Brick
	lbs	lbs
mm	(kN)	(kN)
5	420 (2.0)	404 (1.8)
6	675 (3.0)	562 (2.5)
8	1,120 (5.0)	1,010 (4.5)
10	2,023 (9.0)	1,120 (5.0)
12	2,810 (12.5)	1,570 (7.0)

Note: Actual results may vary depending on concrete strength and installation conditions.

ANCHOR SELECTION

Part No.	Length	Screw size	Drill bit
	inch		mm
MUN 5	1	4 - 6	5
MUN 6	1-1/8	6 - 8	6
MUN 8	1-1/2	10 - 12	8
MUN 10	2	14 - 18	10
MUN 12	2-1/4	3/8"	12

NOTE:

Apply Safety Factor to ensure the working load per anchor does not exceed 1/5 of the tablulated ultimate load, under static loading conditions.