

# SCRU-IT™

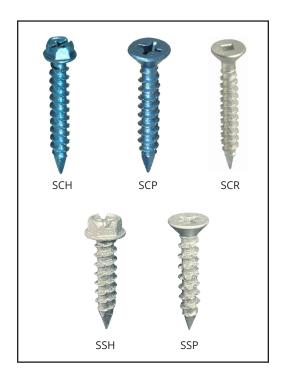
TECHNICAL MANUAL
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## **▶ DESCRIPTION**

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 solid concrete and a wide variety of masonry materials (CMU, 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™ coated for maximum corrosion resistance
- Available in Carbon Steel and Stainless Steel
- Available head styles (Hex head, Flat head with Phillips and Square socket)
- Available in 100 packs and 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**

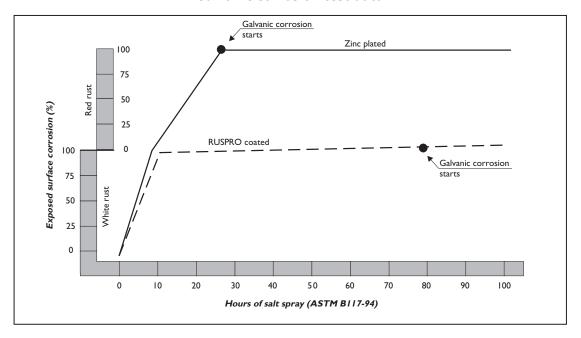
## RUSPRO™ COATING:

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 and stainless steel) colours.

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

• Per ASTM B117. Test performed on uninstalled fasteners.

# **Galvanic corrosion test data**



# **Abrasion Resistance Test**

RUSPRO $^{\text{TM}}$  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.

# ► TECHNICAL DATA

Table 1- Average Ultimate Loads in Uncracked Solid Concrete<sup>1,2</sup>

		3500 psi (2 Normal Weig	•	4350 psi (30 MPa) Normal Weight Concrete		
Screw Size	Embedment	Tension	Shear	Tension	Shear	
		lbs	lbs	lbs	lbs	
inch	inch	(kN)	(kN)	(kN)	(kN)	
	1	812	1,063	1,241	1,063	
3/16		(3.61)	(4.73)	(5.52)	(4.73)	
	1-1/2	1,225	1,095	1,682	1,095	
		(5.45)	(4.87)	(7.48)	(4.87)	
	1	915	1,158	2,030	1,158	
1/4		(4.07)	(5.15)	(9.03)	(5.15)	
	1-1/2	1,765	1,189	2,489	1,376	
		(7.85)	(5.29)	(11.07)	(6.12)	

<sup>11-1/2&</sup>quot; embedment is not recommended in extreme hard or dense materials.

<sup>&</sup>lt;sup>2</sup>Apply Safety Factor to ensure the working load per anchor does not exceed 1/4 of the tablulated ultimate load, under static loading conditions.

# Table 2 - Average Ultimate Loads for Installations of 1/4" diameter SCRU-IT™ in Various Canadian Application Conditions<sup>1,2</sup>

# **Normal Weight Concrete Hollow Block**

	Installation Conditions								
	Normal (A	Ambient)	100% Sa	turated	Cold (-20°)				
Embedment	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)			

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

## **► ANCHOR SELECTION**

Size	Hex Wasl	ner Head	Phillips Fl	at Head	Square Socket Flat Head	Drill Bit
	BLUE RUSPRO™	STAINLESS STEEL	BLUE RUSPRO <sup>TM</sup>	STAINLESS STEEL	SILVER RUSPRO <sup>TM</sup>	(INCL.)
3/16 X 3/4	SCH 31634	-	-	-	-	5/32
3/16 X 1-1/4	SCH 316114	SSH 316114	SCP 316114	SSP 316114	SCR 316114	5/32
3/16 X 1-3/4	SCH 316134	SSH 316134	SCP316134	SSP 316134	SCR 316134	5/32
3/16 X 2-1/4	SCH 316214	SSH 316214	SCP 316214	SSP 316214	SCR 316214	5-32
3/16 X 2-3/4	SCH 316234	SSH 316234	SCP 316234	SSP 316234	SCR 316234	5/32
3/16 X 3-1/4	SCH 316314	-	SCP 316314	-	SCR 316314	5/32
3/16 X 4	SCH 3164	-	SCP 3164	-	SCR 3164	5/32
1/4 X 1-1/4	SCH 14114	SSH 14114	SCP 14114	SSP 14114	SCR 14114	3/16
1/4 X 1-3/4	SCH 14134	SSH 14134	SCP14134	SSP 14134	SCR 14134	3/16
1/4 X 2-1/4	SCH 14214	SSH 14214	SCP 14214	SSP 14214	SCR 14214	3/16
1/4 X 2-3/4	SCH 14234	SSH 14234	SCP 14234	SSP 14234	SCR 14234	3/16
1/4 X 3-1/4	SCH 14314	SSH 14314	SCP 14314	SSP 14314	SCR 14314	3/16
1/4 X 4	SCH 144	SSH 144	SCP 144	SSP 144	-	3/16
1/4 X 5	SCH 145	-	SCP 145	-	-	3/16
1/4 X 6	SCH 146	-	SCP 146	-	-	3/16

#### Notes:

- 1. Drill bits are only included in the 100 packs
- 2. All screws up to and including 1-3/4" long are fully threaded. Screws greater than 1-3/4" long are partially threaded (41-44 mm) are fully threaded (41
- 3. All SCR screws are ACQ compliant

<sup>&</sup>lt;sup>2</sup>The above technical data is based on the Ortech test report No.: 96-J53-M0163

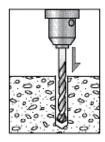
# **► INSTALLATION**

# **Table 3 - Installation Details**

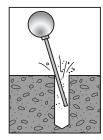
Installation Details	Unit	Normal Scru-it Diameter				
mstanation betans		3/16		1/4		
Embedmenth Depth		1	1-1/2	1	1-1/2	
Nominal drill bit diameter	Inch	5/32		3/16		
Minimum Hole Depth		1-1/4	1-3/4	1-1/4	1-3/4	
Critical Anchor Spacing <sup>1</sup>		4		4		
Critical Edge Distance <sup>1</sup>		2		2		

#### Notes

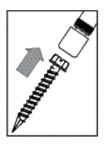
- 1. Distances are for 100% load capacity in minimum 3000 psi solid concrete
- 2. In case of the base material strength and condition questionable, site testing is recommended



Drill the hole into the base material using the recommended size ANSIcompliant SCS drill bit to the required embedment depth plus 1/4 inch.



Remove dust and debris from the hole.



Attach the SCRUTOOL sleeve over the drill bit with the appropriate size socket. Mount the screw head to the socket of the SCRUTOOL assembly.

Set the drill to rotation only.



Place the screw point through the fixture into the predrilled hole and drive it until the socket is seated and the head of the screw disengages from it. This will prevent over torquing the screw.