

GENERAL INFORMATION

TRAK-IT® C5

Gas Fastening System

PRODUCT DESCRIPTION

The Trak-It C5 gas fastening system was developed for use in light-duty static applications, including attaching drywall track to concrete, block or steel, lath to concrete or block, furring strips to concrete or block, and plywood to concrete or block base materials. The system is designed for speed, efficiency and consistency. Operation of a gas fastening system does not require licensing.

GENERAL APPLICATIONS AND USES

- Attaching steel track to concrete, block or steel
- Attaching plywood to concrete or block
- Attaching lath to concrete, block or steel
- Attaching furring strips to concrete or block

FEATURE AND BENEFITS

- + No licensing requirements
- + Each fuel cell contains enough gas to install up to 800 fasteners
- + Available for use with most Stick-E™ accessories
- + Tracks are easily removeable on tool
- + Adjustable depth control on tool nose piece
- + Maintenance counter and LED indicator
- + Dust resistant tool manifolds
- + Ergonomic handle with light trigger pull load

APPROVALS AND LISTINGS

- International Code Council, Evaluation Service (ICC-ES), ESR-3275
- Code compliant with the 2012 IBC, 2012 IRC, 2009 IBC, 2009 IRC, 2006 IBC, and 2006 IRC.

GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors, 05 05 23 - Metal Fastenings, 06 05 23 - Wood, plastic, and composite fastenings and 09 22 16.23 - Fasteners. Gas fastening systems shall be Trak-It® C5 as supplied by Powers Fasteners.

TOOL SPECIFICATIONS

Trak-It C5 Tool

Tool Body	Precision Moulded Aluminum and Plastic
Tool Length	17.25"
Tool Weight	7.9 lbs
Pin Length (Maximum)	1-1/4" for deep track; 1-1/2" for short track & long track
Pin Capacity	42 pins for deep track & long track; 22 pins for short track
Power Capacity	105 joules
Approximate Shots per Fuel Cell	800 pins
Approximate Shots per Battery Charge	5,700

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TRAK-IT C5 TOOL (SHOWN WITH DEEP TRACK) FOR 1-1/4" PIN LENGTH



SHORT TRACK & LONG TRACK FOR 1-1/2" PIN LENGTH



C5 POLE TOOL

SUITABLE BASE MATERIALS

- Normal-Weight Concrete
- Lightweight Concrete
- Grouted Concrete Masonry
- Hollow Concrete Masonry (CMU)
- Steel

PERFORMANCE DATA

Allowable Loads for Trak-It C5 Fasteners Installed in Normal Weight Concrete^{1,2,3}

Shank Type (inch)	Shank Diameter (inch)	Minimum Embedment (inch)	Minimum Fastener Length ⁴ (inch)	Minimum Spacing ⁵ (inch)	Minimum Edge Distance ⁶ (inch)	Minimum Concrete Compressive Strength (f'c)					
						2,500 psi		3,000 psi		4,000 psi	
						Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
Straight	0.102	5/8	3/4	4	3-1/4	120	135	120	140	120	145
		7/8	1	4	3-1/4	180	185	180	195	180 ⁷	215 ⁷
		1-1/8	1-1/4	4	3-1/4	240	225	240	255	245	310
	0.145	5/8	3/4	4	3-1/4	105	75	110	95	120	135
7/8		1	4	3	125	105	135	110	-	-	
Step	0.120/0.102	0.600 ⁵	0.680 ⁵	4	3	-	-	-	-	90	65
		5/8	0.730	4	3	-	-	-	-	115 ⁸	80 ⁸
	0.145/0.102	3/4	1-1/4	4	3	80	215	85	235	-	-
		1	1-1/4	4	3	125	245	135	265	-	-
		1-1/8	1-1/4	4	1-3/4	215	250	250	250	320	250
	0.145/0.120	3/4	1	4	3-1/4	145	180	155	185	170	190

For Sl: 1 lbf = 4.48 N, 1 inch = 25.4mm, 1 psi = 6.895 kPa

1. Fasteners must not be driven until the concrete has reached the tabulated compressive strength.
2. Concrete thickness must be a minimum of 3 times the embedment depth of the fastener.
3. The tabulated allowable load values are for the fastener only. Wood or steel members connected to the steel substrate must be investigated in accordance with accepted design criteria.
4. Based upon attachment of 16 gage sheet metal or thinner, except as noted.
5. Based upon attachment of 25 gage sheet metal or thinner.
6. Installing fasteners less than the minimum spacing and edge distance values in this table can result in a reduction in capacity. Such conditions are outside the scope of this published information.
7. For installations in 6,000 psi concrete, the tabulated tension and shear loads may be increased to 200 lbs and 220 lbs, respectively.
8. For installations in 6,000 psi concrete, the tabulated shear load may be increased to 125 lbs. The tabulated tension load must not be increased.

Allowable Loads for Trak-It C5 Fasteners Installed in Concrete Masonry Units^{1,2,3}

Shank Type	Shank Diameter (inch)	Minimum Embedment (inch)	Minimum Spacing (inches)	Minimum Edge Distance (inches)	Hollow CMU		Grouted CMU	
					Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
Straight	0.102	7/8	4	3-3/4	65	80	-	-
	0.145	3/4	4	3-3/4	-	-	80	90
Step	0.145/0.120	3/4	4	3-3/4	-	-	85	100
	0.145/0.102	1-1/8	4	3-3/4	-	-	180	215

For Sl: 1 lbf = 4.48 N, 1 inch = 25.4mm, 1 psi = 6.895 kPa

1. The allowable tension and shear values are for the fasteners only. Members connected to the concrete masonry must be investigated in accordance with accepted design criteria.
2. Concrete masonry units must be normal weight units conforming to ASTM C90.
3. Fasteners must be placed into unit face only. Face shell thickness of the concrete masonry units shall be 1-1/4 inches, minimum.

Allowable Loads for Trak-It C5 Fasteners Installed in ASTM A36 Steel^{1,2}

Shank Type	Shank Diameter (inch)	Minimum Spacing (inch)	Minimum Edge Distance (inch)	Steel Thickness (inch)									
				1/8		3/16		1/4		3/8		1/2	
				Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
Step	0.120/0.102	1	1/2	115	280	230	280	250	240	165 ³	125 ³	220 ⁴	205 ⁴
	0.145/0.120	1	1/2	95	300	285	300	225	190	-	-	-	-

For Sl: 1 lbf = 4.48 N, 1 inch = 25.4mm, 1 psi = 6.895 kPa

1. Steel base material must have minimum yield and tensile strengths (F_y and F_u) equal to 36 ksi and 58 ksi, respectively.
2. Unless otherwise noted, fasteners must be driven to where the point of the fastener penetrates through the steel base material.
3. An embedment depth of 0.350-inch is required for the tabulated value. Allowable load value applies to steel base material with a thickness of 3/8-inch and thickness up to but not including 1/2-inch. For cases where the embedment depth is less than 0.350-inch but at least 0.250-inch, the allowable tension load is 115 lbs and the allowable shear is 120 lbs.
4. An embedment depth of 0.375-inch is required for the tabulated value. Allowable load value applies to steel base material with a thickness of 1/2-inch or greater. For cases where the embedment depth is less than 0.375-inch, but is at least 0.350-inch, the allowable tension load is 165 lbs and the allowable shear load is 125 lbs. For cases where the embedment depth is less than 0.350-inch but at least 0.250-inch, the allowable tension load is 110 lbs and the allowable shear is 120 lbs.

Allowable Loads for Trak-It C5 Fasteners Installed in ASTM A572 Grade 50 or ASTM A992 Steel^{1,2}

Shank Type	Shank Diameter (inch)	Minimum Spacing (inch)	Minimum Edge Distance (inch)	Steel Thickness (inch)									
				1/8		3/16		1/4		3/8		1/2	
				Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
Step	0.120/0.102	1	1/2	120	290	245	290	270	255	175 ³	135 ³	240 ⁴	220 ⁴
	0.145/0.120	1	1/2	100	320	305	320	245	205	-	-	-	-

For Sl: 1 lbf = 4.48 N, 1 inch = 25.4mm, 1 psi = 6.895 kPa

1. Steel base material must have minimum yield and tensile strengths (F_y and F_u) equal to 50 ksi and 65 ksi, respectively.
2. Unless otherwise noted, fasteners must be driven to where the point of the fastener penetrates through the steel base material.
3. An embedment depth of 0.350-inch is required for the tabulated value. Allowable load value applies to steel base material with a thickness of 3/8-inch and thickness up to but not including 1/2-inch. For cases where the embedment depth is less than 0.350-inch but at least 0.188-inch, the allowable tension load is 65 lbs and the allowable shear is 90 lbs.
4. An embedment depth of 0.375-inch is required for the tabulated value. Allowable load value applies to steel base material with a thickness of 1/2-inch or greater. For cases where the embedment depth is less than 0.375-inch, but is at least 0.350-inch, allowable tension load is 175 lbs and the allowable shear load is 135 lbs. For cases where the embedment depth is less than 0.350-inch but at least 0.125-inch, the allowable tension load is 25 lbs and the allowable shear is 55 lbs.

Allowable Loads for Trak-It C5 Spiral Knurl Pin Installed into Steel^{1,2,3}

Fastener Type (Style)	Shank Diameter (inch)	16 Gage Steel		18 Gage Steel		20 Gage Steel	
		Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
Spiral Knurl Pin	0.102 (K)	45	220	30	140	20	90

1. Tested in accordance with general provisions of ASTM E 1190 / ICC-ES AC70 and with steel members meeting ASTM C 955/A 653. Allowable loads 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.
2. The tabulated allowable load values are for the fastener pullout capacity in the steel member. Wood members and/or proprietary materials connected to the steel must be investigated in accordance with the applicable code(s).
3. Multiple fasteners are recommended for any attachment for increased redundancy.

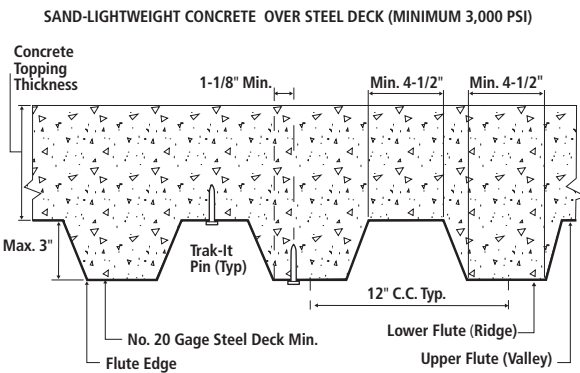
Allowable Loads for Trak-It C5 Fasteners Installed in Sand-Lightweight Concrete and Sand-Lightweight Concrete Over Steel Deck^{1,2,5}

Shank Type	Shank Diameter (inch)	Minimum Embed. (inch)	Minimum Spacing (inch)	Installed Into Concrete f'c = 3,000 ⁶ psi			Installed Into Concrete Through Steel Deck f'c = 3,000 ⁶ psi					
				Min. Edge Distance (inch)	Tension (lbs)	Shear (lbs)	Min. Edge Distance (inch)	Deck Type	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
									Upper Flute	Lower Flute	Upper Flute	Lower Flute
Straight	0.102	3/4	4	3	120	150	1-1/8	Note 3	120	105	225	195
							3/4	Note 4	115	105	225	195
		7/8	4	3	120	205	1-1/8	Note 3	-	105	-	255
							3/4	Note 4	-	110	-	245
	0.145	3/4	4	3	70	80	1-1/8	Note 3	110	80	220	200
							3/4	Note 4	-	60	-	200
Step	0.145/0.102	1-1/8	4	3	280	230	1-1/8	Note 3	-	160	-	300
							3/4	Note 4	-	150	-	300

For SI: 1 lbf = 4.48 N, 1 inch = 25.4mm, 1 psi = 6.895 kPa

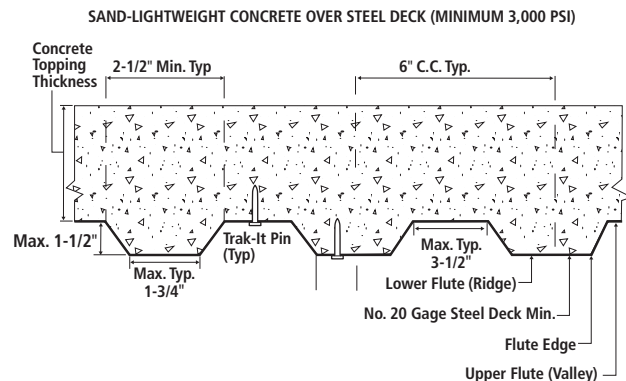
1. Fasteners must not be driven until the concrete has reached the tabulated compressive strength.
2. Concrete thickness must be a minimum of 3 times the embedment depth of the fastener.
3. The steel deck must have a minimum base material thickness of 0.035 inch, minimum yield strength, F_y, of 33 ksi, and conform to the profile requirements of Figure 1. Sand-lightweight concrete fill above the top of the steel deck profile must be at least 2-1/4 inches thick for the 3/4-inch fastener embedment, 2-3/4 inches thick for the 7/8-inch fastener embedment and 3-1/4 inches thick for the 1-1/8-inch fastener embedment.
4. The steel deck must have a minimum base material thickness of 0.035 inch, minimum yield strength, F_y, of 33 ksi, and conform to the profile requirements of Figure 2. Sand-lightweight concrete fill above the top of the steel deck profile must be at least 2-1/4 inches thick for the 3/4-inch fastener embedment, 2-3/4 inch thick for the 7/8-inch fastener embedment and 3-1/4 inches thick for the 1-1/8-inch fastener embedment.
5. The tabulated allowable load values are for the fastener only. Wood or steel members connected to the steel substrate must be investigated in accordance with accepted design criteria.
6. For installation into lightweight concrete with f'c = 3,500 psi, multiply the tabulated values by 1.05 to determine the applicable allowable load value.

Figure 1 - Fastener Installation Through Soffit of 3-inch Deep Concrete-filled Composite Steel Deck Floor and Roof Assemblies.



Note: The steel deck must have a minimum base material thickness of 0.035 inch, and a minimum yield strength, F_y, of 33 ksi. Concrete topping thickness must be at least 2-1/4 inches thick for the 3/4-inch fastener embedment, 2-3/4 inches thick for the 7/8-inch fastener embedment and 3-1/4 inches thick for the 1-1/8-inch fastener embedment.

Figure 2 - Fastener Installation Through the Soffit of 1-1/2 inch Deep Concrete-filled Composite Steel Deck Floor and Roof Assemblies.



Note: The steel deck must have a minimum base material thickness of 0.035 inch, and a minimum yield strength, F_y, of 33 ksi. Concrete topping thickness must be at least 2-1/4 inches thick for the 3/4-inch fastener embedment, 2-3/4 inches thick for the 7/8-inch fastener embedment and 3-1/4 inches thick for the 1-1/8-inch fastener embedment.

ORDERING INFORMATION

Straight .102" Pins

Cat. No.	Shank Dia.	Length	Min. Embed.	Knurl/Spiral	Plate	Box	Ctn.	Typical Applications
55310	0.102	3/4"	3/4"	-	Zinc	800	4000	Metal track to concrete
55312	0.102	1"	1"	-	Zinc	800	4000	Light gauge metal track to concrete
55314	0.102	1-1/4"	1-1/4"	-	Zinc	800	4000	Fixture to concrete or block
55316	0.102	1-1/2"	1-1/2"	-	Zinc	800	4000	Fixture to concrete or block



Straight .145" Pins

Cat. No.	Shank Dia.	Length	Min. Embed.	Knurl/Spiral	Plate	Box	Ctn.	Typical Applications
55318	0.145	3/4"	3/4"	-	Zinc	800	4000	Metal track to concrete
55320	0.145	1"	1"	-	Zinc	800	4000	Light gauge metal track to concrete, 1/4" & 3/8" plywood to concrete/block, rubber membrane to concrete or block



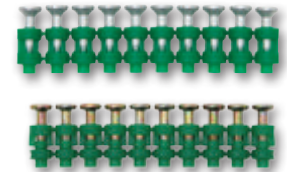
Structural Pins for Concrete and Steel

Cat. No.	Shank Dia.	Step Dia.	Length	Min. Embed.	Knurl/Spiral	Plate	Box	Ctn.	Typical Applications
55322	0.145	0.102	1-1/4"	1-1/4"	-	Zinc	800	4000	Fixture to concrete or block
55324	0.145	0.102	1-1/2"	1-1/2"	-	Zinc	800	4000	Fixture to concrete or block
55336	0.145	0.120	1"	7/8"	K	Zinc	800	4000	1/2" & 5/8" plywood to steel
55338	0.145	0.120	1-1/4"	1"	K	Zinc	800	4000	3/4" plywood to steel, 1" furring strip to steel



Specialty Tapered Short Pins

Cat. No.	Shank Dia.	Step Dia.	Length	Min. Embed.	Knurl/Spiral	Plate	Box	Ctn.	Typical Applications
55325	0.120	-	.500	1/2"	-	Zinc	800	4000	Metal track to thick steel
55326	0.120	0.102	.500	1/2"	K	Zinc	800	4000	Metal track to steel
55328	0.120	0.102	.680	5/8"	K	Zinc	800	4000	Metal track to steel or concrete
55330	0.120	0.102	.730	5/8"	K	Zinc	800	4000	1/4" plywood to steel or hard concrete
55342	0.102	0.088	.780	3/4"	K	Zinc	800	4000	Steel, stud, strut precast concrete, block and steel



Specialty Spiral Knurled Pin

Cat. No.	Shank Dia.	Length	Min. Embed.	Knurl/Spiral	Plate	Box	Ctn.	Typical Applications
55340	0.102	1-3/8"	1-3/8"	K / S	Zinc	1000	5000	Plywood or Denz-Glass (with washer) to steel stud



C5 Pins - Tools and Accessories

Cat. No.	Description	STD Box	STD Ctn
55142	C5 Trak-It Deep Track (1-1/4 pin) - 42 Pin Magazine Capacity	1	1
55144	C5 Trak-It Short Track (1-1/2 pin) - 22 Pin Magazine Capacity	1	1
55148	C5 Trak-It Long Track (1-1/2 pin) - 42 Pin Magazine Capacity	1	1
56347	C5 Pole Tool Full System	1	1
56348	C5 Pole Tool 3' Extension	1	1
55585	Battery	1	1
55618	Charger Base	1	1
55619	110v Adapter Cord	1	1
55502	Fuel Cell	20	80
55342	Accessory DT (1-1/4 pin)	1	1
55344	Accessory ST (1-1/2 pin)	1	1
55346	Accessory LT (1-1/2 pin)	1	1
55157	Denz-Tight Washer	100	1000

