TECHNICAL DATA SHEET:

TRAK-PRO GAS-ACTUATED CONCRETE PINS

FOR TRAK-PRO NAILING SYSTEM

Trak-Pro Gas-Actuated Concrete Pins are made out of high carbon steel ensuring strength and hardness for use in steel and concrete. Use with Trak-Pro Nailers to fix steel plate to steel plate or to concrete.

KEY BENEFITS

- Made of High Cardon Steel
- For Use In Steel & Concrete
- High Strength & Hardness

PRODUCT SPECIFICATIONS

Allowable Tension Loads in Normal Weight Concrete

Part #	Shank Diameter in. (mm)	Min. Penetration in. (mm)	Min. Edge Distance in. (mm)	Min. Spacing in. (mm)	Allowable Tension Load - lb. (kN)			
					f'_c=2,500 psi (17.2 MPa)	f'_c=3,000 psi (20.7 MPa)	f'_c=4,000 psi (27.6 MPa)	f'_c=5,000 psi (34.5 MPa)
1GN	0.106 (2.7)	5/8 (16)	3 (76)	4 (102)	25 (0.11)	30 (0.13)	45 (0.20)	45 (0.20)
		3/4 (19)	3 (76)	4 (102)	30 (0.13)	30 (0.13)	30 (0.13)	30 (0.13)

1. The fasteners must not be driven until the concrete has reached the designated minimum compressive strength.
2. Minimum concrete thickness must be three times the fastener embedment into the concrete.
3. The allowable tension values are only for the fastener in the concrete. Members connected to the concrete must be investigated in accordance with accepted design criteria.

Allowable Shear Loads in Normal Weight Concrete

Part #	Shank Diameter in. (mm)	Min. Penetration in. (mm)	Min. Edge Distance in. (mm)	Min. Spacing in. (mm)	Allowable Shear Load - lb. (kN)			
					f'_c=2,500 psi (17.2 MPa)	f'_c=3,000 psi (20.7 MPa)	f'_c=4,000 psi (27.6 MPa)	f'_c=5,000 psi (34.5 MPa)
1GN	0.106 (2.7)	5/8 (16)	3 (76)	4 (102)	25 (0.11)	25 (0.11)	25 (0.11)	25 (0.11)
		3/4 (19)	3 (76)	4 (102)	50 (0.22)	55 (0.24)	75 (0.33)	75 (0.33)

1. The fasteners must not be driven until the concrete has reached the designated minimum compressive strength.
2. Minimum concrete thickness must be three times the fastener embedment into the concrete.
3. The allowable tension values are only for the fastener in the concrete. Members connected to the concrete must be investigated in accordance with accepted design criteria.

Allowable Tension Loads in Sand-Lightweight Concrete Over Steel Deck

Part #	Shank Diameter in. (mm)	Min. Penetration in. (mm)	Allowable Tension Load - lb. (kN)		
			Installed in Concrete[4]	Installed Thru. 3" "W" Deck with 2-1/4" Concrete Fill[6]	Installed Thru. 1.5" "B" Deck with 2-1/4" Concrete Fill[7]
			f'_c=3,000 psi (20.7 MPa) Concrete		
1GN	0.106 (2.7)	5/8 (16)	75 (0.33)	60 (0.27)	65 (0.29)
		3/4 (19)	105 (0.47	60 (0.27)	130 (0.58)

1. The fastener shall not be driven until the concrete has reached the designated compressive strength.
2. The allowable tension values are for the fastener only. Members connected to the concrete must be invesigated separately in accordance with accepted design criteria.
3. Steel deck must be minimum 20 gauge and have a minimum yield strength of 38,000 psi.
4. The minimum fastener spacing is 4". The minimum edge distances are 3 1/2" and 3" for powder-actuated fasteners and gas-actuated fasteners, respectively.
5. The fastener shall be installed minimum 1 1/2" from the edge of flute and 4" from the end of the deck. The minimum fastener spacing is 4".
6. The fastener shall be installed minimum 1" from the edge of flute and 3" from the end of the deck. The minimum fastener spacing is 4".
7. The fastener shall be installed minimum 7/8" from the edge of flute. For inverted 1.5" “B” deck configuration, the fastener must be a minimum of 1" from the edge of flute. Fastener must be installed miminim 3" from the end of the deck. The minimum fastener spacing is 4".
8. The fastener shall be installed minimum 7/8" from the edge of flute and 4" from the end of the deck. The minimum fastener spacing is 4".

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Allowable Shear Loads in Sand-Lightweight Concrete Over Steel Deck

Part #	Shank Diameter in. (mm)	Min. Penetration in. (mm)	Allowable Shear Load - lb. (kN)		
			Installed in Concrete[4]	Installed Thru. 3" "W" Deck with 2-1/4" Concrete Fill[6]	Installed Thru. 1.5" "B" Deck with 2-1/4" Concrete Fill[7]
			f'_c=3,000 psi (20.7 MPa) Concrete		
1GN	0.106 (2.7)	5/8 (16)	35 (0.16)	180 (0.80)	195 (0.87)
		3/4 (19)	140 (0.62)	180 (0.80)	270 (1.20)

1. The fastener shall not be driven until the concrete has reached the designated compressive strength.
2. The allowable tension values are for the fastener only. Members connected to the concrete must be invesigated separately in accordance with accepted design criteria.
3. Steel deck must be minimum 20 gauge and have a minimum yield strength of 38,000 psi.
4. The minimum fastener spacing is 4". The minimum edge distances are 3 1/2" and 3" for powder-actuated fasteners and gas-actuated fasteners, respectively.
5. The fastener shall be installed minimum 1 1/2" from the edge of flute and 4" from the end of the deck. The minimum fastener spacing is 4".
6. The fastener shall be installed minimum 1" from the edge of flute and 3" from the end of the deck. The minimum fastener spacing is 4".
7. The fastener shall be installed minimum 7/8" from the edge of flute. For inverted 1.5" “B” deck configuration, the fastener must be a minimum of 1" from the edge of flute. Fastener must be installed miminim 3" from the end of the deck. The minimum fastener spacing is 4".
8. The fastener shall be installed minimum 7/8" from the edge of flute and 4" from the end of the deck. The minimum fastener spacing is 4".

Allowable Tension & Shear Loads in Hollow & Grout-Filled CMU[4,5,]

Part #	Shank Diameter in. (mm)	Min. Penetration in. (mm)	Min. Edge Distance in. (mm)	8-inch Hollow CMU	
				Tension Load	Shear Load
				Allowable lb. (kN)	Allowable lb. (kN)
1GN	0.106 (2.7)	5/8 (16)	3 (76)	35[1] (0.16)	60[1] (0.27)

1. Allowable values for fasteners in hollow lightweight concrete masonry units conforming to ASTM C90.
2. Allowable values for fasteners in hollow medium-weight concrete masonry units conforming to ASTM C90.
3. Allowable values for fasteners in grout-filled lightweight concrete masonry units conforming to ASTM C90 with coarse grout confroming to ASTM C746.
4. The minimum allowable nominal size of the CMU must be 8" high by 8" wider by 16" long, with a minimum 1 1/4"-thick face shell thickness.
5. Allowable values are for fasteners installed in the center of a CMU face shell. See Figure 1 for the applicable placement zone. Only one fastener may be installed at each cell.
6. Minimum penetration is measured from the outside face of the CMU.
7. Allowable values are for the fastener only. Members connected to the CMU must be investigated separately in accordance with accepted design criteria.

Allowable Tension Loads in Steel[1]

Part #	Shank Diameter[10] in. (mm)	Min. Edge Distance in. (mm)	Min. Spacing in. (mm)	Min. Steel Strength[3] ASTM	Allowable Tension Load - lb. (kN)		
					1/8" - Thick Steel	3/16" - Thick Steel	1/4" - Thick Steel
1GN	0.106 (2.7)	0.5 (13)	1 (25)	A36	125 (0.56)	210 (0.93)	220 (0.98)
		0.5 (13)	1 (25)	A572 Gr. 50 or A992	-	225 (1.00)	185 (0.82)

1. The entire pointed portion of the fastener must penetrate through the steel to obtain the tabulated values, unless otherwise indicated.
2. The allowable tension values are for the fastener only. Members connected to the steel must be investigated separately in accordance with accepted design criteria.
3. Steel strength must comply with the minimum requirements of ASTM A 36 (Fy = 36 ksi, Fu = 58 ksi), ASTM A 572, Grade 50 (Fy = 50 ksi, Fu = 65 ksi), or ASTM A992 (Fy = 50 ksi, Fu = 65 ksi).
4. Based upon minimum penetration depth of 0.46" (11.7 mm).
5. Based upon minimum penetration depth of 0.58" (14.7 mm).
6. Based upon minimum penetration depth of 0.36" (9.1 mm).
7. The fastener must be driven to where the point of the fastener penetrates through the steel.
8. Based upon minimum penetration depth of 0.35" (8.9 mm).
9. Based upon minimum penetration depth of 0.25" (6.4 mm).
10. For stepped shank fasteners: (Diameter of shank above the step)/(Diameter of shank below the step.)

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Allowable Shear Loads in Steel[1]

Part #	Shank Diameter[10] in. (mm)	Min. Edge Distance in. (mm)	Min. Spacing in. (mm)	Min. Steel Strength[3] ASTM	Allowable Shear Load - lb. (kN)		
					1/8" - Thick Steel	3/16" - Thick Steel	1/4" - Thick Steel
1GN	0.106 (2.7)	0.5 (13)	1 (25)	A36	285 (1.27)	225 (1.00)	205 (0.91)
		0.5 (13)	1 (25)	A572 Gr. 50 or A992	-	250 (1.11)	145 (0.64)

1. The entire pointed portion of the fastener must penetrate through the steel to obtain the tabulated values, unless otherwise indicated.
2. The allowable tension values are for the fastener only. Members connected to the steel must be investigated separately in accordance with accepted design criteria.
3. Steel strength must comply with the minimum requirements of ASTM A 36 (Fy = 36 ksi, Fu = 58 ksi), ASTM A 572, Grade 50 (Fy = 50 ksi, Fu = 65 ksi), or ASTM A992 (Fy = 50 ksi, Fu = 65 ksi).
4. Based upon minimum penetration depth of 0.46" (11.7 mm).
5. Based upon minimum penetration depth of 0.58" (14.7 mm).
6. Based upon minimum penetration depth of 0.36" (9.1 mm).
7. The fastener must be driven to where the point of the fastener penetrates through the steel.
8. Based upon minimum penetration depth of 0.35" (8.9 mm).
9. Based upon minimum penetration depth of 0.25" (6.4 mm).
10. For stepped shank fasteners: (Diameter of shank above the step)/(Diameter of shank below the step.)

ORDERING INFORMATION

Gas-Actuated Pins for Normal-Weight Concrete

Each box contains one (1) fuel cell.

Part #	Item	Qty/Box
1GN012	1/2" x 0.120" Gas-Actuated Pins for Normal-Weight Concrete	1000
1GN034	3/4" x 0.120" Gas-Actuated Pins for Normal-Weight Concrete	1000
1GN100	1" x 0.120" Gas-Actuated Pins for Normal-Weight Concrete	1000
1GN114	1-1/4" x 0.120" Gas-Actuated Pins for Normal-Weight Concrete	1000

Gas-Actuated Knurled Shank Hardened Pins for High Strength Concrete

Each box contains one (1) fuel cell.

Part #	Item	Qty/Box
1GNH034	3/4" x 0.120" Gas-Actuated Knurled Shank Hardened Pins for High Strength Concrete	1000

Trak-Pro Concrete Gas Nailers

Part #	Item	Qty/Piece
1GN40	Concrete Gas Nailer	1
1GN50	Concrete Gas Nailer	1