

POWDER ACTUATED FASTENING SYSTEM

TECHNICAL MANUALSECTION 6.0 • PAGE 1 / 2
© 05/2024 UCAN Fastening Products

▶ DESCRIPTION

UCAN powder actuated fasteners are manufactured from high quality spring steel wire. For optimum hardness and toughness, all fasteners are heat treated to a core hardness of RC 50 - 54. To provide protection against corrosion, fasteners are zinc plated to a thickness of minimum 0.0003" (7.5 μ m).

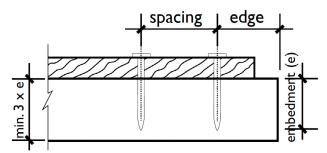
► MATERIAL SPECIFICATION

Tensile Strength = 1,800 MPa (269,700 psi) Shear Strength = 1,160 MPa (168,200 psi)

► APPLICATION LIMITS FOR FASTENING TO CONCRETE

- 1. Do not fasten into cracks or spalled areas
- 2. Concrete thickness > 4" (100 mm)
- 3. Min. distance between fasteners > 3" (75 mm)
- 4. Min. edge distance > 3" (75 mm)
- 5. Shank Diameter = 0.145"
- 6. Other influencing factors are: concrete strength, age of concrete, aggregate size.
- 7. The optimal fastener penetration (e) for maximum holding power in concrete:
 - less than 2000 psi 1-1/2"

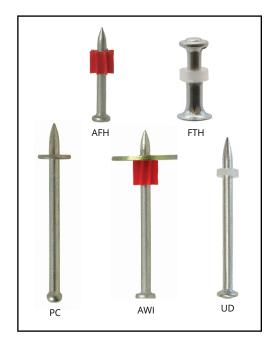
• 2000 psi : 1" • 5000 psi : 3/4"



► ALLOWABLE WORKING LOADS IN CONCRETE (LBS)

Shank Diameter	Penetration	Concrete Compressive Strength								
		2000 psi		3500 psi		5000 psi				
		Tension	Shear	Tension	Shear	Tension	Shear			
0.145"	1"	110	150	180	180	215	200			
	1-1/4"	128	180	190	200	222	234			
All I I I I I I I I I I I I I I I I I I										

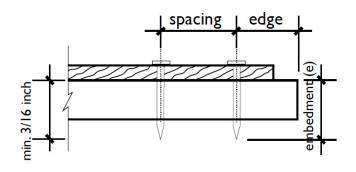
All values shown includes the safety factor of 8:1





► APPLICATION LIMITS FOR FASTENING TO STEEL

- 1. Do not fasten into cracks or spalled areas
- 2. Concrete thickness > 4" (100 mm)
- 3. Min. distance between fasteners > 3" (75 mm)
- 4. Min. edge distance > 3" (75 mm)
- 5. Shank Diameter = 0.145"
- 6. Other influencing factors are: concrete strength, age of concrete, aggregate size.
- 7. The optimal fastener penetration (e) for maximum holding power in concrete:
 - less than 2000 psi 1-1/2"
 - 2000 psi 1"
 - 5000 psi 3/4"



► ALLOWABLE WORKING LOADS IN STEEL (LBS)

	Steel thickness (inch)										
Shank Diameter	1/4"		3/	8"	1/2"						
Diameter	Tension	Shear	Tension	Shear	Tension	Shear					
0.145"	453	645	511	705	690	705					
All values shown includes the safety factor of 5:1											