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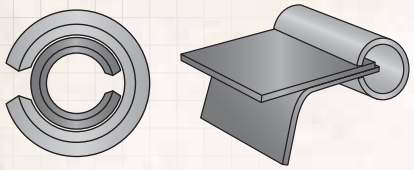
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SPRING PIN FEATURES

Spring pins are hollow, cylindrical tube-style press fit fasteners with chamfered ends. They weigh less and are easier to install than solid pins, as a result there is an abundance of types, materials, and finishes with wide stock availability. Spring pins are used as locking devices, positioning points, anti-chafing surfaces, shafts, or sleeves for wiring. Usage is limited only by imagination and technological capabilities. Slotted spring pins are also known generically as rolled pins or spring pins. Coiled spring pins are sometimes referred to as spiral pins.

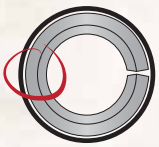
DESIGN CONSIDERATIONS

SLOTTED DESIGN



DOUBLE UP FOR ADDED SHEAR STRENGTH

USE THE SLOT AS A CUP OR AS AN ANCHORING CLIP



Part closes together upon installation. Stresses are concentrated opposite the gap.

COILED DESIGN

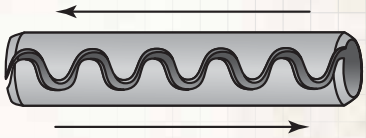


CONFORMS TO SHAPE OF OUT-OF-ROUND HOLES



As the part is pushed into hole, compression moves through the coils to the center, equally distributing the stress.

TOOTHED DESIGN



MINIMIZES LATERAL MOVEMENT IN OUT-OF-ROUND OR VIBRATORY ENVIRONMENTS



During compression, the teeth touch on one side only as a result of pre-designed spacing.

SHEAR STRENGTH

DOUBLE SHEAR STRENGTH IN LBS.





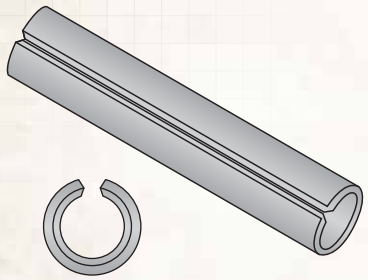
NOMINAL PIN DIAMETER	SLOTTED PIN: CARBON & 420 STAINLESS	SLOTTED PIN: 302 STAINLESS	COILED PIN: LIGHT DUTY CARBON & 420 STAINLESS	COILED PIN: LIGHT DUTY 302 STAINLESS	COILED PIN: STANDARD DUTY CARBON & 420 STAINLESS	COILED PIN: STANDARD DUTY 302 STAINLESS	COILED PIN: HEAVY DUTY CARBON & 420 STAINLESS	COILED PIN: HEAVY DUTY 302 STAINLESS
3/32"	1,150	670	475	360	775	600	1,150	825
1/8"	1,875	1,090	825	650	1,400	1,100	2,000	1,700
5/32"	2,750	1,600	1,300	1,000	2,200	1,700	3,100	2,400
3/16"	4,150	2,425	1,900	1,450	3,150	2,400	4,500	3,500
7/32"	5,850	3,400	–	–	–	–	–	6,200
1/4"	7,050	4,100	3,300	2,600	5,500	4,300	7,800	9,300
5/16"	10,800	6,300	5,200	4,000	8,700	6,700	12,000	1,400
3/8"	16,300	9,500	–	–	12,600	9,600	18,000	–
7/16"	19,800	11,500	–	–	–	–	–	–
1/2"	27,100	15,800	–	–	22,500	17,500	32,000	25,000

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SPRING PIN TYPES

SLOTTED

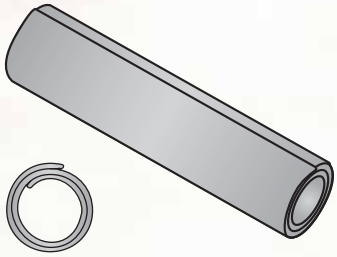
Standard single-turned pin with a longitudinal slot and chamfered ends to facilitate installation.



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LIGHT DUTY COILED

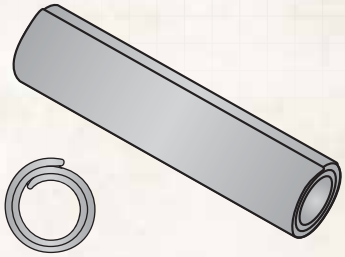
Multiple-turn roll-formed part that possesses the same 2-1/4 turns as a standard. By using thinner material, the double shear value and weight are reduced.



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STANDARD COILED

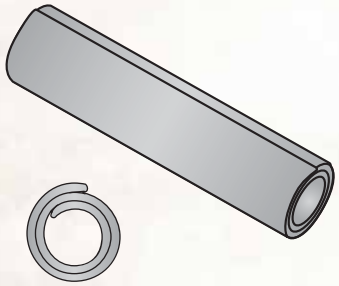
Standard 2-1/4 turn part. Coiled pins distribute forces more evenly vs. standard slotted pins.



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HEAVY DUTY COILED

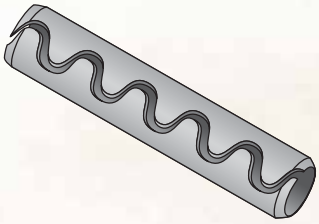
Extra thick material gives this 2-1/4 turn pin the highest double shear strength in the line.



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TOOTHED ROLLED PIN

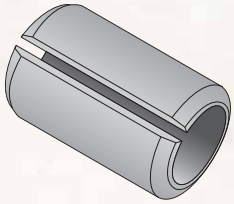
Precision pins with a "toothed" longitudinal slot. Toothed pins possess the tightest tolerance and highest seating capacity of this line.



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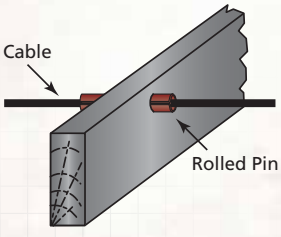
TENSION BUSHING

Heavy duty cousins to the slotted pin, tension bushings are made from hardened spring steel for use in load bearing, non-lubricated environments.

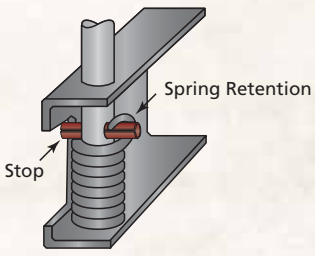


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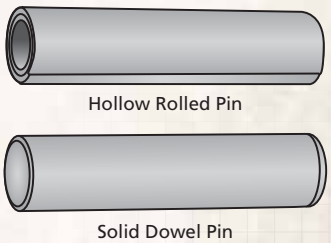
APPLICATIONS



HOLLOW DESIGN USEFUL IN OTHER NON-PIN APPLICATIONS SUCH AS A SLEEVE



DUAL PURPOSE APPLICATION AS A STOP AND AS A SPRING RETAINER



WEIGHS LESS THAN A SOLID PIN

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SPRING PINS

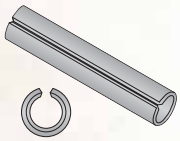
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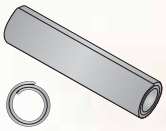
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QUICK REFERENCE GUIDE

Slotted spring pins are a single-turn, formed pin with one straight parallel slot. Because they can be installed in a single operation, they are economical and save time. The hollow design and slot give them their unique self-locking capabilities. Coiled spring pins are rolled forms made with 2-1/4 turns of steel. The wound design allows stress to be evenly distributed throughout the pin's cross section.





	SLOTTED	COILED
COMMON NAMES	Expansion Pin, Spring Pin, Tension Pin, Split Pin	Spiral Pins, Expansion Pin, Tension Pin
APPLICABLE STANDARDS	ASME B18.8.2, DIN 1481, ISO 8752, ASME B18.8.4	ASME B18.8.2, ISO 8750, ISO 8748
FABRICATION	Roll formed and heat treated.	Roll formed and heat treated.
HOW TO IDENTIFY	Nominal diameter × nominal length.	Light duty, medium (standard) duty, heavy duty, nominal diameter × nominal length. The "duty" is driven by material thickness, which affects outside diameter.
COMMON USES	Parts are larger than the hole. When installed, tension holds them in place. Low cost and versatile pin used in all sectors. Removable and reusable. Problems stem in workmanship (rolled edges do not meet or are too close), and in material.	Parts work similar as slotted pins, but because of coil action, parts perform better in out-of-round holes, and are less susceptible to vibration.
COMMENTS	Problems with metric parts. ISO standards are different than ASME standards which specifies a smaller slot for less nesting. Parts are lower priced and perform better than ISO counterpart, but smaller internal diameter should be considered.	ISO standards are consistent and are divided between standard duty and heavy duty. ASME and ISO standards are identical for metric sizes.

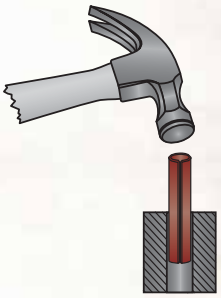
SPRING PIN BENEFITS

Spring pins require only a straight drilled hole, may be installed using automated equipment, and are reusable.

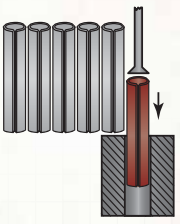
DRILL A HOLE
NO REAMING NEEDED



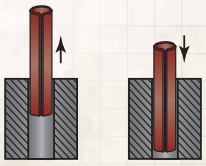
INSTALL



USE AUTOMATED ASSEMBLY



REMOVE AND REUSE



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