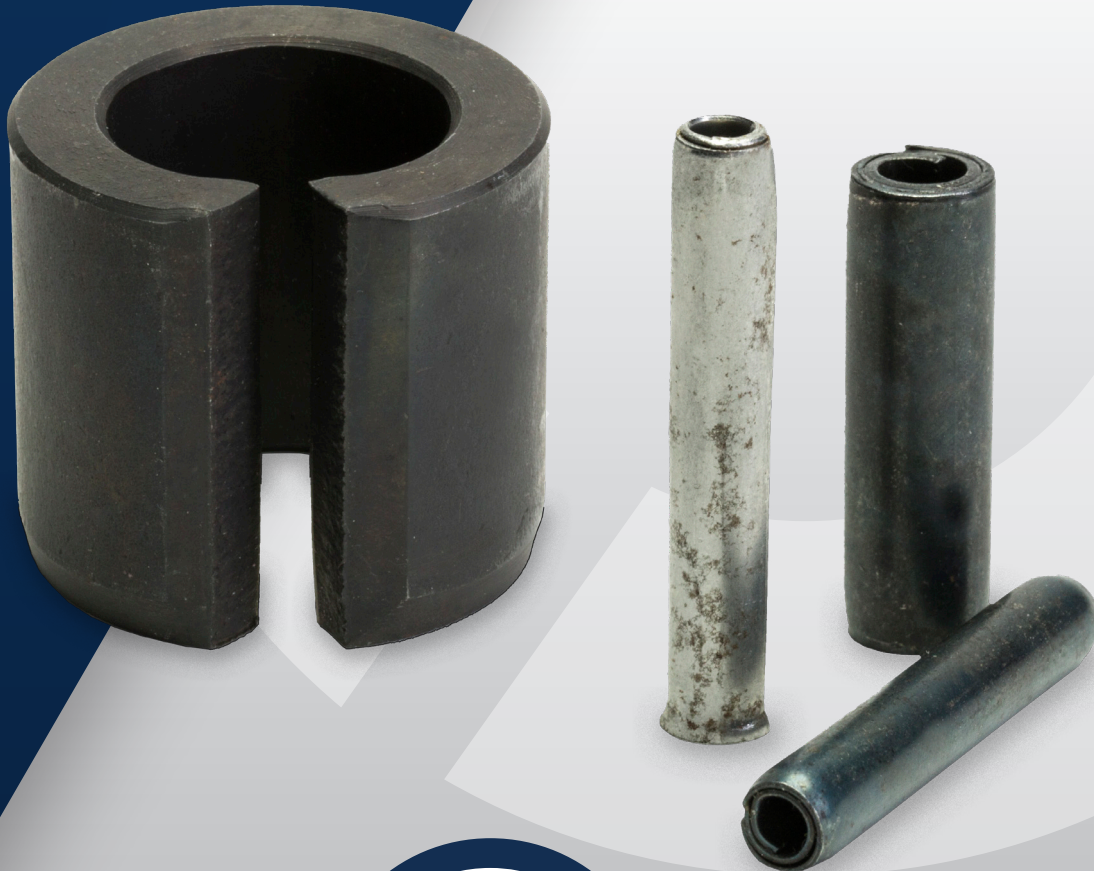




VFS
VOGELSANG FASTENER SOLUTIONS
PRODUCT CATALOG



ROLL PINS



COILED PINS

**VOGELSANG FASTENER
SOLUTIONS**

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UNITED STATES
GERMANY
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VOGELSANG COILED SPRING PINS are stocked in Inch (1/16" to 3/4"), & Metric (1MM to 19MM), in a variety of materials, specifications & finishes.

Vogelsang Coiled Spring Pins enhance their all-purpose fastening characteristics by virtue of their construction. Light thickness material is wrapped around approximately 2.25* times, producing a more resilient and versatile component.

A coiled spring pin manufactured by Vogelsang offers the following:

ADVANTAGES:

- Absorbs Shock and Vibrations
- Uniform Length and Flexibility
- Equal Stress Distribution
- Controlled Radial Shock
- Conforms to Out-Of-Round Hole
- Swaged Chamfers
- Accommodates Wider Hole Tolerances

FEATURES:

- SPC Control
- Lot Control
- Package/Bulk
- Special Length
- Standard/Medium Duty - Stock Item
- Heavy Duty - Stock Item
- Light Duty available

APPLICATIONS:

The lighter wall thickness and inherent flexibility of the **Standard Duty** pin make it ideal for use in the more malleable or pliant applications. **Heavy Duty** pins offer superior shear strength and are highly recommended for applications where loading and stress factors are elevated.

FEATURES:

- Coils distribute stress equally throughout the pin
- Pins flex after installation and when a load is applied
- Can be installed without regard to the direction of applied load
- The 2.25* coil wrap absorbs shock and vibration
- Coiled Pins will provide a minimum of 270° surface contact in the hole



*2.25 wraps is approximate

VOGELSANG ROLLPINS® are stocked in Inch (1/16" to 7/8"), & Metric (1MM to 50MM), in a variety of materials, specifications & finishes.

Vogelsang Rollpins® are hollow cylinders slit longitudinally over their entire length to permit compression during insertion, thus giving them their unique self-locking qualities. Chamfered edges facilitate insertion without disrupting the hole diameter or tolerance in any way. They are formed from special spring steel of high elasticity, resilience and wear resistance. These fasteners simplify product design, increase product reliability, reduce production costs and rejection losses.

Standard materials are high carbon spring steel or martensitic chromium steel (AISI 420) which are heat treated to achieve optimum shear strength. Rollpins® are also available in work hardened 18-8 nickel chromium steel. Standard finish for steel pins is plain and oiled. Plated pins and special materials are available on request.

ADVANTAGES:

- Low cost replacement for fasteners
- Universal
- Easily Installed
- Self-Locking
- Greater Fastening Security
- Durable
- Economical

FEATURES:

- SPC Control
- Lot Control
- Package/Bulk
- Special Lengths
- Plain & oiled standard finish
- Standard materials are heat treated
- Plated pins & special materials available



APPLICATIONS:

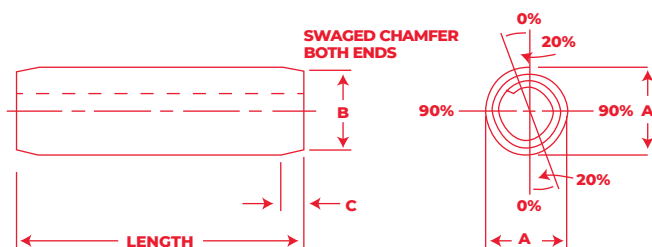
Vogelsang Rollpins® are used in an extensive array of applications. They regularly function as fasteners, hinge pins, stop pins, assembly pins and in a myriad of other roles. Vogelsang Rollpins® are tried and true, all purpose non-threaded tension fasteners that can be used in stampings, castings, forgings, sintered metals, hard rubber and plastics.



COILED PINS | PRACTICAL SIZES & LENGTHS - INCH SERIES

Normal Size or Basic Pin Diameter		A						B	C	Recommended Hole Size		Double Shear Load, Min., lb.					
		Pin Diameter						Chamfer				Standard Duty		Heavy Duty		Light Duty	
		Standard Duty		Heavy Duty		Light Duty		Dia.	Length			Material					
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Ref.	Max.	Min.	SAE 1070-1095 and SAE 51420	SAE 30302 and 30304	SAE 1070-1095 and SAW 51420	SAE 30302 and 30304	SAE 1070-1095 and SAW 51420	SAE 30302 and 30304
1/16	0.062	0.072	0.067	0.070	0.066	0.073	0.067	0.059	0.028	0.065	0.061	330	265	475	360	205	160
5/64	0.078	0.088	0.083	0.086	0.082	0.089	0.083	0.075	0.032	0.081	0.077	550	425	800	575	325	250
3/32	0.094	0.105	0.099	0.103	0.098	0.106	0.099	0.091	0.038	0.097	0.093	775	600	1,150	825	475	360
7/64	0.109	0.120	0.114	0.118	0.113	0.121	0.114	0.106	0.038	0.112	0.108	1,050	825	1,500	1,150	650	500
1/8	0.125	0.138	0.131	0.136	0.130	0.139	0.131	0.121	0.044	0.129	0.124	1,400	1,100	2,000	1,700	825	850
5/32	0.156	0.171	0.163	0.168	0.161	0.172	0.163	0.152	0.048	0.160	0.155	2,200	1,700	3,100	2,400	1,300	1,000
3/16	0.188	0.205	0.196	0.202	0.194	0.207	0.196	0.182	0.055	0.192	0.185	3,150	2,400	4,500	3,500	1,900	1,450
7/32	0.219	0.238	0.228	0.235	0.226	0.240	0.228	0.214	0.065	0.224	0.217	4,200	3,300	5,900	4,600	2,600	2,000
1/4	0.250	0.271	0.260	0.268	0.258	0.273	0.260	0.243	0.065	0.256	0.247	5,500	4,300	7,800	6,200	3,300	2,600
5/16	0.312	0.337	0.324	0.334	0.322	0.339	0.324	0.304	0.080	0.319	0.308	8,700	6,700	12,000	9,300	5,200	4,000
3/8	0.375	0.403	0.388	0.400	0.386	0.405	0.388	0.366	0.095	0.383	0.370	12,600	9,600	18,000	14,000		
7/16	0.438	0.469	0.452	0.466	0.450	0.471	0.452	0.427	0.095	0.446	0.431	17,000	13,300	23,500	18,000		
1/2	0.500	0.535	0.516	0.532	0.514	0.537	0.516	0.488	0.110	0.510	0.493	22,500	17,500	32,000	25,000		
5/8	0.625	0.661	0.642	0.658	0.640			0.613	0.125	0.635	0.618	35,000		48,000			
3/4	0.750	0.787	0.768	0.784	0.766			0.738	0.150	0.760	0.743	50,000		70,000			

Length	Diameter															
	.062	.078	.094	.125	.156	.187	.219	.250	.312	.375	.437	.500	.625	.750	See back page for Technical Data, Length Tolerances & Straightness Tolerances	
1/8																
3/16																
1/4	X															
5/16	X	X	X	X												
3/8	X	X	X	X	X											
7/16	X	X	X	X	X											
1/2	X	X	X	X	X			X								
9/16	X	X	X	X	X			X								
5/8	X	X	X	X	X	X	X	X								
11/16		X	X	X	X	X	X	X	X							
3/4		X	X	X	X	X	X	X	X	X						
13/16		X	X	X	X	X	X	X	X	X						
7/8		X	X	X	X	X	X	X	X	X						
15/16		X	X	X	X	X	X	X	X	X	X					
1		X	X	X	X	X	X	X	X	X	X	X				
11/8		X	X	X	X	X	X	X	X	X	X	X				
1 1/4		X	X	X	X	X	X	X	X	X	X	X	X			
1 3/8			X	X	X	X	X	X	X	X	X	X	X			
1 1/2			X	X	X	X	X	X	X	X	X	X	X			
1 5/8			X	X	X	X	X	X	X	X	X	X	X			
1 3/4			X	X	X	X	X	X	X	X	X	X	X			
1 7/8				X	X	X	X	X	X	X	X	X	X			
2				X	X	X	X	X	X	X	X	X	X	X	X	X
2 1/4					X	X	X	X	X	X	X	X	X	X	X	X
2 1/2						X	X	X	X	X	X	X	X	X	X	X
2 3/4							X	X	X	X	X	X	X	X	X	X
3								X	X	X	X	X	X	X	X	X
3 1/4									X	X	X	X	X	X	X	X
3 1/2									X	X	X	X	X	X	X	X
3 3/4										X	X	X	X	X	X	X
4										X	X	X	X	X	X	X
4 1/4														X	X	
4 1/2														X	X	
4 3/4														X	X	
5														X	X	
5 1/4														X	X	
5 1/2														X	X	
5 3/4														X	X	
6														X	X	

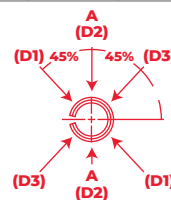
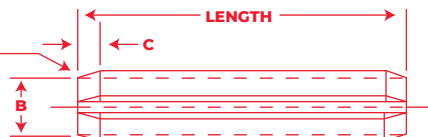


A				B	C		Wall Thickness (Nominal)	Recommended Hole Size		Minimum Double Shear Strength Pounds	
Diameter Nominal		Minimum 1/3 (D1 + D2 + D3)	Maximum (Go Ring Gage)	Max.	Min.	Max.		Min.	Max.	Carbon Steel & 420	300 NI Chrome
1/16	.062	.066	.069	.059	.007	.028	.012	.062	.065	430	250
5/64	.078	.083	.086	.075	.008	.032	.018	.078	.081	800	460
3/32	.094	.099	.103	.091	.008	.038	.022	.094	.097	1,150	670
1/8	.125	.131	.135	.122	.008	.044	.028	.125	.129	1,875	1,090
5/32	.156	.162	.167	.151	.010	.048	.032	.156	.160	2,750	1,600
3/16	.187	.194	.199	.182	.011	.055	.040	.187	.192	4,150	2,425
7/32	.219	.226	.232	.214	.011	.065	.048	.219	.224	5,850	3,400
1/4	.250	.258	.264	.245	.012	.065	.048	.250	.256	7,050	4,100
5/16	.312	.321	.330	.306	.014	.080	.062	.312	.318	10,800	6,300
3/8	.375	.385	.395	.368	.016	.095	.077	.375	.382	16,300	9,500
7/16	.437	.448	.459	.430	.017	.095	.077	.437	.445	19,800	11,500
1/2	.500	.513	.524	.485	.025	.110	.094	.500	.510	27,100	15,800
5/8*	.625	.640	.653	.608	.030	.125	.125	.625	.636	X	X
3/4*	.750	.769	.784	.730	.030	.150	.150	.750	.764	X	X

*Made to Vogelsang Standards

Length	Diameter													
	.062	.078	.094	.125	.156	.187	.219	.250	.312	.375	.437	.500	.625	.750
1/8										See back page for Technical Data, Length Tolerances & Straightness Tolerances				
3/16	X	X	X											
1/4	X	X	X											
5/16	X	X	X	X										
3/8	X	X	X	X	X									
7/16	X	X	X	X	X									
1/2	X	X	X	X	X	X	X	X						
9/16	X	X	X	X	X	X	X	X						
5/8	X	X	X	X	X	X	X	X						
11/16	X	X	X	X	X	X	X	X	X					
3/4	X	X	X	X	X	X	X	X	X	X				
13/16	X	X	X	X	X	X	X	X	X					
7/8	X	X	X	X	X	X	X	X	X					
15/16	X	X	X	X	X	X	X	X	X	X				
1	X	X	X	X	X	X	X	X	X	X	X			
1 1/8		X	X	X	X	X	X	X	X	X	X			
1 1/4		X	X	X	X	X	X	X	X	X	X	X		
1 3/8		X	X	X	X	X	X	X	X	X	X	X		
1 1/2		X	X	X	X	X	X	X	X	X	X	X		
1 5/8			X	X	X	X	X	X	X	X	X	X		
1 3/4			X	X	X	X	X	X	X	X	X	X		
1 7/8				X	X	X	X	X	X	X	X	X		
2				X	X	X	X	X	X	X	X	X	X	X
2 1/4					X	X	X	X	X	X	X	X	X	X
2 1/2					X	X	X	X	X	X	X	X	X	X
2 3/4							X	X	X	X	X	X	X	X
3							X	X	X	X	X	X	X	X
3 1/4								X	X	X	X	X	X	X
3 1/2								X	X	X	X	X	X	X
3 3/4									X	X	X	X	X	X
4									X	X	X	X	X	X
4 1/4												X	X	
4 1/2												X	X	
4 3/4												X	X	
5												X	X	
5 1/4												X	X	
5 1/2												X	X	
5 3/4												X	X	
6												X	X	

CHAMFERED
SHAPE
OPTIONAL



Technical Data				
Specification		Material		
ASME B18.8.2 NASM 10971 NAS 1407 NAS 561 NASM 39086		Stainless Steel		
		Carbon Steel	Chrome Type 420	Nickel Type 300
		Per Specification	Per Specification	Per Specification
Hardness				
Diameter	Scale			
1/16 - 3/32	Vickers	420 - 545	460-560	Work Hardened
1/8 - 5/16	Rockwell 15N C	82-86.4 43-52	83.5-86.9 46-53	Work Hardened
3/8 - 1/2	Rockwell A C	72-76.8 43-52	73.6-77.4 46-53	Work Hardened
Finish				
Standard	Plain/Oiled			
Options	Zinc - Mechanical		Passivated	Passivated

Length Tolerances	
Nonimal Pin Length	Length Tolerance
Up to 2" Inc	± 0.010"
Over 2" to 3" Inc	± 0.015"
Over 3"	± 0.025"

Straightness Tolerances	
Pin Length	Tolerance
To and Inc 1"	.007"
Over 1" to 2"	.010"
Over 3"	.013"

*5/8 and 3/4 are to Vogelsang standards. **Other finishes available upon request.



VOGELSANG

Vogelsang also stocks **Rollpins®** (Inch & Metric), **Tension Bushings** (Inch & Metric), all pre-packaged and ready for same-day shipment through **QuickShip**. In addition to these stock products, Vogelsang offers engineered specials to help solve your most challenging design and production issues. Give our engineering department a call and they'll be happy to meet with your design team.

Vogelsang Metric Coiled Spring Pins are Available in Heavy, Medium & Light Duty.

Metric coiled spring pins come in both Heavy Duty ISO 8748 and Standard Duty ASME B18.8.3M ISO 8750. Manufactured to exacting tolerances, Vogelsang's metric pins are engineered for standard metric applications, and facilitate proper insertion into many worldwide products such as agricultural, off-road, wind power, automotive, mining, railway, hydraulic, and material handling to name just a few.

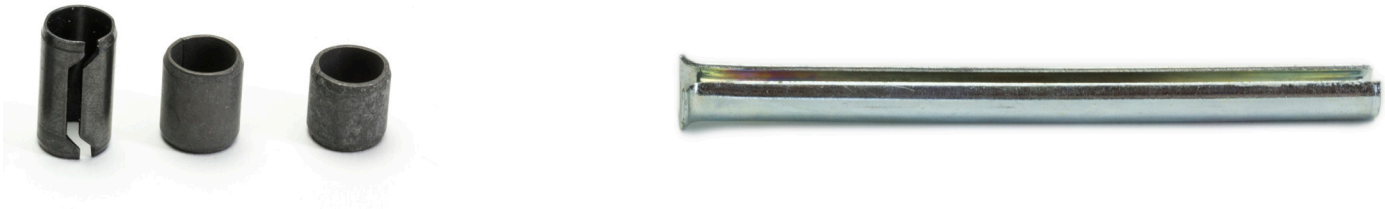
Vogelsang Also Offers Engineered Specials

When your most challenging assembly problems can't be solved with a stock product, our team of engineers will work with you to design and manufacture a custom solution. Give us a call today!

Technical Data			
Specification	Material		
ASME/ANSI B18.8.2 MIL-P-10971 NAS56 MS 171401-171900 Alloy SAE 6160H	CARBON STEEL Plain Carbon SAE 1070-1090 AISI C1070-C1090	MARTENSITIC CHROMIUM STEEL Chrome Stainless SAE 51420 AISI Type 420	NICKEL CHROMIUM STEEL Nickel Stainless SAE 30302/30304 AISI Type 204
Hardness			
SCALE Rockwell "C"	1070-1090 46-53 Alloy 6150	420 43-52	302/304 Work Hard
Finish			
STANDARD Options: Mechanical Zinc Other Types on request	Plain/Oiled Clear Phosphate Zinc Iron, Black Oxide, Others on request	Plain Passivated	Plain Passivated

Length Tolerances		
Nominal Pin Length	Length Tolerance	
3/16 to 1" Inc Over 1" to 2" Over 2" to 3" Over 3" to 4" Over 4"	± 0.015" ± 0.020" ± 0.025" ± 0.030" ± 0.035"	
Straightness Tolerances		
Nominal Pin Length	Gage Length	Straightness Diameter Allowance
	± 0.005"	
Up to 1" Inc Over 1" to 2" Inc Over 2"	1.000 2.000 3.000	0.007 0.010 0.013

Warranty for pins provided by Vogelsang is limited to replacement or credit for purchase price. No additional warranty is expressed or implied. Pins plated by others are not returnable.



VOGELSANG Stocks Thousands of Other Products Too!

Vogelsang also stocks **Coil Pins** (light/medium/heavy) and **Tension Bushings** in Inch and Metric sizes, all pre-packaged and ready for same-day shipment through **QuickShip**. Along with stock **Rollpins®**, **Coil Pins** and **Tension Bushings**, Vogelsang offers a multitude of other standard and custom products in Inch and Metric sizes.

Stock Vogelsang Metric Rollpins® available in Heavy & Light Duty
Metric Slotted Pins come in both a Heavy Duty ISO 8752 (former DIN 1481) and a Light Duty ISO 13337 (former DIN 7346). Metric spring pins by their design are stronger than the rolled formed pins. Made to exacting tolerances, Vogelsang's metric pins are engineered to fit standard metric holes, and facilitate proper insertion into many worldwide applications such as agricultural, off-road, wind power, automotive, mining, railway, hydraulic, and material handling to name just a few.

Get same-day shipment on thousands of Rollpins® with





Call **800-526-2376** or visit
VogelsangFastener.com for more information
or to receive other product catalogs.

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