



**Advanex Americas, Inc.**

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 Cypress  
 California  
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 USA  
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Fax:  
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Input Data			
<b>Spring Details</b>			
Spring Type	Round Wire Compression		
Design Standard	EN 13906-1: 2002		
Tolerance Standard	EN 15800:2008		
<b>Material Information</b>			
Material - ASTM A228 (Music Wire)			
Young's Modulus	206000	MPa	
Rigidity Modulus	81500	MPa	
Density	0.00000785	kg/mm <sup>3</sup>	
Unprestressed Range	0-45	%	
Prestressed Range	45-56	%	
<b>Design Information</b>			
End Type	Closed & Ground		
Dead Coils	2.00		
Tip Thickness	50.00	%	
End Fixation			
Wire Diameter	1.00	mm	
Outside Diameter	19.90	mm	
Total Coils	8.00		
Spring Rate	0.251	N/mm	
Free Length	26.00	mm	

Calculated Data		
Solid Length	8.00	mm
Solid Length (Max)	8.12	mm
Solid Load	4.53	N
Solid Stress	217.87	MPa
OD Expansion at solid	0.0667	mm
Stress Factor	1.07	
Active Coils	6.00	
Spring Index	18.90	
Helix Angle	3.85	Deg
Buckling Possible	26.00	mm
Buckling Definite	26.00	mm
Spring Pitch	4.00 mm	
Inside Diameter	17.90	mm
Mean Coil Dia.	18.90	mm
Outside Diameter	19.90	mm
Wire Length	475.83	mm
Weight	0.00293	kg
Natural Frequency	10151	RPM

Operating Data		
	Operating Positions	
	1	2
Length (mm)	26.00	20.99
Load (N)		1.26
Deflection (mm)		5.01
Stress (MPa)	0	61
Stress % Solid	0	28
O.D. Expansion (mm)		0.0186



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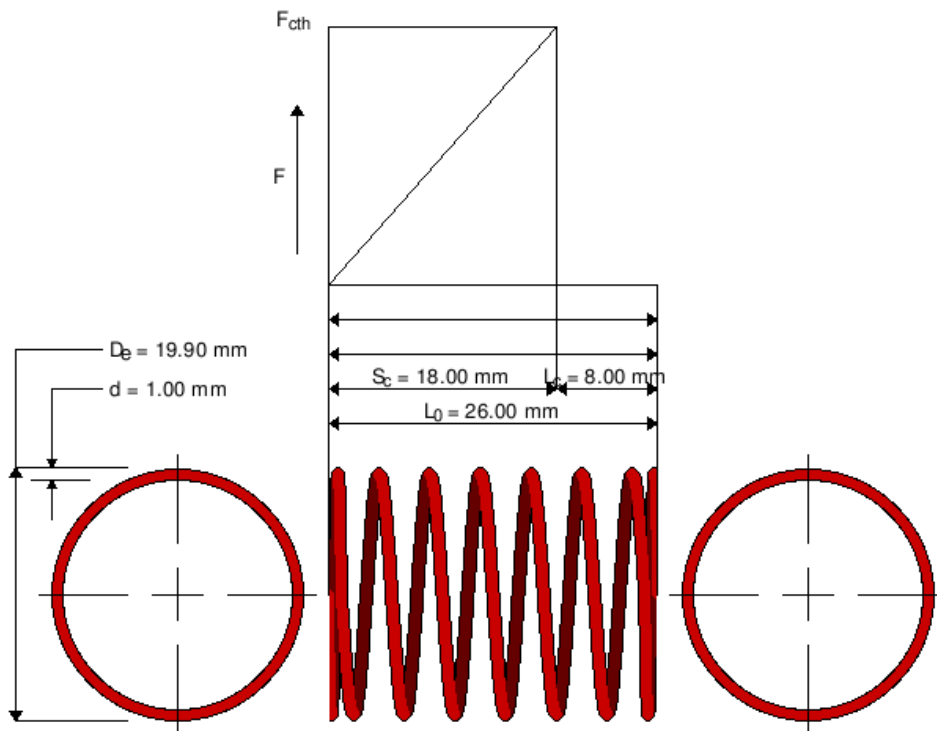
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Spring Tolerances					
EN 15800:2008					
	Value		Grade 1	Grade 2	Grade 3
Free Length	26.00	±	3.38	5.37	8.59
Outside Diameter	19.90	±	0.300	0.500	1.00
Spring Rate	0.251	±			
Squareness			0.819	1.30	2.08
Parallelism			0.299	0.597	1.19
Working Load 1		±	0.850	1.35	2.16
Working Load 2	1.26	±	0.862	1.37	2.19

## Spring Drawing





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## Load / Length Drawing

