

Wire Connectors Investigated for Flexible Stranded Wire

Specifications:

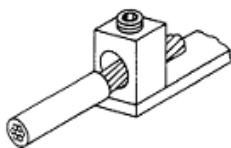
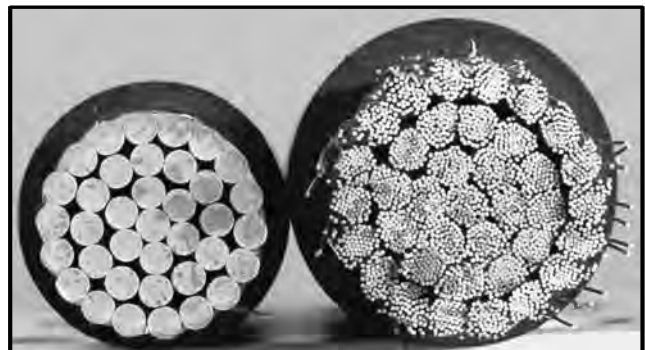
- Screw-type mechanical pressure wire connectors investigated to UL 486A-B for flexible stranded wire
- UL 508A (Industrial Control Panels), Section 29.3.11

Affected Standards:

- UL 486A-486B (Wire Connectors Standard)
- UL 508A (Industrial Control Panels Standard)
- UL 1059 (Terminal Block Standard)
- NEC (National Electric Code) 110.3 (A)7 and (B)
- NEC 690 (in 2008)

To be UL and NEC compliant while using flexible stranded wire, it was necessary to use crimp-type ring lugs investigated for flexible stranded wire. By using Marathon's UL 486A-B investigated screw-type pressure connectors in place of crimp lugs, you can save up to 66% of termination costs in material and labor.

Marathon's wire approvals, in addition to Classes B and C, now include stranding Classes G, H, I and K. The photo shows two distinctly different stranding classes, both 250 kcmil. The wire on the left, Class B, has 37 strands. The wire on the right, Class K, has approximately 2499 strands. A table providing information on wire sizes, Classes and strand count can be found on the next page.



29.3.11 Flexible conductors, including welding cable and machine tool wire identified as "Flexing" or "Class K", shall be retained by terminals that have been evaluated to the Standard for Wire Connectors, UL 486A-486B for the size and type of conductors involved.

Added 29.3.11 effective March 1, 2007

For specific rating information view our online datasheets at www.marathonsp.com

Copper Stranded Wire Classes

Wire Gauge	AWG/kcmil							Wire Gauge
	Rigid Stranded			Flexible Stranded				
	CSA Compact	Class B	Class C	Class G	Class H	Class I (DLO)	Class K	
Number of Strands	Number of Strands	Number of Strands	Number of Strands*	Number of Strands*	Number of Strands*	Number of Strands*	Number of Strands*	
#20 AWG		7	19				10	#20 AWG
#18		7	19				16	#18
#16		7	19				26	#16
#14		7	19			19	41	#14
#12		7	19			19	65	#12
#10		7	19			27	104	#10
#8	7	7	19	49	133	41	168	#8
#6	7	7	19	49	133	63	266	#6
#4	7	7	19	49	133	105	420	#4
#2	7	7	19	49	133	161	665	#2
#1	19	19	37	133	259	210	836	#1
1/0	19	19	37	133	259	266	1064	1/0
2/0	19	19	37	133	259	342	1323	2/0
3/0	19	19	37	133	259	418	1666	3/0
4/0	19	19	37	133	259	532	2107	4/0
250 kcmil	37	37	61	259	427	637	2499	250 kcmil
300 kcmil	37	37	61	259	427	735	2989	300 kcmil
350 kcmil	37	37	61	259	427	882	3458	350 kcmil
400 kcmil	37	37	61	259	427	980	3990	400 kcmil
500 kcmil	37	37	61	259	427	1225	5054	500 kcmil
600 kcmil	37	37	61	427	427	1470	6065	600 kcmil
750 kcmil	37	61	61	427	427	1850	7581	750 kcmil
1,000 kcmil	37	61	61	427	427	2527	10101	1,000 kcmil

Wire Gauge	mm ²		Wire Gauge
	Rigid	Flexible	
	Class 2	Class 5	
Number of Strands	Number of Strands*	Number of Strands*	
.50 mm ²	7	16	.50 mm ²
0.75	7	24	0.75
1.50	7	30	1.50
2.50	7	50	2.50
4	7	56	4
6	7	84	6
10	7	80	10
16	7	128	16
25	7	200	25
35	7	280	35
50	19	400	50
70	19	356	70
95	19	485	95
120	37	614	120
150	37	765	150
185	37	765	185
240	61	1225	240
300	61	1530	300

*Specific quantity of strands for Classes G, H, I (DLO), K and 5 vary by manufacturer.

For additional information on copper stranded wire classes and approvals on Marathon products go to www.marathonsp.com