

## Crimping

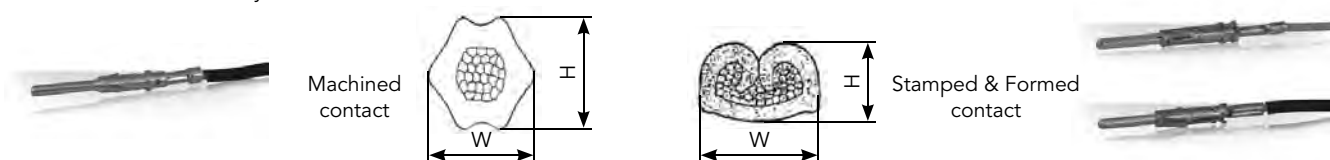
One of the key factors which affects the performance of a connector is the way contacts are terminated. Crimped connections are nowadays seen as the best solution to ensure quality throughout the lifetime of the product. Here are some reasons why we recommend this method of termination for UTL connectors:

**Advantages (Extract from the IEC 60352-2):**

- Efficient processing of connections at each production level
- Processing by fully-automatic or semi- automatic crimping machines, or with hand operated tools
- No cold-soldered joints
- No degradation of the spring characteristic of female contacts by the soldering temperature
- No health risk from heavy metal and flux steam

- Preservation of conductor flexibility behind the crimped connection
- No burnt, discolored and overheated wire insulation
- Good connections with reproducible electrical and mechanical performances
- Easy production control.

To ensure that the crimp tooling is performing according to original specifications, it is important to carry out regular checks. A common way to check the performance of tooling is with a simple pull test, ideally using a dedicated electric pull tester. Minimum recommended pull forces are indicated in the tables below:



Active contact part	Contact type	Die location on heads	Wire section range	Section (mm <sup>2</sup> )	Tensile straight test (mini)	Height (inch) H (±0.002")	Width (inch) W (±0.002")	Tooling head part number	
Machined contacts size #20 Ø 0.039"	RM24W3K RC24W3K	26/24	26 AWG	0.12 min	15 N	0.037"	0.050"	S20RCM	
			24 AWG	0.25 max	32 N				
	RM20W3K RC20W3K	22/20	22 AWG	0.32 min	40 N	0.049"	0.070"		
			20 AWG	0.50 max	60 N				
	RM18W3K RC18W3K	20/18	20 AWG	0.50 max	60 N	0.053"	0.073"		
			18 AWG	0.82 max	90 N				
S & F contacts size #20 Ø 0.039"	SM24WL3TK6* SC24WL3TK6*	26/24	26 AWG	0.12 min	15 N	0.031"	0.058"	S20SCM20	
			24 AWG	0.25 max	32 N				
	SM20WL3TK6* SC20WL3TK6*	22/20	22 AWG	0.32 min	40 N	0.039"	0.060"		
			20 AWG	0.50 max	60 N				
Machined contacts size #16 Ø 0.062"	RM28M1K* RC28M1K*	30/28	30 AWG	0.05 min	11 N	0.044"	0.055"	S16RCM20	
			28 AWG	0.08 max	11 N				
	RM24M9K* RC24M9K*	26/24	26 AWG	0.12 min	15 N	0.045"	0.055"		
			24 AWG	0.25 max	32 N				
	RM20M13K* RC20M13K*	22/20	22 AWG	0.32 min	40 N	0.049"	0.069"		
			20 AWG	0.50 max	60 N				
			22 AWG	0.32 min	40 N				
	RM20M12K* RC20M12K*	20	20 AWG	0.50 max	60 N	0.065"	0.085"		
			18	18 AWG	0.82 max				90 N
	RM16M23K* RC16M23K*	18	18 AWG	0.82 max	90 N	0.077"	0.095"		S16RCM16
16			16 AWG	1.50 max	150 N				
RM14M30K* RC14M30K*	16	16 AWG	1.50 min	150 N	0.082"	0.105"	S16RCM14		
		14	14 AWG	2.50 min				230 N	
S & F contacts size #16 Ø 0.062"	SM24ML1TK6* SC24ML1TK6*	26/24	26 AWG	0.12 min	15 N	0.033"	0.059"	S16SCM20	
			24 AWG	0.25 max	32 N				
	SM20ML1TK6* SC20ML1TK6*	22/20	22 AWG	0.32 min	40 N	0.040"	0.060"		
			20 AWG	0.50 max	60 N				
	SM16ML11TK6* SC16ML11TK6*	18	18 AWG	0.82 min	90 N	0.051"	0.082"		S16SCML11
			16	16 AWG	1.50 max				
	SM16ML1TK6* SC16ML1TK6*	18	18 AWG	0.82 min	90 N	0.058"	0.079"		S16SCML1
			16	16 AWG	1.50 max				
	SM14ML1TK6* SC14ML1TK6*	14	14 AWG	2.50 max	230 N	0.070"	0.101"		

\* example of plating, for other plating see page 30