



**Product Facts**

- For single and multiple wire applications
- Nylon or vinyl or PVF<sup>2</sup> insulated
- Temperature ratings of 90°C, 105°C, 150°C
- 300V, 600V or 1000V rated
- Crescent crimp configuration
- Covers wire ranges from 24 to 6 AWG [0.2 to 16 mm<sup>2</sup>] 509 to 42,700 CMA
- Copper or steel splice material
- Plated or unplated
- Solid or stranded copper wire
-  and  approved



AMP Pre-insulated Closed End Splices have been designed specifically to answer the need for inexpensive, insulated electrical terminations. They can be used in almost every type of commercial application where multiple wires need to be brought together for a reliable termination. (e.g. large and small appliances and the lighting industry).

The Closed End Splice products described in this catalog accommodate wire sizes from 24 through 6 AWG [0.2 to 16 mm<sup>2</sup>] 509 to 42,700 CMA. The appeal of Closed End Splice products lies in their broad range of wire sizes, built in pre-insulation, ease and speed of application, uniform reliability, and low installed cost.

As is true of all AMP terminal and splice lines, carefully engineered application tooling has been developed for the Closed End Splice line to provide uniformly

high quality terminations. Tool and terminal have been designed as a team to promote ease and speed of application and at the same time to provide precise crimping pressure for every wire size combination. This connection provides maximum conductivity, tensile strength, and high resistance to corrosion.

The quality of performance, the facility of installation and the inherent simplicity of Closed End Splices make them ideal for many industrial applications.

**Need more information?**

**Call Technical Support at the numbers listed below.**

Technical Support is staffed with specialists well versed in Tyco Electronics products. They can provide you with:

- Technical Support
- Catalogs
- Technical Documents
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**Vinyl BOMB-TAIL Splices — VS, ECV**

**Wire Size Range**  
**AWG 22 to 6**  
**[0.3 to 16 mm<sup>2</sup>],**  
**CMA 509 to 42,700**



Wire Size [mm <sup>2</sup> ] Circular Mills	Wire Combination Charts	Insulation Color	L Dim. Max.	Opening Dia. Min.	Material	Plating	Splice Marking* (Voltage & Temp. Rating Code)	Part Numbers	
								Loose Piece	Tape Mounted
22-16 [0.3-1.4] 3,248-4,872	408- 1396	Blue	.750 19.05	.173 4.39	Copper	Tin	VS	34306	—
		Blue	.750 19.05	.250 6.35	Copper	Tin	VS	34349	—
		Blue	.800 20.32	.215 5.46	Copper	Tin	VS	34864	—
22-16 [0.3-1.4] 3,248-4,872	408- 2228	Trans.	1.093 27.76	.255 6.48	Steel	Tin	ECV	50920	—
		Trans.	1.093 27.76	.255 6.48	Steel	Tin	ECV	50920-1 <sup>1</sup>	—
	408- 1395	Trans.	1.000 25.40	.265 6.73	Steel	Tin	ECV	328890	2-328890-1
		Trans.	.825 20.96	.265 6.73	Steel	Tin	ECV	330021	1-330021-0
22-14 [0.3-2.0] 509-5,180	408- 1394	Red	.729 18.52	.156 3.96	Copper	Tin	VS	34304	—
		Purple	.740 18.80	.187 4.75	Copper	Tin	VS	36964	2-36964-2
		Purple	.740 18.80	.187 4.75	Copper	Tin	VS	2-36964-5 <sup>1</sup>	—
		Purple	.775 19.69	.235 5.97	Copper	None	VS	2-328375-3	—
	408- 9850	Purple	.900 22.96	.235 5.97	Copper	None	ECV	55843-1	—
22-12 [0.3-3.0] 3,248-11,400	408- 1479	Trans.	1.500 34.10	.360 9.14	Copper	None	ECV	53234-1 <sup>1</sup>	—
		Trans.	1.125 28.58	.360 9.14	Copper	None	ECV	329251 <sup>1</sup>	2-329251-1 <sup>1</sup>
		Trans.	1.125 28.58	.360 9.14	Copper	None	ECV	2-329251-2 <sup>1</sup>	—
22-10 [0.3-6.0] 3,248-13,100	408- 1029	Purple	1.010 25.65	.312 7.92	Copper	Tin	VS	36965	1-36965-1
		Purple	1.010 25.65	.312 7.92	Copper	Tin	VS	1-36965-3 <sup>1</sup>	—
	408- 1002	Purple	1.125 28.88	.360 9.14	Copper	Tin	ECV	321519	2-321519-2
22-10 [0.3-6.0] 5,180-13,100	408- 1397	Yellow	.975 24.76	.235 5.97	Copper	Tin	VS	34308	—
		Yellow	1.010 25.65	.300 7.62	Copper	Tin	VS	34865	—
18-8 [0.8-8.0] 10,320-20,820	408- 1008	Black	1.263 31.08	.500 12.70	Copper	Tin	ECV	55808-1	—
		Green	1.575 40.01	.500 12.70	Copper	Tin	ECV	320788	—
18-6 [0.8-16] 19,500-42,700	408- 2605	Blue	1.600 40.64	.500 12.70	Copper	None	ECV	53891-1	—

<sup>1</sup>Bulk package

**Nylon Molded Splices — ECN, EC**

**Wire Size Range**  
**AWG 22 to 10**  
**[0.3 to 6.0 mm<sup>2</sup>],**  
**CMA 509 to 13,100**



Wire Size [mm <sup>2</sup> ] Circular Mills	Wire Combination Charts	Insulation Color	L Dim. Max.	Opening Dia. Min.	Material	Plating	Splice Marking* (Voltage & Temp. Rating Code)	Part Numbers	
								Loose Piece	Tape Mounted
22-14 [0.3-2.0] 509-5,180	408- 1271	Trans.	.680 17.27	.250 6.35	Copper	Tin	ECN	35115	1-35115-0
		Trans.	.680 17.27	.250 6.35	Copper	Tin	ECN	1-35115-2 <sup>†</sup>	—
	408- 8806	Black	.680 17.27	.250 6.35	Copper	Tin	ECN <sup>††</sup>	55927-1	1-55927-0
22-10 [0.3-6.0] 3,248-13,100	408- 1021	Trans.	.775 19.69	.375 9.53	Copper	Tin	ECN	35653	2-35653-1
		Trans.	.775 19.69	.375 9.53	Copper	Tin	ECN	2-35653-2 <sup>†</sup>	—
	408- 8807	Black	.970 24.64	.370 9.40	Copper	Tin	EC <sup>††</sup>	55929-1	—
		Trans.	.970 24.64	.370 9.40	Copper	Tin	EC	53915-1	53915-2
	408- 1003	Trans.	.720 18.29	.375 9.53	Copper	Tin	EC	328730	2-328730-1
		Trans.	.720 18.29	.375 9.53	Copper	Tin	EC	328730-1 <sup>†</sup>	—

<sup>†</sup>Bulk package

**PVF<sup>2</sup> Molded Splices (Kynar)**

Wire Size [mm <sup>2</sup> ] Circular Mills	Wire Combination Charts	Insulation Color	L Dim. Max.	Opening Dia. Min.	Material	Plating	Splice Marking* (Voltage & Temp. Rating Code)	Part Numbers	
								Loose Piece	Tape Mounted
22-12 [0.3-3.0] 3,248-11,400	408- 2907	Red	.955 24.25	.375 9.53	Copper	Tin	††	54316-1 <sup>†</sup>	—

<sup>†</sup>Bulk package

**\*Splice Marking**

VS—300V, 90°C  
 ECV—600V max. Building Wiring  
 —1,000V max. Fixtures and Signs,  
 105°C UL, 90°C CSA

ECN—300V 105°C  
 EC—600V max. Building Wiring  
 —1,000V max. Fixtures and  
 Signs 105°C

**Type of Crimp**

C—C Crimp  
 CC—Confined Crescent  
 CO—Crescent Oval

† Stranded Wire Only  
 †† 150°C

**Vinyl and Nylon Tooling**

**Manually Operated Tools**

Our top-of-the-line crimping tools feature the original CERTI-CRIMP ratcheted crimp control. All tools are designed to exacting specifications and manufactured using the highest quality materials to provide long service life for low production runs, repairs and prototype work—any application requiring consistent, highly reliable terminations. Models are available providing double action, in which crimping dies travel in an arc-like path, or straight action, which prevents possible rotation of the terminal due to die arcing. A heavy-head style terminates large heavy-gauge wire.



Heavy Head Hand Tool (HHHT)



Long Handle Tool (DAHT)



AMP-TAPETRONIC Machine  
Part No.69875  
(Requires Dies)

**Vinyl**

Wire Size [mm] Circular Mils	Wire Combination Chart	Tools for Loose Piece Splices					For Tape Mounted Splices Die Assembly for 69875 <sup>5</sup>	Part Numbers	
		Hand Tool	Crimping Head for 69005 or (69010)	Die for <sup>6</sup> Model 2614**	Die for Model 1210**	Die Assembly <sup>4</sup> for 69365, 69365-2, 69710, 46110-2 & 69319-1		Crimping Jaws for 68068 & 68068-3 <sup>3</sup>	Loose Piece
22-16 [03-1.4] 3,248-4,872	408- 1396	45329 CC	45330	45328 CC	68022 CC	68022 CC	34306	—	
		Insul. Crimp CC						34349	—
		45329 CC	45328 CC					34864	—
22-16 [03-1.4] 3,248-4,872	408- 2228			69820		50920	—		
				Insulation Crimp C		50920-1 <sup>1</sup>	—		
	408- 1395	69145 C	69238-1	69303-2 C	69973 C	328890	2-328890-1		
22-14 [0.3-2.0] 509-5,180	408- 1394	45216 CO	45217CO	354422-1CO	45218 CO	69951 CO	330021	1-330021-0	
		48087 CC*	302219 <sup>1</sup> C	314833-1CO			34304	—	
	408- 9850	48208 C					36964	2-36964-2	
22-12 [0.3-3.0] 3,248-11,400	408- 1479	46866 C	69430 C		314592-1C	47811 C	69952 C	53234-1	—
			(46516) C					329251	2-329251-1
								2-329251-2 <sup>1</sup>	—
22-10 [0.3-6.0] 3,248-13,100	408- 1029	45219-2 CO	37836 <sup>1</sup> C		314621-1CO	45221 CO	69950 CO	36965	1-36965-1
		48208 C	302219 <sup>1</sup> C	(45220) CO				1-36965-3 <sup>1</sup>	—
	408- 1002							321519	2-321519-2
22-10 [0.3-6.0] 5,180-13,100	408- 1397	45324 CC	45323 CC		45221 CO			34308	—
			(45325) CC					34865	—
								55808-1	—
18-8 [0.8-8.0] 10,320-20,820	408- 1008	69335 C	(69244) C				68245-1CO	320788	—
18-6 [0.8-16] 19,500-42,700	408- 2605						68268-1CO	53891-1	—

\*For p/n 34304 and 36964 only (insulation crimp)

\*\*Where listed Model 2614 or 1210 are the recommended tool

<sup>1</sup>Bulk packaged

<sup>3</sup>With foot pedal control

<sup>4</sup>These dies may be used with Model 2614 Pneumatic Tool and Straight Action Adapter part number 354173-1

<sup>5</sup>Model 2614 may be ordered with either a foot pedal or hand actuator

**Nylon and Vinyl Tooling**

**Pneumatic Tools**

Designed for medium production, these semi-automatic power tools offer the convenience of hand tools plus the effortless precision and speed of machines. They are built for long, rugged service and are equipped with removable crimping dies for terminating a variety of AMP products.



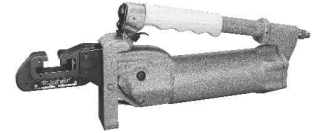
**Pneumatic Tool  
Part No.69005  
or 69010**



**Pneumatic Tool  
Part No. 46110-2**



**Pneumatic Tool  
Model No.2614  
or 1210**



**Pneumatic Tool  
Part No. 69365-2**

**Nylon**

Wire Size [mm <sup>2</sup> ] Circular Mils	Wire Combination Chart	Tools for Loose Piece Splices					For Tape Mounted Splices Die Assembly 69875 <sup>5</sup>	Part Numbers	
		Hand Tool	Crimping Head for 69005 or (69010)	Die for <sup>6</sup> Model 2614**	Die for Model 1210**	Die Assembly <sup>4</sup> for 69365, 69365-2, 69710, 46110-2 & 69319-1		Loose Piece	Tape Mounted
22-14 [0.3-2.0] 509-5.180	408- 1271	45216 CO 48208 C	45217 <sup>1</sup> CO 302219 <sup>1</sup> C	354422-1CO 314833-1CO		45218 CO	69951 CO	35115	1-35115-0
	408- 8806							1-35115-2 <sup>1</sup>	—
22-10 [0.3-6.0] 3,248-13,100	408- 1021	45219-2 CO 48208 C	37836 <sup>1</sup> CO 302219 <sup>1</sup> C (45220) CO		314621-1CO	45221 CO	69950 CO	35653	2-35653-1
	408- 8807							2-35653-2 <sup>1</sup>	—
	408- 1003	46866 C	69430 C	354422-2 <sup>2</sup> C	314592-1C	47811 C	69952 C	55929-1	—
								53915-1	53915-2
								53915-4	—
								328730	2-328730-1
								328730-1	—

**PVF<sup>2</sup> Molded Splices (Kynar)**

Wire Size [mm <sup>2</sup> ] Circular Mils	Wire Combination Chart	Tools for Loose Piece Splices					For Tape Mounted Splices Die Assembly 69875 <sup>5</sup>	Part Numbers	
		Hand Tool	Crimping Head for 69005 or (69010)	Die for <sup>6</sup> Model 2614**	Die for Model 1210**	Die Assembly <sup>4</sup> for 69365, 69365-2, 69710, 46110-2 & 69319-1		Loose Piece	Tape Mounted
22-12 [0.3-3.0] 3,248-11,400	408- 2907	46866 C	69430 C (46516) C	354422-2 <sup>2</sup> C	314592-1C	47811 C	—	54316-1 <sup>†</sup>	—

\*\*Where listed Model 2614 or 1210 are the recommended tool

<sup>1</sup>Bulk packaged

<sup>3</sup>With foot pedal control

<sup>4</sup>These dies may be used with Model 2614 Pneumatic Tool and Straight Action Adapter Part Number **354173-1**

<sup>6</sup>Model 2614 may be ordered with either a foot pedal or hand actuator

<sup>9</sup>Limited wire size range; see Instruction Sheet 408-9906

**Splice Marking**

VS— 300V, 90°C  
 ECV— 600V max. Building Wiring  
 —1,000V max. Fixtures and Signs,  
 105°C UL, 90°C CSA

ECN— 300V 105°C  
 EC— 600V max. Building Wiring  
 —1,000V max. Fixtures and  
 Signs 105°C

**Type of Crimp**

C— C Crimp  
 CC— Confined Crescent  
 CO— Crescent Oval

† Stranded Wire Only  
 †† 150°C

**Spare Wire Caps and Tooling**

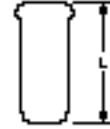
**Wire Size Range**  
**AWG 22 to 10**  
**[0.3 to 6.0 mm<sup>2</sup>],**  
**CMA 509 to 13,100**

**Material**

Copper Tin plated  
**Insulation** — Nylon



For Unstripped Wire



For Stripped Wire

Wire Size [mm <sup>2</sup> ] Circular Mils	Style	Dimension L Max.	Cap Insulation Color	Wire Insulation Diameter Range	Wire Insulation Diameter Max.	Part Numbers		Tooling		
						Loose Piece	Tape Mounted	Hand Tool	T-Head	Die For 69875
—	Unstripped Wire	.515 13.08	Trans.	.048-.075 1.22-1.91	—	324484	—	46063	—	—
		.515 13.08	Red	.080-.115 2.03-2.92	—	324485	2-324485-1	46063	—	68166-1
		.515 13.08	Blue	.120-.145 3.05-3.68	—	324486	—	46063	—	—
		.515 13.08	Yellow	.150-.220 3.81-5.59	—	324487	—	46063	—	—
22-18 [0.3-0.8.5] 509-3,248	Stripped Wire	.430 10.92	Red	—	.124 3.15	328307*	—	47386 <sup>1</sup>	59250	—
16-14 [1.4-2.0] 2,050-5,180	Stripped Wire	.430 10.92	Blue	—	.149 3.78	328308*	2-328308-1*	47387 <sup>1</sup>	59250	68169-1
12-10 [3.0-6.0] 5,180-13,100	Stripped Wire	.478 12.14	Yellow	—	.210 5.33	328309*	—	59239-4 <sup>2</sup>	—	—
—	Unstripped Wire	.515 13.08	Trans.	.048-.075 1.22-1.91	—	324693 <sup>3</sup>	—	46063	—	—
		.515 13.08	Red	.080-.115 2.03-2.92	—	324694 <sup>3</sup>	—	46063	—	—
		.515 13.08	Blue	.120-.145 3.05-3.68	—	324695 <sup>3</sup>	—	46063	—	—
		.515 13.08	Yellow	.150-.220 3.81-5.59	—	324696 <sup>3</sup>	—	46063	—	—

<sup>1</sup>Long Handle Tool  
<sup>2</sup>Heavy Head Tool  
<sup>3</sup>Moisture resistant  
\*See Table I

**Table I: Military Cross Reference (meets MIL-T-7928)**

Part Number	Military		AMP Part Number
	Dash	Class	
MS 25274	-2	1 & 2	328307
	-3	1 & 2	328308
		2	
	-4	1 & 2	328309

**Vinyl and Nylon Tooling**

**Instruction Sheet  
Cross Reference List**

Hand Tool	Instruction Sheet
45216	408-1578
45219-2	408-1578
45324	408-1544
45329	408-1544
45330	408-1552
46063	408-1510
46866	408-1539
47386 <sup>1</sup>	408-1559
47387 <sup>1</sup>	408-1559
48087	408-1552
48208	408-1738
59239-4 <sup>2</sup>	408-1261
69145	408-1804
69335	408-1873

Die for 69005	Instruction Sheet
37836	408-1415
45217	408-1415
45323	408-1413
45328	408-1413
69238-1	408-1816
69239	408-1816
69430	408-1415
302219	408-1415

Die for 69010	Instruction Sheet
45220	408-1415
45325	408-1754
46516	408-1415
69244	408-1413

Die for Model 2614	Instruction Sheet
314833-1	408-9761
354422-1	408-9893
354422-2 <sup>5</sup>	408-9906

Die for Model 1210	Instruction Sheet
314592-1	408-9646
314621-1	408-9666

Die Assembly <sup>4</sup> for 69365, 69365-2, 69710, 46110-2, & 69319-1	Instruction Sheet
45218	408-1634
45221	408-1634
47811	408-9641
68022	408-1634
69303-2	408-1634
69820	408-1634

Crimping Jaws for <sup>3</sup> 68068 & 68068-3	Instruction Sheet
68245-1	408-2564
68268-1	408-2564

Die Assembly for <sup>3</sup> 69875 (on Tape)	Instruction Sheet
68166-1	408-2254
68169-1	408-2254
69950	408-2254
69951	408-2254
69952	408-2254
69973	408-2254

T-Head	Instruction Sheet
59250	408-1610

<sup>1</sup>Long Handle Tool

<sup>2</sup>Heavy Head Tool

<sup>3</sup>With Foot Pedal Control

<sup>4</sup>These dies may be used with Model 2614 Pneumatic Tool and Straight Action Adapter part number **354173-1**

<sup>5</sup>Model 2614 may be ordered with either a foot pedal or hand actuator

<sup>6</sup>Limited wire size; see Instruction Sheet 408-9906

**Vinyl Wire Combination Charts, For Splices on Page 2**

**408-1002**

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECV SOL. OR STR. WIRE COMB. CHART

**Catalog No.321519**  
**Circular Mil Range 3,248 — 13,100**

Use "18-10 ECV— ECN or 16-10 C" Tooling

Strip Length— 14.29 mm [.563 in.] Min.— 15.88 mm [.625 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
WIRE SIZE 22-10 SOL. OR STR.  
600 Volt Max. Building Wiring  
1000 Volt Max. Fixtures & Signs

**CU**



LR 7189 CERTIFIED

90°C MAX.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

424 C LISTED

105°C MAX.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10
NO. 22	1	4-14	3-8	2-7	1-4	1-3	1	1
	2	3-13	2-7	1-6	1-4	1-2	1	1
	3	2-12	1-6	1-5	1-3	1-2	1	1
	4	1-11	1-6	1-5	1-3	1-2	1	—
	5	1-10	1-5	1-4	1-3	1-2	1	—
	6	1-9	1-4	1-4	1-3	1-2	1	—
	7	1-8	1-4	1-4	1-2	1-2	1	—
	8	1-7	1-4	1-3	1-2	1	—	—
	9	1-6	1-4	1-3	1-2	1	—	—
	10	1-5	1-3	1-2	1	1	—	—
	11	1-4	1-2	1-2	1	1	—	—
	12	1-3	1	1	1	1	—	—
	13	1-2	1	1	1	—	—	—
	14	1	1	1	1	—	—	—
NO. 20	1	4-14	3-7	2-7	1-4	1-2	1	1
	2	2-11	1-6	1-6	1-4	1-2	1	1
	3	1-10	1-5	1-4	1-3	1-2	1	—
	4	1-9	1-4	1-3	1-2	1-2	1	—
	5	1-7	1-3	1-3	1-2	1	1	—
	6	1-4	1-2	1-3	1	1	1	—
	7	1-2	1	1	1	1	—	—
NO. 18	1	2-14	1-7	1-6	1-4	1-2	1	1
	2	1-11	1-7	1-5	1-3	1-2	1	—
	3	1-9	1-6	1-4	1-3	1-2	1	—
	4	1-7	1-3	1-3	1-2	1	1	—
	5	1-4	1-2	1-2	1	1	—	—
	6	1-2	1	1	1	—	—	—
NO. 16	1	1-14	1-7	1-6	1-4	1-2	1	1
	2	1-9	1-5	1-4	1-3	1	1	—
	3	1-6	1-3	1-3	1-2	1	—	—
	4	1-2	1-2	1	1	—	—	—
NO. 14	1	1-12	1-7	1-5	1-3	1-2†	1	—
	2	1-7	1-4	1-3	1	1†	—	—
NO. 12	1	1-7	1-6	1-4	1-2	1	1*	—
NO. 10	1	1-3	1-2	1	1	—	—	—

†Stranded wire only.  
\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

**408-1008**

TYPE ECV SOL. OR STR. WIRE COMB. CHART

**Catalog No.320788 & 55808-1**  
**Circular Mil Range 10,320 — 20,820**

Use "18-8 ECV" Tooling

Strip Length— 18.26 mm [.719 in.] Min.— 19.84 mm [.781 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
WIRE SIZE 18-8 SOL. OR STR.  
600 Volt Max. Building Wiring  
1000 Volt Max. Fixtures & Signs

**CU**



LR 7189 CERTIFIED

90°C MAX.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

424 C LISTED

105°C MAX.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 18	NO. 16	NO. 14	NO. 12	NO. 10	NO. 8
NO. 18	1	6-11	4-7	3-4	2	1	1
	2	5-10	3-6	2-4	2	1	1
	3	4-9	3-6	2-3	1-2	1	—
	4	3-8	2-5	1-3	1-2	1	—
	5	2-7	1-4	1-3	1	1	—
	6	1-6	1-4	1-2	1	1	—
	7	1-5	1-3	1-2	1	—	—
	8	1-4	1-3	1	1	—	—
	9	1-3	1-2	1	—	—	—
	10	1-2	1	1	—	—	—
	11	1	1	—	—	—	—
NO. 16	1	5-11	3-6	2-4	2	1	1
	2	4-9	2-5	2-3	1-2	1	—
	3	2-8	1-4	1-3	1	1	—
	4	1-6	1-3	1-2	1	1	—
	5	1-4	1-2	1	1	—	—
	6	1-3	1	1	—	—	—
	7	1	—	—	—	—	—
NO. 14	1	4-10	3-6	2-4	1-2	1	1
	2	2-7	1-4	1-3	1	1	—
	3	1-5	1-3	1-2	1	—	—
	4	1-2	1	1	—	—	—
NO. 12	1	3-8	2-5	1-3	1-2	1	—
	2	1-4	1-3	1	1	—	—
NO. 10	1	1-6	1-4	1-2	1	1*	—
NO. 8	1	1-2	1	1	—	—	—

\*Two No. 10 wires to be stranded only.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is seven No. 18 wires.



**Vinyl Wire Combination Charts, For Splices on Page 2 (Continued)**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE VS SOL. OR STR. WIRE COMB. CHART

**408-1029**

**CU**

Catalog No. 36965  
Circular Mil Range 3,248—13,100

Use "18-10 ECV— ECN or 16-10 C" Tooling†

Strip Length— 10.72 mm [.422 in.] Min.— 11.51 mm [.453 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-10 SOL. OR STR. 300 Volt Max. 90°C Max.

424 C LISTED

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10
NO. 22	1	4-12	3-8	2-7	1-4	1-2	1	1
	2	3-11	2-7	1-6	1-3	1-2	1	1
	3	2-10	1-6	1-5	1-3	1-2	1	1
	4	1-9	1-5	1-4	1-3	1-2	1	1
	5	1-8	1-5	1-4	1-3	1-2	1	—
	6	1-7	1-5	1-4	1-2	1-2	1	—
	7	1-6	1-4	1-3	1-2	1	1	—
	8	1-5	1-4	1-3	1-2	1	1	—
	9	1-4	1-3	1-2	1-2	1	1	—
	10	1-3	1-3	1-2	1	1	—	—
	11	1-2	1-2	1-2	1	1	—	—
	12	1	1-2	1-2	1	1	—	—
NO. 20	1	3-11	2-7	2-6	1-4	1-2	1	1
	2	2-10	1-6	1-4	1-3	1-2	1	—
	3	1-9	1-5	1-4	1-3	1-2	1	—
	4	1-8	1-4	1-3	1-3	1-2	1	—
	5	1-6	1-3	1-3	1-2	1	1	—
	6	1-3	1-2	1-2	1	1	1	—
	7	1-2	1	1	1	—	—	—
NO. 18	1	2-12	2-7	1-6	1-3	1-2	1	1
	2	1-10	1-6	1-5	1-3	1-2	1	—
	3	1-8	1-5	1-4	1-3	1-2	1	—
	4	1-6	1-3	1-3	1-2	1	1	—
	5	1-4	1	1-2	1	1	—	—
	6	1-2	1	1	1	—	—	—
NO. 16	1	1-11	1-9	1-6	1-4	1-2	1	1
	2	1-8	1-6	1-4	1-2	1	1	—
	3	1-6	1-4	1-3	1	1	—	—
	4	1-3	1	1	1	—	—	—
NO. 14	1	1-10	1-7	1-5	1-3	1-2	1	—
	2	1-6	1-3	1-3	1	1	—	—
NO. 12	1	1-9	1-6	1-4	1-2	1	1	—
NO. 10	1	1-3	1-2	1	1	—	—	—

†Maximum wire loading is 4,208 CMAwh when using No. 37836 crimping head.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE VS SOL. OR STR. WIRE COMB. CHART

**408-1394**

**CU**

Catalog No. 34304, 36964, & 2-328375-3  
Circular Mil Range 509—5,180

Use "18-16 ECV— ECN or 22-14 ECV— ECN" Tooling

Strip Length— 8.33 mm [.328 in.] Min.— 9.13 mm [.359 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-14 SOL. OR STR. 300 Volt Max. 90°C MAX.

424 C LISTED

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE				
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 22	1	1-5	1-3	1-2	1	1
	2	1-4	1-3	1-2	1	—
	3	1-3	1-2	1	1	—
	4	1-2	1	1	—	—
	5	1	1	1	—	—
NO. 20	1	1-5	1-3	1-2	1	1
	2	1-4	1-2	1	1	—
	3	1-3	1	1	—	—
NO. 18	1	1-4	1-3	1-2	1	—
	2	1-2	1	1	—	—
NO. 16	1	1-3	1-2	1	1	—
NO. 14	1	1	1	—	—	—

**AMP** AMP APPROVED WIRE COMBINATIONS WIRE SIZE 24-14

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 24	NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 24	1	1-10	1-6	1-4	1-2	1	1
	2	1-9	1-5	1-4	1-2	1	1
	3	1-8	1-5	1-3	1-2	1	—
	4	1-7	1-4	1-3	1-2	1	—
	5	1-6	1-4	1-2	1	1	—
	6	1-5	1-3	1-2	1	—	—
NO. 22	1	1-9	1-6	1-3	1-2	1	1
	2	1-7	1-5	1-3	1-2	1	—
	3	1-6	1-4	1-2	1	1	—
	4	1-4	1-3	1	1	—	—
	5	1-3	1-2	1	1	—	—
NO. 20	1	1-7	1-4	1-3	1-2	1	1
	2	1-6	1-3	1-2	1	1	—
	3	1-3	1-2	1	1	—	—
NO. 18	1	1-7	1-5	1-3	1-2	1	—
	2	1-4	1-2	1	1	—	—
NO. 16	1	1-4	1-3	1-2	1	1	—
NO. 14	1	1-2	1	1	—	—	—

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping.

**Vinyl Wire Combination Charts, For Splices on Page 2 (Continued)**

**408-1395**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECV SOL. OR STR. WIRE COMB. CHART

**Catalog No. 328890 & 330021**  
**Circular Mil Range 3,248—4,872**

Use "18-16 EC" Tooling

Strip Length— 7.94 mm [.313 in.] Min.— 8.73 mm [.344 in.] Max.

**CU**

424 C LISTED 105°C MAX.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-16 SOL. OR STR. 600 Volt Max. Building Wiring 1000 Volt Max. Fixtures & Signs

LR 7189 CERTIFIED 90°C MAX.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE			
		NO. 22	NO. 20	NO. 18	NO. 16
NO. 22	1	4-5	3-4	2	1
	2	3-4	2-3	1-2	1
	3	2-3	1-2	1	1
	4	1-2	1	1	—
	5	1	1	—	—
NO. 20	1	3-5	2-3	2	1
	2	2-3	1-2	1	1
	3	1-2	1	1	—
	4	1	—	—	—
NO. 18	1	2-4	2	1-2	1
NO. 16	1	1-2	1	1	—

**INSTRUCTIONS:** Twist wires together before crimping. Minimum loading is five No. 22 wires.

**408-1396**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE VS SOL. OR STR. WIRE COMB. CHART

**Catalog No. 34306, 34349 & 34864**  
**Circular Mil Range 3,248—4,872**

Use "18-16 VS or 16-14 ECV" Tooling

Strip Length— 8.73 mm [.344 in.] Min.— 10.32 mm [.406 in.] Max.

**CU**

424 C LISTED

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-16 SOL. OR STR. 300 Volt Max. 90°C Max.

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE			
		NO. 22	NO. 20	NO. 18	NO. 16
NO. 22	1	4*	3	2	1
	2	3*	2	2	1
	3	2*	—	1	—
	4	1*	1	1	—
NO. 20	1	4	3	2	1
	2	2	—	1	1
NO. 18	1	3	2	1-2	1
	2	1	1	1	—
NO. 16	1	1-2	1-2	1	—

\*Solid wire only.  
**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping.

**408-2228**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECV SOL. OR STR. WIRE COMB. CHART

**Catalog No. 50920**  
**Circular Mil Range 3,248—4,872**

Use "18-16" ECVG Tooling

Strip Length— 10.32 mm [.406 in.] Min.— 11.91 mm [.469 in.] Max.

**CU**

424 C LISTED 105°C MAX.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-16 SOL. OR STR. 600 Volt Max. Building Wiring 1000 Volt Max. Fixtures & Signs

LR 7189 CERTIFIED 90°C MAX.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE			
		NO. 22	NO. 20	NO. 18	NO. 16
NO. 22	1	4	3	2	1
	2	3	2	2	1
	3	2	2	1	—
	4	1	1	1	—
NO. 20	1	4	3	2	1
	2	2	2	1	1
	3	1	1	—	—
NO. 18	1	3	2	1-2	1
	2	1	1	1	—
NO. 16	1	1-2	1-2	1	—

**INSTRUCTIONS:** Twist wires together before crimping.

**Vinyl Wire Combination Charts, For Splices on Page 2 (Continued)**

**408-1397**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPlice PRESSURE TYPE WIRE CONNECTORS— TYPE VS SOL. OR STR. WIRE COMB. CHART


**Catalog No. 34308 & 34865**  
**Circular Mil Range 5,180—13,100**


Use "18-10 VS or 12-10 ECV" Tooling

Strip Length—11.11 mm [.438 in.] Min.—12.70 mm [.500 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
WIRE SIZE 22-10 SOL. OR STR.  
300 Volt Max. 90°C Max.

**CU**

 424 C LISTED

 LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10
NO. 22	1	7	5-6	3-5	2-3	2	1	1
	2	6	4-5	3-4	2-3	1-2	1	1
	3	5	4	2-3	2	1	1	—
	4	4	3-4	2-3	1-2	1	1	—
	5	3	2-3	2	1-2	1	—	—
	6	2	1-2	1	1	1	—	—
	7	1	1	1	1	1	—	—
	8	—	—	—	—	—	—	—
	9	—	—	—	—	—	—	—
NO. 20	1	6-7	5-6	3-4	2	2	1	1
	2	5-6	4-5	2-4	2-3	1	1	1
NO. 18	3	4-5	3-4	2-3	1-2	1	1	—
	1	6	4-5	3-5	2	1-2	1	1*
	2	3-5	2-4	2-4	1-2	1	1	—
NO. 16	3	1-4	1-3	1-3	1	1	1	—
	1	4-6	3-4	2-3	1-3	1-2	1	1*
	2	1-4	1-4	1-3	1-2	1	1	—
NO. 14	1	2-5	2-4	1-3	1-2	1	1*	—
	2	1-3	1-2	1-2	1	1	—	—
NO. 12	1	1-4	1-3	1-3	1	1*	—	—
NO. 10	1	1-2	1	1*	1*	—	—	—

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is eight No. 22

**408-1479**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS


CLOSED END SPlice PRESSURE TYPE WIRE CONNECTORS— TYPE ECV STRANDED WIRE COMB. CHART


**Catalog No. 329251 & 53234-1**  
**Circular Mil Range 3,248—11,400**

Use "18-10 EC" Tooling

Strip Length—10.72 mm [.422 in.] Min.—11.51 mm [.453 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
WIRE SIZE 22-12 STR.  
1000 Volt Max. Fixtures & Signs  
600 Volt Max. Building Wiring

 424 C LISTED  
105°C MAX.


 LR 7189 CERTIFIED  
90°C MAX.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12
NO. 22	1	4-13	3-9	2-6	1-4	1-2	1
	2	3-12	2-8	2-5	1-3	1-2	1
	3	2-11	1-7	1-5	1-3	1-2	1
	4	1-10	1-6	1-4	1-3	1-2	1
	5	1-9	1-6	1-4	1-3	1	1
	6	1-8	1-5	1-4	1-2	1	1
	7	1-7	1-5	1-3	1-2	1	1
	8	1-6	1-4	1-2	1-2	1	—
	9	1-5	1-3	1-2	1	1	—
	10	1-4	1-3	1-2	1	1	—
	11	1-3	1-2	1	—	—	—
NO. 20	1	4-11	3-9	2-6	1-4	1-2	1
	2	2-9	2-8	1-5	1-3	1-2	1
	3	1-8	1-7	1-4	1-2	1-2	1
	4	1-7	1-6	1-4	1-2	1	1
NO. 18	1	3-10	2-8	1-6	1-3	1-2	1
	2	1-9	1-7	1-5	1-3	1	1
	3	1-8	1-5	1-4	1-2	1	1
	4	1-7	1-4	1-3	1	1	—
NO. 16	1	1-9	1-7	1-5	1-3	1-2	1
	2	1-6	1-5	1-3	1-2	1	—
	3	1-5	1-3	1-2	1	—	—
NO. 14	1	1-10	1-7	1-4	1-2	1	1
	2	1-4	1-3	1	1	—	—
NO. 12	1	1-6	1-4	1-3	1	1	—

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

**Vinyl Wire Combination Charts, For Splices on Page 2 (Continued)**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS



424 C LISTED  
105°C MAX.

**CLOSED END SPlice PRESSURE TYPE WIRE CONNECTORS— TYPE ECV SOL. OR STR. WIRE COMB. CHART**

**408-2605**

**CU**

**Catalog No.53891-1**  
**Circular Mil Range 19,500—42,700**

Use "18-6 ECV" Tooling


Strip Length—18.26 mm [.719 in.] Min.—  
19.84 mm [.781 in.] Max.

ULLISTED WIRE COMBINATIONS  
WIRE SIZE 18-6 SOL. OR STR.  
600 Volt Max. Building Wiring  
1000 Volt Max. Fixtures & Signs

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 18	NO. 16	NO. 14	NO. 12	NO. 10	NO. 8	NO. 6
NO. 18	1	12-15	7-13	5-7	3-5	2-3	2	1
	2	11-14	7-12	4-7	3-5	2-3	1-2	1
	3	10-13	6-11	4-7	3-5	2-3	1-2	1
	4	9-12	6-10	4-6	2-5	2-3	1-2	1
	5	8-11	5-9	3-6	2-5	2-3	1-2	1
	6	7-10	4-9	3-5	2-4	1-3	1	1
	7	6-9	4-8	2-5	2-4	1-2	1	—
	8	5-8	3-7	2-4	1-4	1-2	1	—
	9	4-7	2-6	2-4	1-4	1	1	—
	10	3-6	2-5	1-3	1-3	1	1	—
	11	2-5	1-5	1-3	1-3	1	1	—
	12	1-4	1-4	1-2	1-2	1	—	—
	13	1-3	1-3	1	1	—	—	—
	14	1-2	1-2	1	—	—	—	—
	15	1	1	—	—	—	—	—
NO. 16	1	11-15	7-13	5-7	3-5	2-3	2	1
	2	9-14	6-12	4-7	3-5	2-3	1-2	1
	3	8-13	5-11	3-6	2-5	2-3	1-2	1
	4	6-12	4-10	3-6	2-4	1-3	1	1
	5	5-11	3-9	2-5	2-4	1-2	1	1
	6	3-9	2-8	1-5	1-3	1	1	—
	7	1-8	1-7	1-4	1-3	1	—	—
	8	1-7	1-6	1-3	1-2	1	—	—
	9	1-6	1-5	1-3	1-2	1	—	—
	10	1-4	1-4	1-2	1	—	—	—
	11	1-3	1-3	1	1	—	—	—
	12	1-2	1-2	1	—	—	—	—
	13	1	1	—	—	—	—	—
NO. 14	1	10-14	6-12	4-7	3-5	2-3	1-2	1
	2	7-12	5-10	3-6	2-5	2-3	1-2	1
	3	5-11	3-9	2-5	2-4	1-2	1	1
	4	2-9	2-7	1-4	1-3	1-2	1	—
	5	1-7	1-6	1-3	1-2	1	—	—
	6	1-5	1-4	1-2	1	1	—	—
	7	1-3	1-2	1	—	—	—	—
NO. 12	1	8-13	6-11	4-6	2-5	2-3	1	1
	2	4-12	3-9	2-5	1-4	1-2	1	1
	3	1-11	1-7	1-4	1-3	1-2	1	—
	4	1-9	1-5	1-3	1-2	1	—	—
	5	1-5	1-3	1-2	1	—	—	—
NO. 10	1	6-12	4-9	3-6	2-4	1-3	1	1
	2	1-8	1-5	1-4	1-3	1-2	1	—
	3	1-6	1-4	1-2	1	1	—	—
NO. 8	1	2-11	2-6	1-4	1-3	1-2	—	—
	2	1-5	1-2	1-2	—	—	—	—
NO. 6	1	1-6	1-5	1-3	1-2	1	—	—

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is thirteen No. 18 wires.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS



424 C LISTED

**CLOSED END SPlice PRESSURE TYPE WIRE CONNECTORS— TYPE ECV SOL. OR STR. WIRE COMB. CHART**

**408-9850**


**CU**

**Catalog No.55843-1**  
**Circular Mil Range 509—5,180**

Use "18-16 ECV— ECN or 22-14 ECV— ECN" Tooling

Strip Length— 8.33 mm [.328 in.] Min.—  
9.13 mm [.359 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
WIRE SIZE 22-14 SOL. OR STR.  
600 Volt Max. Building Wiring  
1000 Volt Max. Fixtures & Signs  
105°C [221°F] Max.



LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE				
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 22	1	1-5	1-3	1-2	1	1
	2	1-4	1-3	1-2	1	—
	3	1-3	1-2	1	1	—
	4	1-2	1	1	—	—
	5	1	1	1	—	—
NO. 20	1	1-5	1-3	1-2	1	1
	2	1-4	1-2	1	1	—
	3	1-3	1	1	—	—
NO. 18	1	1-4	1-3	1-2	1	—
	2	1-2	1	1	—	—
NO. 16	1	1-3	1-2	1	1	—
NO. 14	1	1	1	—	—	—

**AMP** AMP APPROVED WIRE COMBINATIONS WIRE SIZE 22-14

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 24	NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 24	1	1-10	1-6	1-4	1-2	1	1
	2	1-9	1-5	1-4	1-2	1	1
	3	1-8	1-5	1-3	1-2	1	—
	4	1-7	1-4	1-3	1-2	1	—
	5	1-6	1-4	1-2	1	1	—
	6	1-5	1-3	1-2	1	—	—
	7	1-4	1-2	1	1	—	—
NO. 22	1	1-9	1-6	1-3	1-2	1	1
	2	1-7	1-5	1-3	1-2	1	—
	3	1-6	1-4	1-2	1	1	—
	4	1-4	1-3	1	1	—	—
	5	1-3	1-2	1	1	—	—
NO. 20	1	1-7	1-4	1-3	1-2	1	1
	2	1-6	1-3	1-2	1	1	—
	3	1-3	1-2	1	1	—	—
NO. 18	1	1-7	1-5	1-3	1-2	1	—
	2	1-4	1-2	1	1	—	—
NO. 16	1	1-4	1-3	1-2	1	1	—
NO. 14	1	1-2	1	1	—	—	—

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping.

**Nylon Wire Combination Charts, For Splices on Page 3**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE EC SOL. OR STR. WIRE COMB. CHART

**408-1003**

**CU**

(Solid or Stranded Wire)  
**Catalog No.328730,**  
**53915-1,53915-4**  
**Circular Mil Range 3,248—13,100**

Use "18-10 EC" Tooling

Strip Length—10.72 mm [.422 in.] Min.—  
 11.51 mm [.453 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
 WIRE SIZE 22-16 STR.  
**600 Volt Max.Building Wiring**  
**1000 Volt Max.Fixtures & Signs**

424 C LISTED 105°C MAX.

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE			
		NO. 22	NO. 20	NO. 18	NO. 16
NO. 22	1	4-12	3-11	2-7	1-4
	2	3-11	2-10	1-6	1-3
	3	2-10	1-9	1-6	1-3
	4	1-9	1-7	1-5	1-3
	5	1-8	1-6	1-5	1-3
	6	1-7	1-5	1-5	1-2
	7	1-6	1-5	1-4	1-2
	8	1-5	1-3	1-3	1-2
	9	1-4	1-3	1-3	1-2
	10	1-3	1-2	1-2	1
	11	1-2	—	—	—
	12	1	—	—	—
	13	—	—	—	—
NO. 20	1	3-11	3-10	2-7	1-4
	2	2-10	2-9	1-6	1-3
	3	1-9	1-8	1-6	1-3
	4	1-8	1-7	1-4	1-3
	5	1-6	1-6	1-4	1-2
	6	1-3	1-5	1-3	1-2
	7	1-2	1-4	1-3	1
NO. 18	1	3-12	2-9	1-7	1-3
	2	1-10	1-7	1-6	1-3
	3	1-9	1-6	1-5	1-2
NO. 16	1	1-11	1-8	1-6	1-3
	2	1-9	1-5	1-3	1-2

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE SOL. OR STR. WIRE COMB. CHART

**408-1003**

**CU**

(Solid or Stranded Wire)  
**Catalog No.328730,**  
**53915-1,53915-4**  
**Circular Mil Range 3,248—13,100**

Use "18-10 EC" Tooling

Strip Length— 10.72 mm [.422 in.] Min.—  
 11.51 mm [.453 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
 WIRE SIZE 22-10  
**300 Volt Max.**  
**105° C Max.**

424 C LISTED 105°C MAX.

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10
NO. 22	1	4-14	3-8	2-7	1-4	1-2	1	1
	2	3-13	2-7	1-6	1-3	1-2	1	1
	3	2-12	1-6	1-5	1-3	1-2	1	1
	4	1-11	1-5	1-4	1-3	1-2	1	1
	5	1-10	1-5	1-4	1-3	1-2	1	—
	6	1-9	1-5	1-4	1-2	1-2	1	—
	7	1-8	1-4	1-3	1-2	1	1	—
	8	1-7	1-4	1-3	1-2	1	1	—
	9	1-6	1-3	1-2	1-2	1	1	—
	10	1-5	1-3	1-2	1	1	—	—
	11	1-4	1-2	1-2	1	1	—	—
	12	1-3	1-2	1-2	1	1	—	—
	13	1-2	1	1	—	—	—	—
	14	1	1	1	—	—	—	—
	15	—	1	—	—	—	—	—
NO. 20	1	3-11	2-7	2-6	1-4	1-2	1	1
	2	2-10	1-6	1-4	1-3	1-2	1	—
	3	1-9	1-5	1-4	1-3	1-2	1	—
	4	1-8	1-4	1-3	1-3	1-2	1	—
	5	1-6	1-3	1-3	1-2	1	1	—
	6	1-3	1-2	1-2	1	1	1	—
	7	1-2	1	1	1	—	—	—
NO. 18	1	2-12	2-7	1-6	1-3	1-2	1	1
	2	1-10	1-6	1-5	1-3	1-2	1	—
	3	1-8	1-5	1-4	1-3	1-2	1	—
	4	1-6	1-3	1-3	1-2	1	1	—
	5	1-3	1	1-2	1	1	—	—
	6	1-2	1	1	1	—	—	—
NO. 16	1	1-11	1-9	1-6	1-4	1-2	1	1*
	2	1-8	1-6	1-4	1-3	1	1	—
	3	1-6	1-4	1-3	1-2	1	—	—
	4	1-3	1	1	1	—	—	—
NO. 14	1	1-10	1-7	1-5	1-3	1-2	1	—
	2	1-6	1-3	1-3	1	1	—	—
NO. 12	1	1-9	1-6	1-4	1-2	1	1*	—
NO. 10	1	1-3	1-2	1	1	—	—	—

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.

**Nylon Wire Combination Charts, For Splices on Page 3 (Continued)**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECN SOL. OR STR. WIRE COMB. CHART

**408-1271**

**CU**

Catalog No.35115  
Circular Mil Range 509—5,180



Use "18-16 ECV— ECN or 22-14 ECV— ECN" Tooling

Strip Length—8.33 mm [.328 in.] Min.—9.13 mm [.359 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-14 SOL. OR STR. 300 Volt Max. 105°C MAX.

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE				
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 22	1	1-5	1-3	1-2	1	1
	2	1-4	1-3	1-2	1	—
	3	1-3	1-2	1	1	—
	4	1-2	1	1	—	—
	5	1	1	1	—	—
NO. 20	1	1-5	1-3	1-2	1	1
	2	1-4	1-2	1	1	—
	3	1-3	1	1	—	—
NO. 18	1	1-4	1-3	1-2	1	—
	2	1-2	1	1	—	—
NO. 16	1	1-3	1-2	1	1*	—
NO. 14	1	1	1	—	—	—

**NOTE:** Two No. 18 solid wires must be twisted.

**AMP** APPROVED WIRE COMBINATIONS WIRE SIZE 24-14 SOL. OR STR.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 24	NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 24	1	1-10	1-6	1-4	1-2	1	1
	2	1-9	1-5	1-4	1-2	1	1
	3	1-8	1-5	1-3	1-2	1	—
	4	1-7	1-4	1-3	1-2	1	—
	5	1-6	1-4	1-2	1	1	—
	6	1-5	1-3	1-2	1	—	—
	7	1-4	1-2	1	1	—	—
NO. 22	1	1-9	1-6	1-3	1-2	1	1
	2	1-7	1-5	1-3	1-2	1	—
	3	1-6	1-4	1-2	1	1	—
	4	1-4	1-3	1	1	—	—
	5	1-3	1-2	1	1	—	—
NO. 20	1	1-7	1-4	1-3	1-2	1	1
	2	1-6	1-3	1-2	1	1	—
	3	1-3	1-2	1	1	—	—
NO. 18	1	1-7	1-5	1-3	1-2	1	—
	2	1-4	1-2	1	1	—	—
NO. 16	1	1-4	1-3	1-2	1	1*	—
NO. 14	1	1-2	1	1	—	—	—

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping.

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECN SOL. OR STR. WIRE COMB. CHART

**408-1021**

**CU**

Catalog No.35653  
Circular Mil Range 3,248—13,100



Use "18-10 ECV— ECN or 16-10 C" Tooling

Strip Length—10.72 mm [.422 in.] Min.—11.51 mm [.453 in.] Max.

ULLISTED AND CSACERTIFIED WIRE COMBINATIONS

WIRE SIZE 22-10 SOL. OR STR. 300 Volt Max. 105°C Max.

LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE							
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10	
NO. 22	1	4-16	3-9	2-7	1-4	1-2	1	1	
	2	3-15	2-8	1-6	1-4	1-2	1	1	
	3	2-14	1-6	1-5	1-3	1-2	1	1	
	4	1-13	1-5	1-4	1-3	1-2	1	1	
	5	1-12	1-4	1-3	1-3	1-2	1	1	
	6	1-11	1-4	1-3	1-2	1-2	1	1	
	7	1-10	1-3	1-3	1-2	1-2	1	1	
	8	1-9	1-3	1-3	1-2	1	1	—	
	9	1-8	1-3	1-2	1	1	1	—	
	10	1-7	1-2	1-2	1	1	—	—	
	11	1-6	1-2	1-2	1	1	—	—	
	12	1-5	1-2	1-2	1	1	—	—	
	13	1-4	1-2	1-2	1	—	—	—	
	14	1-3	1	1	1	—	—	—	
	15	1-2	1	1	1	—	—	—	
	16	1	1	1	—	—	—	—	
NO. 20	1	3-16	3-7	2-4	1-4	1-2	1	1	
	2	2-13	2-6	1-4	1-3	1-2	1	1	
	3	1-9	1-5	1-4	1-2	1-2	1	—	
	4	1-6	1-4	1-2	1-2	1	1	—	
	5	1-4	1-3	1-2	1-2	1	1	—	
	6	1-3	1-2	1	1	1	—	—	
	7	1-2	1	1	1	—	—	—	
NO. 18	1	2-16	2-7	1-6	1-4	1-2	1	1	
	2	1-9	1-4	1-5	1-2	1-2	1	1	
	3	1-8	1-4	1-4	1-2	1-2	1	—	
	4	1-4	1-2	1-3	1	1	1	—	
	5	1-3	1	1-2	1	1	—	—	
	6	1-2	1	1	1	—	—	—	
NO. 16	1	1-15	1-6	1-5	1-4	1-2	1	—	
	2	1-8	1-3	1-3	1-3	1	1	—	
	3	1-5	1-3	1-2	1-2	1	—	—	
	4	1-2	1-2	1	1	—	—	—	
NO. 14	1	1-12	1-5	1-5	1-3	1-2*	1	—	
	2	1-7	1-3	1-3	1	1*	—	—	
NO. 12	1	1-9	1-6	1-4	1-2	1	1*	—	
NO. 10	1	1-6	1-2	1	1	—	—	—	

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

**Nylon Wire Combination Charts For Splices on Page 3 (Continued)**  
 Specific Product Name\_12 Hel. Con. Sold (Continued)\_9pt Helvetica Lt Condensed

**408-2907**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS—  
 STRANDED WIRE COMB. CHART


**Catalog No.54316-1**  
**Circular Mil Range 3,248—11,400**

Use "18-10 EC" Tooling

Strip Length—10.72 mm [.422 in.] Min.—  
 11.51 mm [.453 in.] Max.

ULLISTED WIRE COMBINATIONS  
 WIRE SIZE 22-12 STR.  
 300 Volt Max. 150°C Max.

**CU**



424 C LISTED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12
NO. 22	1	4-13	3-9	2-6	1-4	1-2	1
	2	3-12	2-8	2-5	1-3	1-2	1
	3	2-11	1-7	1-5	1-3	1-2	1
	4	1-10	1-6	1-4	1-3	1-2	1
	5	1-9	1-6	1-4	1-3	1	1
	6	1-8	1-5	1-4	1-2	1	1
	7	1-7	1-5	1-3	1-2	1	1
	8	1-6	1-4	1-2	1-2	1	—
	9	1-5	1-3	1-2	1	1	—
	10	1-4	1-3	1-2	1	1	—
	11	1-3	1-2	1	—	—	—
NO. 20	1	4-11	3-9	2-6	1-4	1-2	1
	2	2-9	2-8	1-5	1-3	1-2	1
	3	1-8	1-7	1-4	1-2	1-2	1
	4	1-7	1-6	1-4	1-2	1	1
NO. 18	1	3-10	2-8	1-6	1-3	1-2	1
	2	1-9	1-7	1-5	1-3	1	1
	3	1-8	1-5	1-4	1-2	1	1
	4	1-7	1-4	1-3	1	1	—
NO. 16	1	1-9	1-7	1-5	1-3	1-2	1
	2	1-6	1-5	1-3	1-2	1	—
	3	1-5	1-3	1-2	1	—	—
NO. 14	1	1-10	1-7	1-4	1-2	1	1
	2	1-4	1-3	1	1	—	—
NO. 12	1	1-6	1-4	1-3	1	1	—

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

**408-8806**

TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS

CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE ECN SOL. OR STR. WIRE COMB. CHART


**Catalog No.55927-1**  
**Circular Mil Range 509—5,180**

Use "18-10 ECV— ECN or 22-14 ECN" Tooling


Strip Length—8.33 mm [.328 in.] Min.—  
 9.13 mm [.359 in.] Max.

ULLISTED AND CS CERTIFIED WIRE COMBINATIONS  
 WIRE SIZE 22-10 SOL. OR STR.  
 300 Volt Max. 150°C Max.

**CU**



424 C LISTED



LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE				
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 22	1	1-5	1-3	1-2	1	1
	2	1-4	1-3	1-2	1	—
	3	1-3	1-2	1	1	—
	4	1-2	1	1	—	—
	5	1	1	1	—	—
NO. 20	1	1-5	1-3	1-2	1	1
	2	1-4	1-2	1	1	—
	3	1-3	1	1	—	—
NO. 18	1	1-4	1-3	1-2	1	—
	2	1-2	1	1	—	—
NO. 16	1	1-3	1-2	1	1*	—
NO. 14	1	1	1	—	—	—

**NOTE:** Two No.18 solid wires must be twisted.



**AMP** AMP APPROVED WIRE COMBINATIONS  
 WIRE SIZE 24-14 SOL. OR STR.

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE					
		NO. 24	NO. 22	NO. 20	NO. 18	NO. 16	NO. 14
NO. 24	1	1-10	1-6	1-4	1-2	1	1
	2	1-9	1-5	1-4	1-2	1	1
	3	1-8	1-5	1-3	1-2	1	—
	4	1-7	1-4	1-3	1-2	1	—
	5	1-6	1-4	1-2	1	1	—
	6	1-5	1-3	1-2	1	—	—
	7	1-4	1-2	1	1	—	—
NO. 22	1	1-9	1-5	1-3	1-2	1	1
	2	1-6	1-4	1-3	1-2	1	—
	3	1-5	1-3	1-2	1	1	—
	4	1-4	1-2	1	1	—	—
	5	1-3	1	1	1	—	—
NO. 20	1	1-7	1-4	1-3	1-2	1	1
	2	1-6	1-3	1-2	1	1	—
	3	1-3	1-2	1	1	—	—
NO. 18	1	1-7	1-5	1-3	1-2	1	—
	2	1-4	1-2	1	1	—	—
NO. 16	1	1-4	1-3	1-2	1	1*	—
NO. 14	1	1-2	1	1	—	—	—

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.



**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping.

**Nylon Wire Combination Charts, For Splices on Page 3 (Continued)**

**AMP**  
 TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS  
 CLOSED END SPLICE PRESSURE TYPE WIRE CONNECTORS— TYPE EC SOL. OR STR. WIRE COMB. CHART  
**408-8807**  
**CU**  
 Catalog No.55929-1  
 Circular Mil Range 3,248—13,100  
 Use "18-10 EC" Tooling  
 Strip Length— 10.72 mm [.422 in.] Min.— 11.51 mm [.453 in.] Max.  
 ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
 WIRE SIZE 22-16 STR.  
**600 Volt Max.Building Wiring**  
**1000 Volt Max.Fixture & Signs**  
 150°C [302°F] Max.  
 424 C LISTED  
 LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE			
		NO. 22	NO. 20	NO. 18	NO. 16
NO. 22	1	4-12	3-11	2-7	1-4
	2	3-11	2-10	1-6	1-3
	3	2-10	1-9	1-6	1-3
	4	1-9	1-7	1-5	1-3
	5	1-8	1-6	1-5	1-3
	6	1-7	1-5	1-5	1-2
	7	1-6	1-5	1-4	1-2
	8	1-5	1-3	1-3	1-2
	9	1-4	1-3	1-3	1-2
	10	1-3	1-2	1-2	1
	11	1-2	—	—	—
	12	1	—	—	—
	13	—	—	—	—
NO. 20	1	3-11	3-10	2-7	1-4
	2	2-10	2-9	1-6	1-3
	3	1-9	1-8	1-6	1-3
	4	1-8	1-7	1-4	1-3
	5	1-6	1-6	1-4	1-2
	6	1-3	1-5	1-3	1-2
NO. 18	1	3-12	2-9	1-7	1-3
	2	1-10	1-7	1-6	1-3
	3	1-9	1-6	1-5	1-2
NO. 16	1	1-11	1-8	1-6	1-3
	2	1-9	1-5	1-3	1-2

**INSTRUCTIONS:** Use as shown for OEM applications; otherwise, for all field applications, twist wires together before crimping. Minimum loading is five No. 22 wires.

**AMP**  
 TO BE SOLD ONLY WITH INSTALLATION INSTRUCTIONS  
 CLOSED END SPLICE PRESSURE TYPE SOL. OR STR. WIRE COMB. CHART  
**408-8807**  
**CU**  
 Catalog No.55929-1  
 Circular Mil Range 3,248—13,100  
 Use "18-10 EC" Tooling  
 Strip Length— 10.72 mm [.422 in.] Min.— 11.51 mm [.453 in.] Max.  
 ULLISTED AND CSACERTIFIED WIRE COMBINATIONS  
 WIRE SIZE 22-10 STR.  
**300 Volt Max.**  
 150°C [302°F] Max.  
 424 C LISTED  
 LR 7189 CERTIFIED

WIRE SIZE	NO. OF WIRES	NO. OF ADDITIONAL WIRES OF ONE WIRE SIZE						
		NO. 22	NO. 20	NO. 18	NO. 16	NO. 14	NO. 12	NO. 10
NO. 22	1	4-14	3-8	2-7	1-4	1-2	1	1
	2	3-13	2-7	1-6	1-3	1-2	1	1
	3	2-12	1-6	1-5	1-3	1-2	1	1
	4	1-11	1-5	1-4	1-3	1-2	1	1
	5	1-10	1-5	1-4	1-3	1-2	1	—
	6	1-9	1-5	1-4	1-2	1-2	1	—
	7	1-8	1-4	1-3	1-2	1	1	—
	8	1-7	1-4	1-3	1-2	1	1	—
	9	1-6	1-3	1-2	1-2	1	1	—
	10	1-5	1-3	1-2	1	1	—	—
	11	1-4	1-2	1-2	1	1	—	—
	12	1-3	1-2	1-2	1	1	—	—
	13	1-2	1	1	—	—	—	—
	14	1	1	1	—	—	—	—
	15	—	1	—	—	—	—	—
NO. 20	1	3-11	2-7	2-6	1-4	1-2	1	1
	2	2-10	1-6	1-4	1-3	1-2	1	—
	3	1-9	1-5	1-4	1-3	1-2	1	—
	4	1-8	1-4	1-3	1-3	1-2	1	—
	5	1-6	1-3	1-3	1-2	1	1	—
	6	1-3	1-2	1-2	1	1	1	—
	7	1-2	1	1	1	—	—	—
NO. 18	1	2-12	2-7	1-6	1-3	1-2	1	1
	2	1-10	1-6	1-5	1-3	1-2	1	—
	3	1-8	1-5	1-4	1-3	1-2	1	—
	4	1-6	1-3	1-3	1-2	1	1	—
	5	1-3	1	1-2	1	1	—	—
	6	1-2	1	1	1	—	—	—
NO. 16	1	1-11	1-9	1-6	1-4	1-2	1	1*
	2	1-8	1-6	1-4	1-3	1	1	—
	3	1-6	1-4	1-3	1-2	1	—	—
	4	1-3	1	1	1	—	—	—
NO. 14	1	1-10	1-7	1-5	1-3	1-2	1	—
	2	1-6	1-3	1-3	1	1	—	—
NO. 12	1	1-9	1-6	1-4	1-2	1	1*	—
NO. 10	1	1-3	1-2	1	1	—	—	—

\*Partially closing hand tools to "oval" splice permits use of solid wires in these combinations.