



# CIR<sup>®</sup> CABLES

CRUSH & IMPACT RESISTANT  
WITH NO EXTERNAL ARMORING



AmerCable



# CIR<sup>®</sup>

## Crush and Impact Resistant Without External Armoring

Passes the same stringent  
crush and impact testing required by  
UL 2225 for Type MC-HL

- Highly Flexible
- GEXOL<sup>®</sup> Insulated
- Easier and Safer  
to Install

# INDEX

## CIR AG Power Cables

- 3-4 Conductors + Ground . . . . . 2 - 3

## CIR AG Control Cable

- Multi-Conductor . . . . . 4

## CIR AG Instrumentation Cables

- Individually Shielded Pairs . . . . . 5
- Individually Shielded Triads . . . . . 5

## CIR AG Type VFD Cable

- Three Conductor . . . . . 6 - 7

## Bend Radius Information . . . . . 1

## Strand Profile/Cable

## Color Codes . . . . . Back Cover

## Installed Cost Comparison . . . . . Back Cover



**Faster and  
Easier to  
Install than  
Metal Clad**

CIR<sup>®</sup> is the fastest,  
safest crush-proof cable  
to install. Metal clad  
cable installation  
requires an expensive  
box of tools and a  
multi-step procedure  
for jacket removal.

AmerCable<sup>®</sup> believes the information presented throughout this catalog to be reliable and current. All information is subject to change without notice. The information listed is approximate, and is presented only as a guide for product selection. We make no claims or warranties for the suitability of any product for any particular application.

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# ABOUT CIR® CABLES

AmerCable's CIR is a flexible, next-generation cable designed to replace older-technology cables like Type MC. CIR has been successfully used globally since 2002 for mission-critical equipment operating in harsh environments where crush and impact resistance for cables is required.

CIR passes the same stringent crush and impact tests required by UL 2225 for Type MC-HL *without* the use of external armoring. This highly robust cable offers significant advantages over Type MC for many industrial and mining applications, including:



- **MSHA Approved on 2-7 conductor power cables**
- **UL Listed as Type TC-ER-HL** – suitable for use in Class 1, Div 1 and Zone 1 environments including those where tray cables are not practical or cost-prohibitive. (Cables up to 1" in diameter)
- **UL Listed as Type TC-ER** – suitable for a variety of uses, including those where tray cables are not practical or cost-prohibitive. (Cables greater than 1" in diameter)
- **Insulated with GEXOL®** – AmerCable's exclusive insulating compound provides superior flexibility, dielectric properties and field proven performance in the most severe, isolated operating environments.
- **Highly flexible** – unlike Type MC, CIR is flexible for easier installation. The cable can also be reused during an upgrade or retrofit.
- **Designed to operate in extremely cold environments**
  - Exceeds CSA cold bend/cold impact (-40°C/-35°C)
  - Brittlepoint as per ASTM D 746-07 exceeds -65°C for the Jacket and -75°C for the Insulation.
- **Smaller bend radius** (up to 40% smaller) and **Reduced tray fill** (up to 35% less) compared to Type MC
- **Gas & vapor tight** – impervious to water and air
- **Ergonomically Superior** – from an ergonomic perspective, CIR is safer to handle for workers and much simpler to prepare for termination.



BEND RADIUS	
	Type CIR
IEEE 45	6X Diameter
NEC	< 1" (25mm) 4X Diameter > 1" (25mm) < 2" (50mm) 5X Diameter > 2" (50mm) 6X Diameter

See back cover for  
**Total Installed  
 Cable Cost  
 Comparison**



# CIR® POWER CABLE TYPE TC-ER-HL\*



3-4 Conductor + Ground • GEXOL® Insulated • 0.6/1kV • Rated 90°C • MSHA Approved

## INSULATION

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 600V/IEC 1000V.

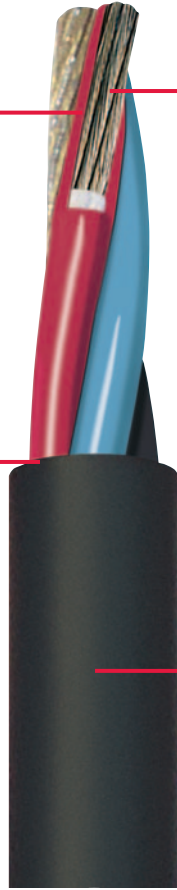
## CONDUCTOR

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

See  
Bend Radius  
info on  
Page 1

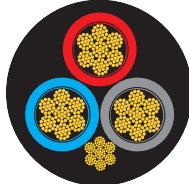
## SAFER TO HANDLE

CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors



## JACKET

A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoset compound meeting UL 1309/CSA 245 and IEEE 1580.



## APPLICATION

A flexible alternative to Type MC cable where user requires crush and impact protection for cables.

## FEATURES

- Complies with the requirements for TC-ER-HL per UL 2225 (Up to 1-inch OD)
- Rated TC-ER (Greater than 1-inch OD)
- MSHA approved (2-7 conductors)
- Exceeds CSA cold bend /cold impact (-40°C / -35°C)
- Brittlepoint as per ASTM D 746-07 exceeds -65°C for Jacket and -75°C for Insulation
- Gas & vapor tight – impervious to water & air

## CIR vs. TYPE MC

- Smaller bend radius (up to 40% smaller)
- Reduced tray fill (up to 35% less)
- Considerably more flexible
- Reduced installation time and cost
- Glands cost up to 50% LESS

## CIR® RATINGS & APPROVALS

- MSHA approved (3 & 4 Conductor Cables)
- UL Listed as TC-ER-HL – suitable for Class 1, Div 1 and Zone 1 environments (cables up to 1" OD)
- UL Listed as Type TC-ER – suitable for use in Class I, Div 2 and Zone 2 environments (cables greater than 1" OD)
- UL Listed as Marine Shipboard Cable (E111461)
- American Bureau of Shipping (ABS)
- Flame Retardant – IEEE 1202
- 90°C temperature rating

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Conductor Size		Number of Conductors	Grounding Conductor AWG/kcmil	Part No. 37-102-	Nominal Diameter (inches)	Weight (lbs/1000 ft.)	90°C NEC Ampacity	75°C NEC Ampacity	DC Resistance at 25°C Ampacity	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/1000 ft.)	Voltage Drop (Volts/Amp/1000 ft.)
AWG/kcmil	mm <sup>2</sup>											
14	2.1	3	14	508CIRGAG*	0.535	187	15	15	2.91	3.64	0.04	5.069
14	2.1	4	14	509CIRGAG*	0.572	206	15	15	2.91	3.64	0.04	5.072
12	3.3	3	12	516CIRGAG*	0.580	246	20	20	1.83	2.28	0.03	3.195
12	3.3	4	12	517CIRGAG*	0.685	305	20	20	1.83	2.28	0.04	3.198
10	5.2	3	10	308CIRGAG*	0.685	367	30	30	1.15	1.44	0.03	2.028
10	5.2	4	10	408CIRGAG*	0.740	397	30	28	1.15	1.44	0.03	2.031
8	7.6	3	10	309CIRGAG*	0.821	431	55	50	0.708	0.885	0.034	1.261
8	7.6	4	10	409CIRGAG*	0.888	513	44	40	0.708	0.885	0.037	1.263
6	12.5	3	8	310CIRGAG*	0.915	585	75	65	0.445	0.556	0.032	0.803
6	12.5	4	8	410CIRGAG	1.100	705	60	52	0.445	0.556	0.035	0.806
4	21	3	6	312CIRGAG*	0.944	774	95	85	0.300	0.376	0.029	0.550
4	21	4	6	412CIRGAG	1.036	956	76	68	0.300	0.376	0.032	0.553
2	34	3	6	314CIRGAG	1.100	1105	130	115	0.184	0.230	0.028	0.347
2	34	4	6	414CIRGAG	1.203	1381	104	92	0.184	0.230	0.030	0.350
1/0	54	3	6	316CIRGAG	1.329	1669	170	150	0.117	0.147	0.028	0.232
1/0	54	4	6	416CIRGAG	1.468	2107	136	120	0.117	0.147	0.030	0.235
2/0	70	3	4	317CIRGAG	1.445	2062	195	175	0.0929	0.1174	0.0270	0.190
2/0	70	4	4	417CIRGAG	1.602	2585	156	140	0.0929	0.1174	0.0296	0.193
4/0	109	3	4	319CIRGAG	1.792	3151	260	230	0.0585	0.0753	0.0261	0.131
4/0	109	4	4	419CIRGAG	1.948	3972	208	184	0.0585	0.0753	0.0287	0.134
250	127	3	3	330CIRGAG	1.925	3493	290	255	0.0488	0.0635	0.0263	0.115
250	127	4	3	430CIRGAG	2.106	4510	232	204	0.0488	0.0635	0.0290	0.118
350	177	3	3	331CIRGAG	2.206	4594	350	310	0.0344	0.0456	0.0256	0.090
350	177	4	3	431CIRGAG	2.440	5900	280	248	0.0344	0.0456	0.0283	0.093
500	253	3	2	333CIRGAG	2.540	6207	430	380	0.0251	0.0348	0.0258	0.075
500	253	4	2	433CIRGAG	2.872	8178	344	304	0.0251	0.0348	0.0284	0.078
750	380	3	1	334CIRGAG	3.081	9165	535	475	0.0166	0.0253	0.0252	0.061
750	380	4	1	434CIRGAG	3.352	11883	428	380	0.0166	0.0253	0.0278	0.063

Ampacities are based on Table 310.16 of the National Electrical Code (NEC) for conductors rated 90°C, in a multi-conductor cable, at an ambient temperature of 30°C. The 75°C column is provided for additional information. The ampacities shown apply to open runs of cable, installation in any approved raceway. Derating for more than three current carrying conductors within the cable is in accordance with NEC Table 310.15 (B) (2) (a). The ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.11.



**For Cable Color Codes  
and Stranding Information  
See Back Cover**

## Hawke Gland Types

Hawke Gland Types	Type CIR
Industrial & Safe Area (IP68)	121
Increased Safety "EExe"	501/421
Explosion Proof	710 Class I, Div. 2 Class I, Zone 1 & 2
Flameproof "EExd"	501/421 Zone 1 & 2

# CIR® CONTROL CABLE TYPE TC-ER-HL\*

Multi-Conductor • GEXOL® Insulated • 0.6/1kV • Rated 90°C • MSHA Approved (2-7 Conductors)

### INSULATION

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 600V/IEC 1000V.

### CONDUCTOR

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

### GROUND

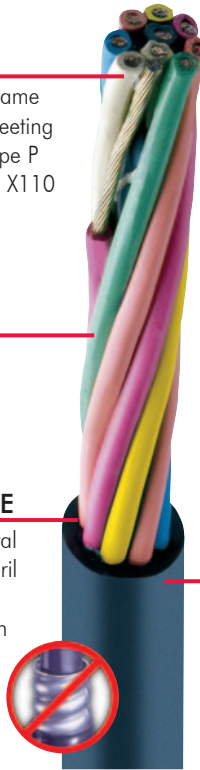
For Cable Color Codes and Stranding Information, see page 12.

### SAFE TO HANDLE

CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors

### JACKET

A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoset compound meeting UL 1309/CSA 245 and IEEE 1580.



See page 8 for CIR Ratings & Approvals

## APPLICATION

A flexible alternative to Type MC cable where user requires crush and impact protection for cables.

## FEATURES

- Complies with the requirements for TC-ER-HL per UL 2225 (Up to 1-inch OD)
- Rated TC-ER (Greater than 1-inch OD)
- MSHA approved (2-7 conductors)
- Exceeds CSA cold bend /cold impact (-40°C / -35°C)
- Brittlepoint as per ASTM D 746-07 exceeds -65°C for Jacket and -75°C for Insulation
- Gas & vapor tight – impervious to water & air

## CIR vs. TYPE MC

- Smaller bend radius (up to 40% smaller)
- Reduced tray fill (up to 35% less)
- Considerably more flexible
- Reduced installation time and cost
- Glands cost up to 50% LESS

	Conductor Size		Number of Conductors	Part No. 37-102-	Ground		Diameter (inches)	Weight (lbs/1000 ft.)	90°C NEC Ampacity	DC Resistance 75°C NEC Ampacity	AC Resistance at 25°C (ohms/1000 ft.)	Voltage Drop at 90°C, 60Hz (ohms/1000 ft.)	(Volts/ Amp/ 1000 ft.)
	AWG	mm2			Number	AWG							
<b>MSHA APPROVED</b>	14	2.1	2	507CIRGAG*	1	14	0.500	137	15	15	2.91	3.64	5.069
	14	2.1	3	508CIRGAG*	1	14	0.532	165	15	15	2.91	3.64	5.069
	14	2.1	4	509CIRGAG*	1	14	0.572	195	15	15	2.91	3.64	5.072
	14	2.1	5	510CIRGAG*	1	14	0.673	261	15	15	2.91	3.64	5.072
	14	2.1	7	521CIRGAG*	1	14	0.800	345	15	14	2.91	3.64	5.072
	14	2.1	9	764CIRGAG*	1	14	0.813	372	15	14	2.91	3.64	5.072
	14	2.1	12	585CIRGAG*	1	14	0.850	447	12	10	3.00	3.75	5.224
	14	2.1	19	765CIRGAG*	1	14	1.090	698	12	10	3.00	3.75	5.224
<b>MSHA APPROVED</b>	12	3.3	2	515CIRGAG*	1	12	0.539	175	20	20	1.83	2.28	3.195
	12	3.3	3	516CIRGAG*	1	12	0.580	213	20	20	1.83	2.28	3.195
	12	3.3	4	517CIRGAG*	1	12	0.685	288	20	20	1.83	2.28	3.198
	12	3.3	5	560CIRGAG*	1	12	0.740	333	20	20	1.83	2.28	3.198
	12	3.3	7	712CIRGAG*	1	12	0.865	442	20	17	1.83	2.28	3.198
	12	3.3	9	766CIRGAG*	1	12	0.910	483	20	17	1.83	2.28	3.198
	12	3.3	12	750CIRGAG*	1	12	0.935	578	15	12	1.88	2.35	3.294
	12	3.3	19	767CIRGAG*	1	12	1.180	920	15	12	1.88	2.35	3.294
<b>MSHA APPROVED</b>	10	5.2	2	553CIRGAG*	1	10	0.582	229	30	30	1.15	2.35	2.028
	10	5.2	3	308CIRGAG*	1	10	0.685	310	30	30	1.15	1.44	2.031
	10	5.2	4	408CIRGAG*	1	10	0.740	371	30	28	1.15	1.44	2.031
	10	5.2	5	561CIRGAG*	1	10	0.800	433	30	28	1.15	1.44	2.031
	10	5.2	7	591CIRGAG*	1	10	0.930	569	28	24	1.15	1.44	2.031
	10	5.2	9	768CIRGAG*	1	10	1.060	712	28	24	1.15	1.44	2.031
	10	5.2	12	762CIRGAG*	1	10	1.135	868	20	17	1.18	1.48	2.092

Ampacities are based on Table 310.16 of the National Electrical Code (NEC) for conductors rate 90°C, in a multi-conductor cable, at an ambient temperature of 30°C. The 75°C column is provided for additional information. The ampacities shown apply to open runs of cable, installation in any approved raceway. Derating for more than three current carrying conductors within the cable is in accordance with NEC Table 310.15 (B) (2) (a). The ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.11. \*Rated TC-ER-HL



# CIR® INSTRUMENTATION CABLE TYPE TC-ER-HL\*



Individually Shielded Pairs/Triads • GEXOL® Insulated • 0.6/1kV • Rated 90°C  
MSHA Approved (2-7 Conductors)

### INSULATION

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 600V/IEC 1000V.

### CONDUCTOR

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

### PAIRS/TRIADS

Each pair/triad is twisted with a bare tinned drain wire. Each pair/triad is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Pair to pair, or triad to triad, isolation – plus overall shielding – is provided.

### SAFER TO HANDLE

CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors

See page 8 for CIR Ratings & Approvals



### JACKET

A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoset compound meeting UL 1309/CSA 245 and IEEE 1580.

## APPLICATION

A flexible alternative to Type MC cable where user requires crush and impact protection for cables.

## FEATURES

- Complies with the requirements for TC-ER-HL per UL 2225 (Up to 1-inch OD)
- Rated TC-ER (Greater than 1-inch OD)
- MSHA approved (2-7 conductors)
- Exceeds CSA cold bend /cold impact (-40°C / -35°C)
- Brittlepoint as per ASTM D 746-07 exceeds -65°C for Jacket and -75°C for Insulation
- Gas & vapor tight – impervious to water & air

## CIR vs. TYPE MC

- Smaller bend radius (up to 40% smaller)
- Reduced tray fill (up to 35% less)
- Considerably more flexible
- Reduced installation time and cost
- Glands cost up to 50% LESS

	Conductor Size		Pairs	Triads	Part No. 37-102*	Nominal Diameter (inches)	Weight (lbs/1000 ft.)	DC Resistance 20°C (ohms/1000 ft.)	Mutual Capacitance (nF/1000 ft.)	Inductance (mH/1000 ft.)
	AWG	mm²								
<b>MSHA APPROVED</b>	16	1.3	1	-	-610CIRAG	0.451	106	4.52	32	0.20
	16	1.3	2	-	-611CIRAG	0.725	279	4.52	32	0.20
	16	1.3	4	-	-613CIRAG	0.770	340	4.52	32	0.20
	16	1.3	8	-	-616CIRAG	1.075	702	4.52	32	0.20
	16	1.3	12	-	-618CIRAG	1.235	1062	4.52	32	0.20
<b>MSHA APPROVED</b>	16	1.3	24	-	-699CIRAG	1.650	1560	4.52	32	0.20
	16	1.3	-	1	-668CIRAG	0.470	128	4.52	32	0.20
	16	1.3	-	4	-698CIRAG	0.960	453	4.52	32	0.20
	16	1.3	-	8	-677CIRAG	1.200	825	4.52	32	0.20
	16	1.3	-	12	-734CIRAG	1.395	1235	4.52	32	0.20

For Cable Color Codes and Stranding Information See Back Cover

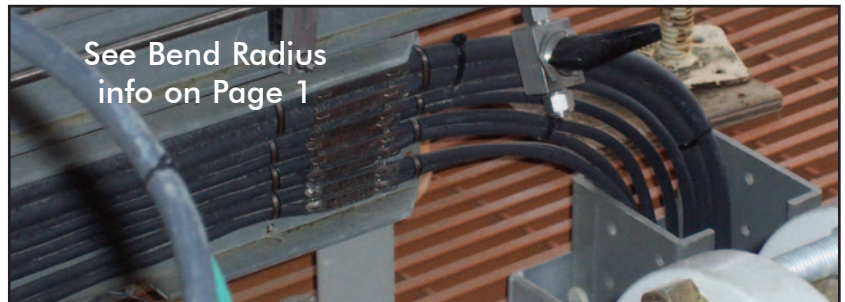
### VALUES:

#### #16 PAIRS / TRIADS

Capacitance - nF/1000 feet = 32

Inductance - mH/1000 = 0.20

Resistance - Ohms/1000 feet = 4.52 (@ 20°C)



See Bend Radius info on Page 1

# CIR® TYPE VFD POWER CABLE UL LISTED AS TYPE TC-ER & TYPE TC-ER-HL\*

Three Conductor • GEXOL® Insulated • 2kV • Rated 90°C • MSHA Approved

## POWER CONDUCTORS (3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

## INSULATION (2kV)

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. Color: Gray with printed phase I.D. (Black-Red-Blue)

## JACKET

A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoset CPE meeting UL 1309/CSA 245 and IEEE 1580.



## GROUND CONDUCTORS (3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11. GEXOL® insulation sized per UL 1277. Color: Green

## SHIELD

Overall tinned copper braid plus aluminum/polyester tape providing 100% coverage.

## SAFER TO HANDLE

CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors

## APPLICATION

A flexible braid and foil shielded 2kV power cable specifically engineered for use in variable frequency AC motor drive (VFD) applications where user requires crush and impact protection.

## FEATURES

- Specially engineered cable design produces longer service life in VFD applications.
- Overall braid and foil shield provides 100% coverage containing VFD EMI emissions.
- Symmetrical insulated ground conductors reduce induced voltage imbalances and carry common mode noise back to the drive.
- High strand count conductors and braid shield design is much more flexible, easier to install and more resistant to vibration than Type MC.
- GEXOL's lower dielectric constant (standard XLPEs, EPRs and other Type P insulation materials have higher dielectric constants) reduces reflected wave peak voltage magnitudes. This allows for longer output cable distances and minimizes the effect of high frequency noise induced into the plant ground system.
- 2kV insulation thickness resists the repetitive 2x voltage spikes from 600V VFDs and reduces drive over current trip problems due to cable charging current.
- Passes the same stringent crush and impact testing required by UL 2225 for Type MC-HL
- Gas & vapor tight – impervious to water and air

## CIR® VFD Ratings & Approvals

- 90°C temperature rating
- MSHA approved
- UL Listed as TC-ER-HL (up to 1" OD) – suitable for Class 1, Div 1 and Zone 1 environments
- UL Listed as Type TC-ER (Greater than 1" OD) – suitable for use in Class 1, Div 2 and Zone 2 environments
- Flame Retardant – IEEE 1202
- American Bureau of Shipping (ABS)
- UL Listed as Marine Shipboard Cable (E111461)

## CIR vs. TYPE MC

- Smaller bend radius (up to 40% smaller)
- Reduced tray fill (up to 35% less)
- Considerably more flexible
- Reduced installation time and cost
- Glands cost up to 50% LESS



**MSHA  
APPROVED\***

TC-ER-HL

Size AWG/ kcmil	Part No. 37-102-	Nominal Diameter Inches*	Weight Per 1000 Ft.	DC Resist. @ 25°C (Ohms/1k ft)	AC Resist. @ 90°C, 60 Hz (Ohms/1k ft)	Inductive Reactance (Ohms/1k ft)	Voltage Drop @ 90°C (Volts/Amp/1k ft)	Green Insulated Grounding Size (AWG)	IEEE Ampacity 90°C	NEC Ampacity 90°C	IEEE Ampacity 75°C	NEC Ampacity 75°C
14	508CIRVFDA	0.742	283	2.907	3.635	0.040	5.073	18	24	15	20	15
12	516CIRVFDA	0.815	378	1.826	2.283	0.038	3.199	18	29	20	24	20
10	308CIRVFDA	0.871	473	1.153	1.441	0.036	2.032	14	38	30	32	30
8	309CIRVFDA	0.893	553	0.708	0.885	0.037	1.263	14	48	55	41	50
6	310CIRVFDA	1.093	797	0.445	0.556	0.033	0.804	12	65	75	54	65
4	312CIRVFDA	1.225	929	0.300	0.376	0.031	0.552	12	83	95	70	85
2	314CIRVFDA	1.341	1276	0.184	0.230	0.029	0.348	10	111	130	93	115
1	315CIRVFDA	1.447	1576	0.147	0.184	0.029	0.285	10	131	145	110	130
1/0	316CIRVFDA	1.566	2144	0.117	0.147	0.029	0.234	10	150	170	126	150
2/0	317CIRVFDA	1.733	2144	0.093	0.117	0.028	0.192	10	173	195	145	175
4/0	319CIRVFDA	1.874	3131	0.058	0.075	0.027	0.132	8	232	260	194	230
262	320CIRVFDA	2.031	3875	0.048	0.063	0.027	0.115	6	273	297	228	262
313	321CIRVFDA	2.130	4709	0.040	0.053	0.026	0.100	6	298	328	249	292
373	322CIRVFDA	2.257	5209	0.034	0.045	0.025	0.088	6	332	364	277	322
444	323CIRVFDA	2.400	6310	0.028	0.039	0.025	0.080	6	382	402	319	355
535	324CIRVFDA	2.705	7193	0.024	0.033	0.026	0.072	6	407	446	340	394
646	326CIRVFDA	2.898	9217	0.020	0.028	0.026	0.065	4	474	496	396	438
777	327CIRVFDA	3.102	10340	0.016	0.025	0.025	0.060	4	516	546	431	483

\*Cable diameters are subject to a +/- 5% manufacturing tolerance

Ampacities are based on Table 310.15 (B) (16) of the National Electrical Code (NEC) for conductors rated 90°C, in a multi-conductor cable, at an ambient temperature of 30°C. The 75°C column is provided for additional information. The ampacities shown apply to open runs of cable, installation in any approved raceway. Derating for more than three current carrying conductors within the cable is in accordance with NEC Table 310.15 (B) (3) (a). The ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.80.



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<b>CONTROL CABLES</b> Colored Insulation		
Conductor #	Base Color	Tracer Color
1	Black	-
2	Red	-
3	Blue	-
4	Orange	-
5	Yellow	-
6	Brown	-
7	Red	Black
8	Blue	Black
9	Orange	Black
10	Yellow	Black
11	Brown	Black
12	Black	Red
13	Blue	Red
14	Orange	Red
15	Yellow	Red
16	Brown	Red
17	Black	Blue
18	Red	Blue
19	Orange	Blue
20	Yellow	Blue
21	Brown	Blue
22	Black	Orange
23	Red	Orange
24	Blue	Orange
25	Yellow	Orange
26	Brown	Orange
27	Black	Yellow
28	Red	Yellow
29	Blue	Yellow
30	Orange	Yellow
31	Brown	Yellow
32	Black	Brown
33	Red	Brown
34	Blue	Brown
35	Orange	Brown
36	Yellow	Brown
37	Black	-

<b>POWER CABLES</b>	
6 AWG and smaller = colored insulation 4 AWG and larger = print	
Conductor #	Color
1	Black
2	Red
3	Blue
4	Orange

<b>INSTRUMENTATION CABLES</b>	
Pairs	Black, White
Triads	Black, White, Red
Pair / Triad number printed on conductors	



<b>CIR STRANDING PROFILES</b>					
Size AWG/kcmil	No. of Strands	Individual Strand Dia. (inches)	Closest IEEE 45 Standard Size	Equivalent Metric Size (mm2)	Uninsulated Conductor Dia. (Inches)
16	19	0.0117	3	1.32	0.059
14	19	0.0147	4	2.08	0.074
12	19	0.0185	6	3.29	0.093
10	37	0.0167	10	5.23	0.113
8	37	0.0201	16	7.57	0.136
6	61	0.0201	26	12.49	0.175
4	133	0.0177	41	21.11	0.258
2	133	0.0223	66	33.51	0.324
1/0	266	0.0201	106	54.45	0.407
2/0	342	0.0201	133	70.01	0.461
4/0	532	0.0201	212	108.91	0.575
250	627	0.0201	250	127	0.634
350	888	0.0201	350	177	0.757
500	1221	0.0201	500	253	0.888
750	1850	0.0201	750	380	1.093

**The True Cable Cost Comparison: Lower Total Installed Cost**

<b>AmerCable CIR® vs. Type CWCMC (MC-HL)</b>		<b>Grands for CIR Cables cost up to 50% LESS than those for Type MC</b>
<i>Based on 100 ft. of cable, 2 glands and installation labor (cable &amp; glands)</i>		
16 AWG 1 Shielded Pair	CIR® Saves you 36%	
14 AWG 3/C+G	CIR® Saves you 37%	
6 AWG 3/C+G	CIR® Saves you 38%	
4 AWG 3/C+G	CIR® Saves you 33%	
2/0 4/C+G	CIR® Saves you 10%	



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