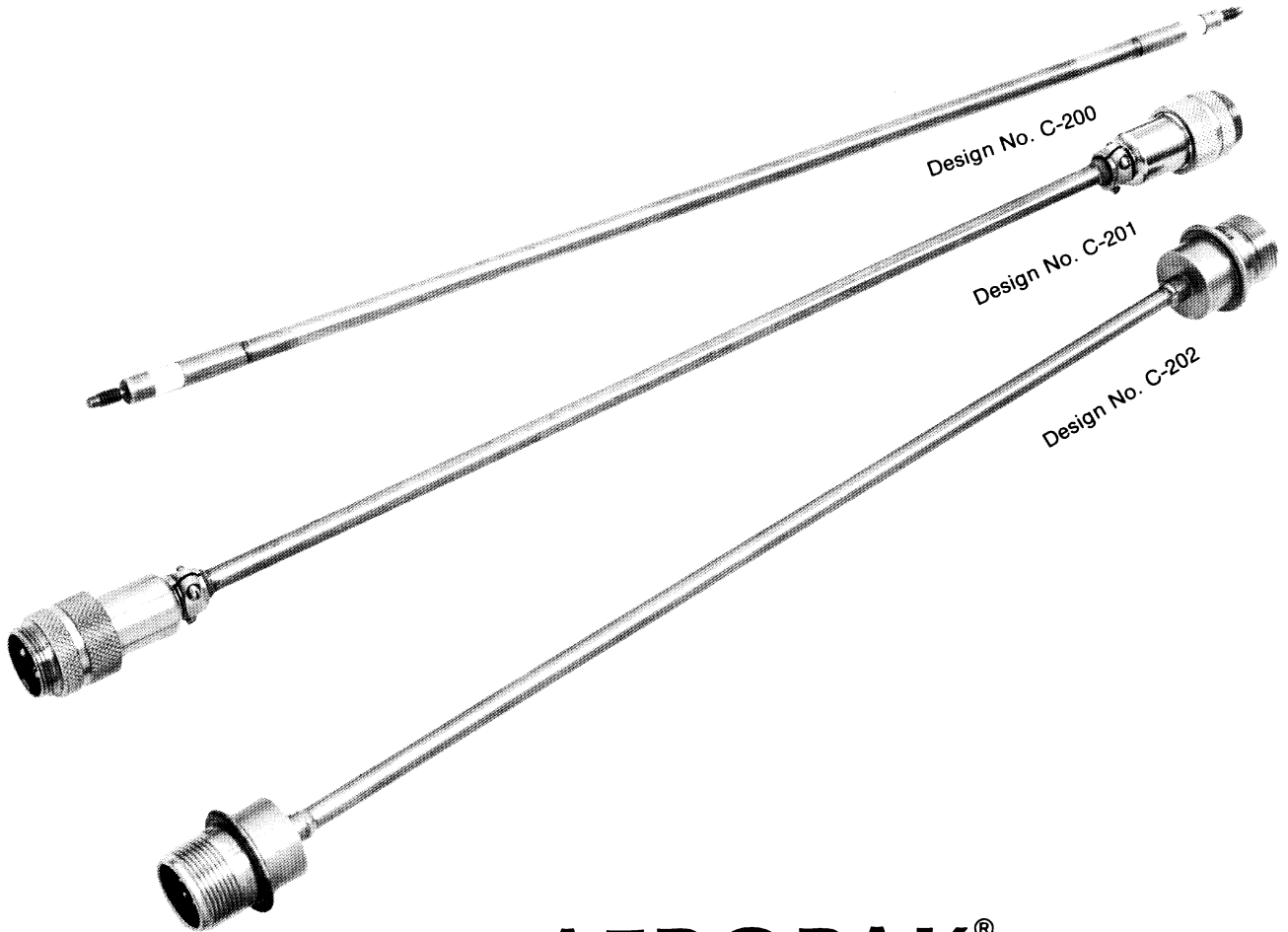




ARI Industries Inc



AEROPAK[®]

CONDUCTOR CABLE ASSEMBLIES

For normal industrial use to severe service for high temperature, corrosive and exotic application.

ARI is a Registered US Trademark

- These cables complete with leads or connectors are ready for installation.
- Eliminate the replacement of cables which deteriorate in radiation, severe heat or corrosive environments.
- Stainless steel sheath construction and MgO insulation for the cable body. Hermetically sealed connectors for exposure up to 1600° F.
- Cables are flexible and can be obtained in large variety of sheath and conductor materials and outer diameters.
- Will assist in the design and manufacture of assemblies to suit your application.



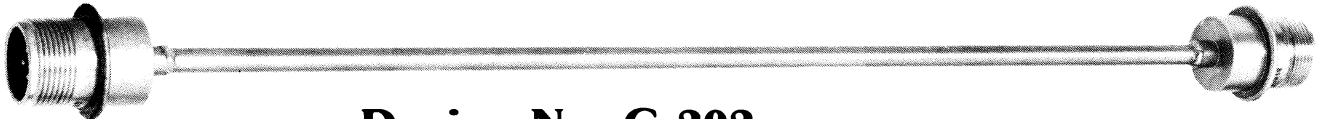
Design No. C-200

- CABLE** available from 1/4" O.D. to 1/2" O.D. 300 series stainless steel or inconel 600 sheath, MgO insulation single conductors of 300 series st/st, inconel 600, nickel clad copper or copper.
- SEAL** hermetically sealed to AerOpak® cable, materials of nickel with ceramic insert voltage rating at room temperature of 1500 VDC Max. operating temperature - 1600° F.



Design No. C-201

- CABLE** available from 1/8" O.D. to 1/4" O.D. stainless steel or inconel 600 sheath, MgO insulation, up to (4) conductors of st/st, inconel 600 nickel clad copper or copper.
- SEAL** not hermetically sealed to AerOpak® cable, materials, aluminum with bakelite insert. Max operating temperature 500° F.



Design No. C-202

- CABLE** available from 1/8" O.D. to 1/2" O.D. stainless steel or inconel 600 sheath, MgO insulation, up to (6) conductors of st/st, inconel 600 nickel clad copper or copper.
- SEAL** hermetically sealed to AerOpak® cable, materials of stainless steel with glass insulated pins, Max operating temperature 500° F.

Notes:

Cables must be supplied cut to length, sealed and connectors installed to assure insulation resistance. Bulk cable without connectors can be supplied in random lengths if desired with instructions for stripping the ends, but insulation resistances cannot be warranted.

TABLE 1

Conductor Dimensions									
O.D. Nominal		No. of Wires							
		1		2		3		4	
		Nominal Wire Size in inches/mm							
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
.500	12.7	.080	2.03	.080	2.03	.080	2.03	.080	2.03
.375	9.55	.063	1.6	.063	1.6	.063	1.6	.063	1.6
.313	8.00	.051	1.30	.051	1.30	.051	1.30	.051	1.30
.250	6.35	.042	1.07	.042	1.07	.042	1.07	.042	1.07
.188	4.75	.032	.81	.032	.81	.032	.81	.032	.81
.125	3.18	.021	.053	.021	.053	.021	.053	.021	.053

TABLE 2

Insulation Resistance at 500 V in Megohm - Ft.						
O.D.		Temp. °F	No. of Wires			
in.	mm		1	2	3	4
.500	12.7	500	10 ⁹	10 ⁸	10 ⁸	10 ⁸
		1000	10 ⁸	10 ⁷	10 ⁷	10 ⁷
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵
.375	9.55	500	10 ⁹	10 ⁸	10 ⁸	10 ⁸
		1000	10 ⁸	10 ⁷	10 ⁷	10 ⁷
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵
.313	8.00	500	10 ⁹	10 ⁸	10 ⁸	10 ⁸
		1000	10 ⁷	10 ⁶	10 ⁶	10 ⁶
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵
.250	6.35	500	10 ⁸	10 ⁷	10 ⁷	10 ⁷
		1000	10 ⁷	10 ⁶	10 ⁶	10 ⁶
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵
.188	4.75	500	10 ⁸	10 ⁷	10 ⁷	10 ⁷
		1000	10 ⁷	10 ⁶	10 ⁶	10 ⁶
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵
.125	3.18	500	10 ⁸	10 ⁷	10 ⁷	10 ⁷
		1000	10 ⁷	10 ⁶	10 ⁶	10 ⁶
		1500	10 ⁶	10 ⁵	10 ⁵	10 ⁵

TABLE 3

Nominal Capacitance PFD/FT. at Room Temp.									
O.D.		Number of Wires							
		1		2		3		4	
in.	mm	W-W	W-S	W-W	W-S	W-W	W-S	W-W	W-S
.500	12.7	-	85.2	56.0	91.0	70.3	104.7	67.0	118.0
.375	9.55	-	83.4	54.0	89.9	64.4	99.7	64.9	115.9
.313	8.00	-	81.9	57.8	89.2	67.7	102.8	71.5	125.7
.250	6.35	-	80.4	62.0	101.6	63.6	98.0	69.1	117.5
.188	4.75	-	79.3	60.0	85.5	60.0	91.7	65.6	110.9
.125	3.18	-	78.1	59.3	87.7	59.0	90.5	64.0	108.6

Note: Capacitance PFD/ft. will not change appreciatively up to 1100° F (600° C)

AEROPAK[®]

CONDUCTOR CABLE

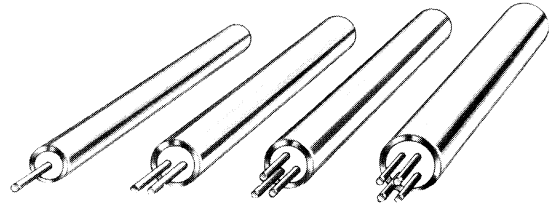
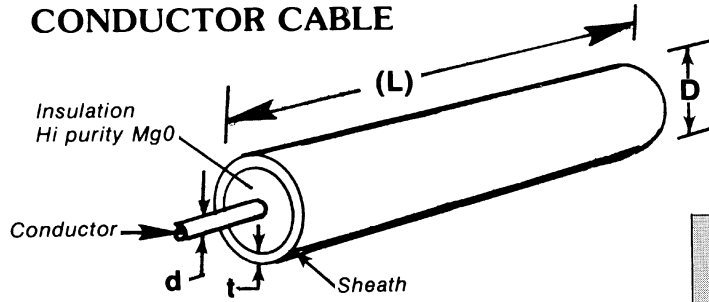


TABLE 4 - SHEATH DIAMETER

ARI Symbol	Sheath		Wall Thick.		Conductor		Normal Mfg. Length	
	Dia. D		t		Dia. d		(L)	
	in.	mm	in.	mm	in.	mm	ft.	m
K	.500	12.7	.072	1.83	.080	2.03	30	9.1
I	.375	9.55	.057	1.45	.063	1.6	55	17
G	.313	8.00	.048	1.22	.051	1.30	85	26
F	.250	6.35	.038	.97	.042	1.07	135	41
E	.188	4.75	.028	.71	.032	.81	240	73
D	.125	3.18	.020	.50	.021	.53	560	171

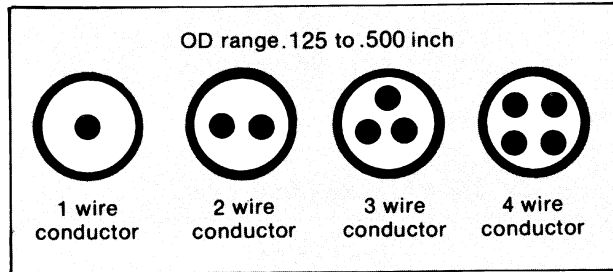


TABLE 5 - CONDUCTOR MATERIAL

Symbols & Nominal Continuity Resistance at 20°C (68°F)

CONDUCTOR SIZE	mm	.50	.56	.66	.81	.96	1.00	1.30	1.62	2.03
	Inch	.020	.022	.026	.032	.038	.040	.051	.064	.080
	GAUGE	24	23	22	20	19	18	16	14	12
MATERIAL	ARI SYMBOL	CONTINUITY RESISTANCE, OHMS/METER ¹								
AISI 304	304	3.5	2.9	2.2	1.4	.98	.88	.54	.34	.21
AISI 347	347	3.6	3.0	2.3	1.4	1.0	.90	.55	.35	.22
INCONEL 600 ²	INC	5.0	4.4	3.0	2.0	1.4	1.3	.78	.50	.32
OXYGEN FREE COPPER	CUOFL	.083	.068	.050	.032	.023	.021	.013	.008	.005
NICKEL LO CARBON	NIL	.50	.41	.30	.20	.14	.13	.077	.049	.031
CONSTANTAN	AQ	2.4	2.0	1.5	.93	.66	.59	.37	.23	.151
CHROMEL ³	KP	3.5	2.9	2.2	1.4	.98	.88	.54	.34	.218
ALUMEL ³	AY	1.5	1.2	.92	.58	.41	.37	.23	.14	.091
27% NI CLAD CU	NICU27	.13	.10	.073	.040	.035	.031	.019	.012	.008

TABLE 6 - SHEATH MATERIAL

SHEATH	ARI SYMBOL	MELTING POINT		USEABLE TEMP IN AIR	
		F	C	F	C
AISI 347 ST/ST	F	2550	1400	1650	900
Inconel 600 (3)	B	2570	1410	2100(1)	1150
AISI 304 ST/ST	A	2550	1400	1650(2)	900
AISI 310 ST/ST	D	2570	1410	2100	1150
AISI 316 ST/ST	C	2550	1400	1650	900

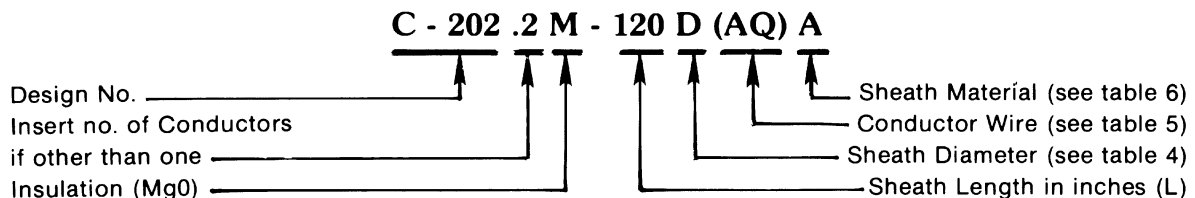
- (1) Not recommended for use in sulfur atmosphere
- (2) Do not use in 800 to 1300°F temperature range due to carbon intergranular precipitation
- (3) Trademark of International Nickel Corp.

1 Values are approximate and are shown for comparison purposes. Continuity resistance of wire in Aeropak cable could vary from these values due to allowable diameter tolerances of conductor wire. Values in ohms/foot can be obtained by multiplying values shown by 0.305.

2 Registered Trademark of International Nickel Corp.

3 Registered Trademark of Hoskins Mfg. Corp.

HOW TO DESIGNATE CATALOG NUMBERS:



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