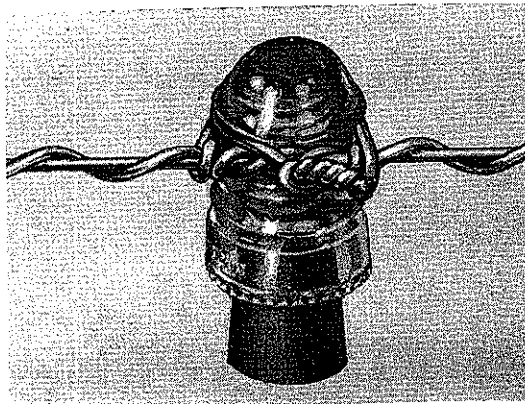


Copperweld Grip-flex 38 Insulator Ties



Used for securing solid conductors to side tie insulators. The reinforcing portion of the tie is placed on the conductor as a separate unit from the binding wire. Reinforcing portion is made from hard-drawn Copperweld and extends over the full length of the tie. Grip-Flex ties are pre-formed to a helical shape to make a tight snug fit on the conductor.

Cat. No.	Line Wire AWG Size	Reinforcing Wire AWG Length	Binding Wire AWG Length	Wt. per 100, Lbs.
S-7504	10	9 12	12 24	7
S-7503	12	10 10	12 24	6

Diamond Tie Splints



Diamond Preformed tie splints offer a better vibration dampener, greater grip on line wire and no contact between line wire and insulators. For use with 109—12 B.W.G. Galvanized line wire.

Cat. No.	Description	Standard Bundle	Weight per Std. Bundle Lbs.
S-8002	Splint 17 1/4" long	100	7 3/4
S-8003	Tie wire 30" long	600	50

Weatherproof Iron Wire



Used where lines run through trees to keep them free from grounds in damp weather. The conductor is BB double galvanized iron wire.

Cat. No.	B.W.G. Ga.	Braid Triple	Wt. per Mile, Lbs.
S-7896	14		175

Gencaseal Interior and Conduit Wire

For both inside use and duct service. Furnished in twisted pair, triplex and quadded constructions. Each wire consists of solid, annealed plain (uncoated) copper insulated with tough Gencaseal (Plastic) coverings. Conductor identification is provided by colors or ridge tracers. Insulation thickness is .025 inch.

Cat. No.	Size AWG	Number of Conductors	Color	Dia. Over Insul., In.	Wt. Per M Ft., Lbs.
S-7945	22	Twisted Pair	Brown	.075	9
S-7946	22	Triplex	Brown	.075	14
S-7954	22	Quadruple	Brown	.075	18
S-7942	22	Twisted Pair	Ivory	.075	9
S-7943	22	Triplex	Ivory	.075	14
S-7940	22	Twisted Pair	Red & Black	.075	9
S-7944	22	Triplex	Red-Ivory-Black	.075	14
S-7955	19	Twisted Pair	Brown	.086	14
S-7956	19	Triplex	Brown	.086	21

Gencaseal Jumper Wire

For distributing frame wiring and other uses where a small diameter wire of superior characteristics is desired. Furnished in 22 A.W.G. annealed tinned copper conductor, with a 15 mil wall of Gencaseal (Plastic) insulation. Important advantages are clear bright colors, high dielectric strength, and marked resistance to moisture and most chemical reagents. Insulation thickness is .015 inch.

Cat. No.	Size AWG	Number of Conductors	Color	Dia. Over Insul., In.	Wt. Per M Ft., Lbs.
S-7938	22	Twisted Pair	Red & White	.055	7
S-7939	22	Triplex	Red-White-Blue	.055	10 1/2
S-7941	22	Twisted Pair	Red & Black	.055	7

Neoprene Copper Drop and Bridle Wire

Hard copper drop wire and soft copper bridle wire are tinned or lead alloy coated. The high quality, firm, rubber-type insulation is especially compounded to develop the best balance of physical and electrical properties, and long life for communication service. Jackets are of tough, durable Neoprene which affords high resistance to abrasion, weather, sunlight, oils and greases, acids and alkalis, flame and high surface resistivity even under damp conditions. Identification is provided by longitudinal ridges molded in the Neoprene jacket of one or two conductors.

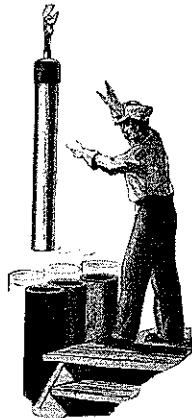
Bridle Wire

Cat. No.	Wire Size AWG	Conductor Assembly	Dia. Over Insulation	Ship. Wt. Per M Ft., Lbs.
S-7848	20	Twisted Pair	.085	22
S-7849	20	Triplex	.085	33
S-7851	18	Twisted Pair	.105	32
S-7853	18	Triplex	.105	48

Drop Wire

S-7872	16	Twisted Pair	.125	54
S-7873	14	Twisted Pair	.156	80

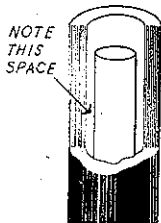
How Copperweld Products Are Made



Large round steel bars of uniform forging quality are carefully tested and sawed into four-foot lengths, then thoroughly cleaned and scrubbed and prepared for the casting mold.

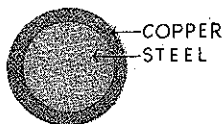
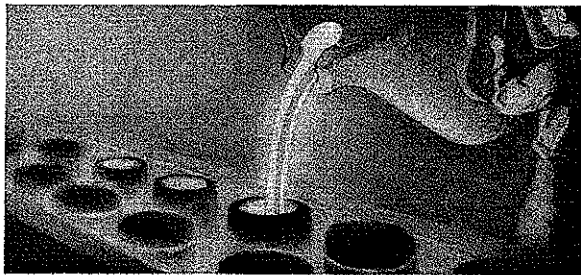


COPPER INGOTS—While the steel is being prepared, copper ingots of the best electrolytic grade are melted under the supervision of skilled metallurgists who prepare the copper for casting to assure absolutely sound Copperweld ingots.



THE STEEL BILLET PLACED IN A MOLD—The cleaned steel billets are placed in refractory molds having an inside diameter larger than the diameter of the steel billet. The steel billet is accurately centered in the mold and held in place to prevent shifting. The mold containing the

billet is then sealed and placed in a furnace where it is heated to the required welding temperature.



MOLTEN COPPER IS Poured INTO THE SPACE BETWEEN THE MOLD AND THE STEEL—The hot molds, with their heated steel billets inside, are withdrawn from the furnace, and molten copper is poured into them to fill the space between the steel billet and the inner wall of the mold. The hot steel and molten copper are permanently united in a

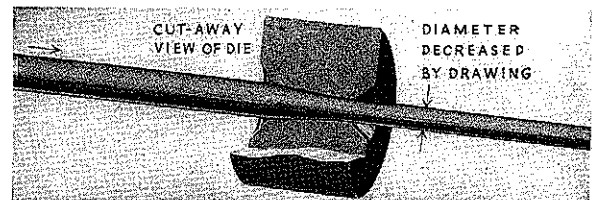
MOLTEN-WELD. The crystalline interlocking of the two metals is so perfect that they cannot be separated except by the destruction of the material itself. When cooled the ingot is removed from the mold.



THE COPPERWELD INGOT IS HOT ROLLED TO WIRE ROD SIZE—After removal from the mold the Copperweld ingot is heated to required rolling temperature and hot rolled to wire rods about $\frac{3}{8}$ -inch in diameter. The molten-welding of

the copper and the steel is so perfect that the Copperweld ingot rolls as one metal.

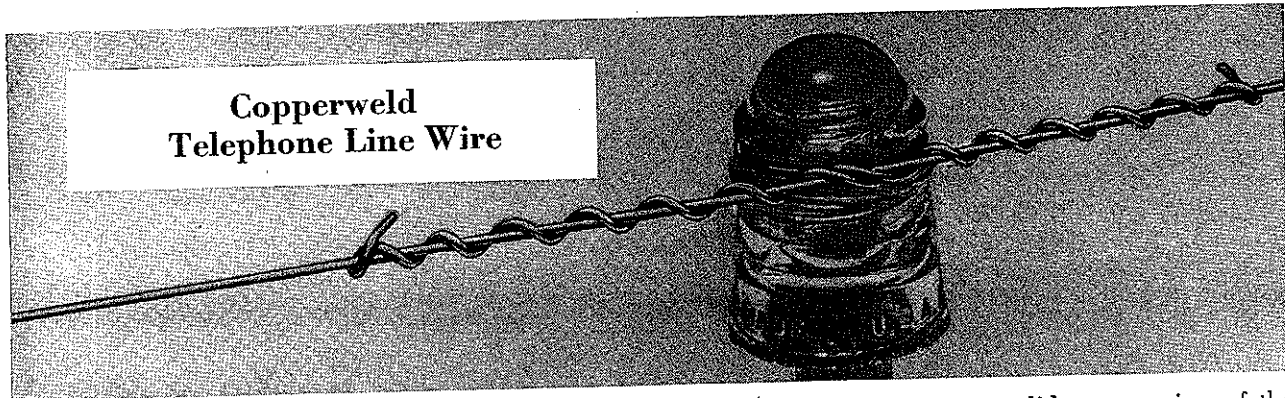
THE ROD IS COLD DRAWN TO WIRE—Copperweld wire rod is drawn to wire of all standard commercial sizes in the most modern wire drawing machinery. Standard methods of drawing are used as the perfectly molten-welded material draws the same as a single metal.



COPPERWELD WIRE IS CAREFULLY TESTED

Every coil of Copperweld wire must pass the following tests:

- (1) **DIAMETER**—Determined at both ends and middle of every coil.
- (2) **SURFACE TESTS**—The surface of every coil of Copperweld wire is tested for smoothness and freedom from surface imperfections.
- (3) **BREAKING LOAD**—The strength of all wire must conform to specification requirements. Wire used in strand is tested before stranding.
- (4) **ELONGATION**—Every coil tested. Checked with extensometer.
- (5) **CONDUCTIVITY**—Every coil is tested at both ends and the middle on a special instrument.
- (6) **TWIST TEST**—Wire must withstand a specified number of twists in a standard length. Made on specimens from every coil to guard against seams, laps and other surface imperfections of sufficient magnitude to indicate inherent defects in the wire.
- (7) **COPPER THICKNESS**—Special equipment developed by the Company, measures electrically the thickness of copper of every coil.



Copperweld Telephone Line Wire

Permanent High Strength

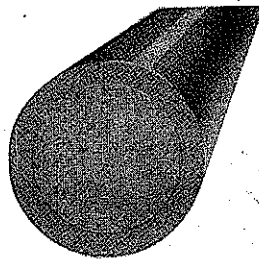
The steel core of Copperweld non-rusting line wire gives it the extra strength needed for modern long span construction. And this strength is permanent because of the protection afforded by the thick exterior of copper, molten-welded to the steel core. Copperweld's extra strength is attained without excessive weight or diameter. Lighter weight reduces stresses on poles and fittings; small diameter reduces ice loading and presents a smaller cross-section to the wind. The fact that Copperweld is strong without being tough or springy makes it easy to handle and string—linemen like to work with it. Combined in Copperweld line wire is the stability of steel and the non-rusting life of copper. Lines built with Copperweld have a permanently higher factor of safety.

During many sleet and wind storms Copperweld telephone line wires have remained unbroken and in continuous service when copper and galvanized wires of equal and larger sizes, installed on the same poles, were down.

Permanently Higher Conductivity and Permanently Better Voice Transmission

All the rust-resisting life of copper construction is obtained with Copperweld telephone line wire. The thick copper exterior provides permanently higher conductivity and permanently better voice transmission. Copperweld offers over twice the conductivity of BB iron wire; and because it has the rust-resisting life of copper, this conductivity is *permanent*—an important factor as lines grow older.

The quality or intelligibility of speech transmission over Copperweld wire is practically identical with that



The thick copper exterior of Copperweld telephone line wire is permanently molten-welded to the strong steel core and protects the wire against rusting.

received over solid copper wires of the same conductivity; and since Copperweld does not rust there is no reduction of transmission efficiency as time goes on.

Simple Construction and Permanently Low Resistance Joints and Connections

Copperweld lines are built with the same simple standards as copper wire construction. Nothing special or extra is required for joints, ties or connections. As all contacts are copper-to-copper there are no dissimilar metals in contact, no galvanic action and no electrolytic corrosion. It is easy to make a workmanlike job with Copperweld and, because of its non-rusting characteristics

there is no danger of your well-made construction developing high resistance or mechanical weakness at joints and connections in later years.

Low Cost for Both Long Span and Short Span Lines

Copperweld's economy is a by-word with telephone men who use it. Low cost long span lines are dependable when built with Copperweld wire, but it's during sleet storms on either long span or short span lines that Copperweld's economy is emphasized. Copperweld wire stands up—in weather that brings other wires down.

For new lines, longer spans may be used with Copperweld telephone line wire. Fewer poles per mile are required (with equal safety), thus saving on the cost of poles, material and labor. For existing lines, where pole spacings are already established, a size of Copperweld telephone line wire having less weight per mile and a higher factor of safety may be selected.

Copperweld Telephone Line Wire

The physical and voice transmission characteristics of solid Copperweld Telephone line wires are given in the tables below. Other information will be found on preceding page.

When ordering Copperweld you can select the smallest practical size because Copperweld telephone line wire will not rust and no allowance need be made for later loss of strength or conductivity.

Table I. Physical and Electrical Properties of Solid Wire Copperweld Telephone Conductors.

Size Awg. or Inch	Diameter (Inch)	BREAKING STRENGTH (Lbs.)			WEIGHT		RESISTANCE Ohms Per 1000 Ft. at 68°F.		CROSS-SECTION	
		High Strength		Extra High Strength	Lbs. Per 1000 Ft.	Lbs. Per Mile	40% Cond.	30% Cond.	Cir. Mils	Sq. In.
		40% Cond.	30% Cond.	30% Cond.						
.165	.1650	2,523	2,780	3,368	75.55	398.9	.9715	1.295	27,230	.02138
6	.1620	2,433	2,680	3,247	72.85	384.6	1.008	1.343	26,250	.02062
7	.1443	2,011	2,207	2,681	57.77	305.0	1.270	1.694	20,820	.01635
8	.1285	1,660	1,815	2,204	45.81	241.9	1.602	2.136	16,510	.01297
.128	.1280	1,647	1,802	2,188	45.47	240.1	1.614	2.152	16,380	.01287
9	.1144	1,368	1,491	—	36.33	191.8	2.020	2.693	13,090	.01028
.104	.1040	1,177	1,283	1,325*	30.01	158.5	2.445	3.260	10,820	.008495
10	.1019	1,130	1,231	—	28.81	152.1	2.547	3.396	10,380	.008155
12	.08081	785	—	—	18.12	95.68	4.051	—	6,530	.005129
.080	.080	770	—	—	17.76	93.77	4.133	—	6,400	.005027

Modulus of Elasticity: 24,000,000.
*40% Conductivity.

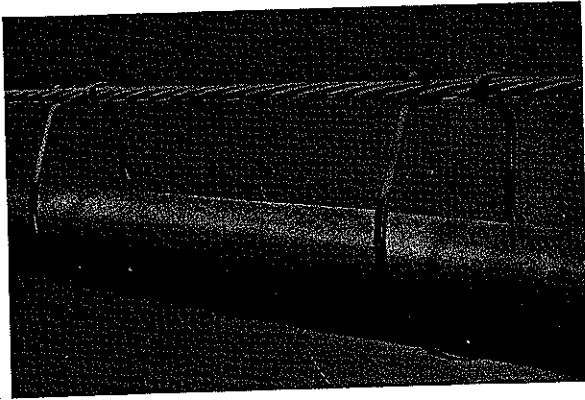
Coefficient of linear expansion: .000,007,2 per degree Fahrenheit.

Table II. Telephonic Transmission Characteristics of Copperweld Telephone Wires.

Size Awg. or Inch	TRANSMISSION EQUIVALENT Decibels (db) per Loop Mile				CHARACTERISTIC IMPEDANCE (Z) Ohms per Loop Mile		Approx. Miles of Line Equivalent to 20 db. Loss	
	40% Cond.		30% Cond.		40% Cond.	30% Cond.	40% Cond.	30% Cond.
	Dry	Wet	Dry	Wet				
.165	.071	.075	.093	.097	635	665	280	215
6	.073	.078	.096	.100	640	670	275	210
8	.106	.110	.134	.139	708	760	190	150
.128	.107	.111	.135	.140	710	765	185	150
9	.126	.133	.159	.165	755	825	160	125
.104	.144	.152	.182	.188	800	880	140	110
10	.148	.156	.186	.194	805	890	135	110
12	.210	.216	—	—	960	—	100	—
.080	.213	.219	—	—	980	—	95	—

The above values are based on open wire construction using 35 pairs of D. P. Insulators per mile with twelve inch spacing between conductors and a frequency of 1000 cycles per second.

Copperweld Messenger Strand

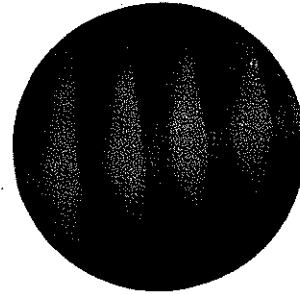


It is a real economy to provide a messenger strand that will last as long as the cable. Transferring good cable from rusted strand to new strand is an expensive operation. The installation of Copperweld non-rusting messenger strand and Copperweld cable rings will save costly messenger replacements — Copperweld strand will not rust.

The use of Copperweld non-rusting messenger strand and cable rings adds surprisingly little to the cost of an aerial cable job. Considering the total cost of the job, i.e. cable, hardware, fittings, labor, etc., it will be found that the percentage of the total represented by the slightly higher cost of Copperweld, is negligible. Seldom on an aerial cable job does the use of Copperweld increase the total cost as much as 3% — and in many cases it may be less than 1%.

Copperweld Guy Strand

Guy strand life can be put on a copper basis by specifying Copperweld Non-Rusting Strand. All Copperweld strand is guaranteed to have the rust-resisting life of solid copper. With Copperweld guy strand guy replacements are eliminated and the original safety of the line is maintained during the entire life of the conductors. Because of the natural ductility of copper, and the thickness of the molten welded exterior, Copperweld can be served safely without danger of cracking, flaking or peeling. The photograph below shows Copperweld 3-wire strand served with the Copperweld Serving Tool illustrating the perfect condition of the thick copper exterior after serving.



The use of non-rusting Copperweld guy strand adds little to the cost of the completed guy which is a total of a number of items—clamps, anchors, insulators, labor, etc.—and the strand is only one of the items in this total cost. Guying costs are only a small percentage of the total cost of the line—extremely small when consideration is given to the importance of good guying in insuring the safety of the line under extreme loading conditions.

Physical Properties of Copperweld Strand for Messenger and Guying

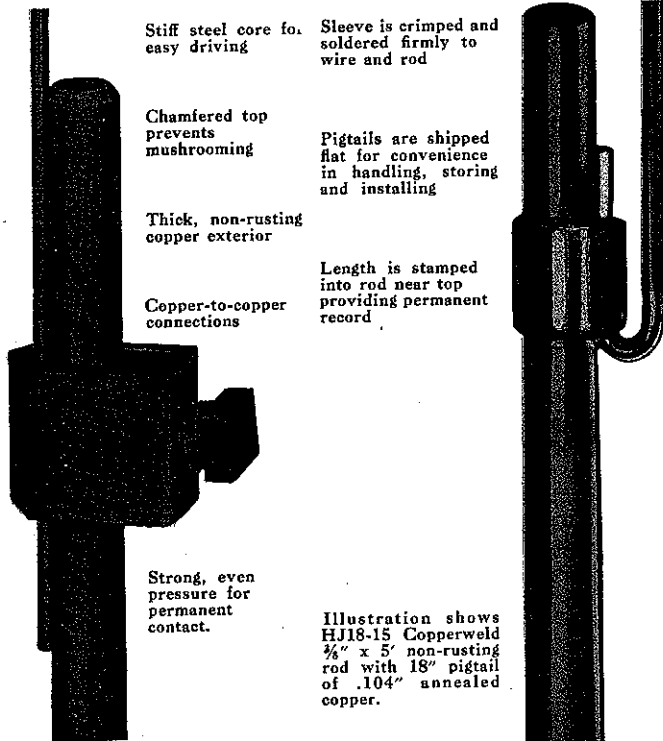


Nominal Diameter (Inch) Size A.W.G.	Actual Dia. (Inch)	BREAKING LOAD Lbs.		WEIGHT		Cross-Section Sq. In.	Ft. per Pound
		High Strength 30% Cond.	Extra High Strength 30% Cond.	Lbs. Per 1000 Ft.	Lbs. Per Mile		
9/16 (7 No. 5)	.546	20,470	24,650	649.4	3,429	.1820	1.539
1/2 (7 No. 6)	.486	16,890	20,460	515.0	2,719	.1443	1.942
7/16 (7 No. 7)	.433	13,910	16,890	408.4	2,157	.1145	2.448
3/8 (7 No. 8)	.385	11,440	13,890	323.9	1,710	.09077	3.087
11/32 (7 No. 9)	.343	9,393	11,280	256.9	1,356	.07198	3.893
5/16 (7 No. 10)	.306	7,758	9,196	203.7	1,076	.05708	4.909
3 No. 6	.349	7,639	9,754	220.3	1,163	.06185	4,539
3 No. 7	.311	6,291	7,922	174.7	922.4	.04905	5.724
3 No. 8	.277	5,174	6,282	138.5	731.5	.03890	7.218
3 No. 9	.247	4,250	5,129	109.9	580.1	.03085	9.102
3 No. 10	.220	3,509	4,160	87.13	460.0	.02446	11.47

Modulus of Elasticity: 23,000,000.

Coefficient of linear expansion: 000,007,2 per degree Fahrenheit.

Copperweld Telephone Ground Rods and Clamps



Stiff steel core for easy driving
Sleeve is crimped and soldered firmly to wire and rod

Chamfered top prevents mushrooming
Pigtails are shipped flat for convenience in handling, storing and installing

Thick, non-rusting copper exterior
Length is stamped into rod near top providing permanent record

Copper-to-copper connections
Length is stamped into rod near top providing permanent record

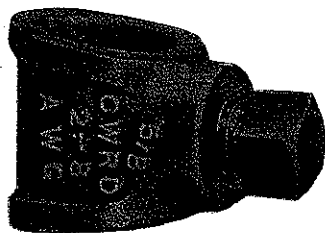
Strong, even pressure for permanent contact.

Illustration shows HJ18-15 Copperweld 3/8" x 5' non-rusting rod with 18" pigtail of .104" annealed copper.

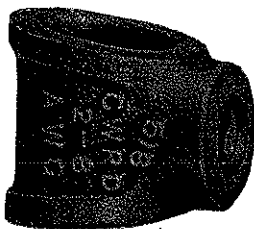
Because of their alloy steel core Copperweld Ground Rods are stiff, non-rusting and especially easy to drive. The economical 3/8-inch Copperweld rod in five or six foot lengths is most generally used for telephone grounds and has proven most satisfactory. The copper exterior, permanently molten-welded to the stiff steel core provides a copper surface for a copper-to-copper contact with the grounding wire. When a copper grounding wire is clamped to a Copperweld rod with a Copperweld clamp there are no dissimilar metals in contact under the ground—and no galvanic action and no electrolytic corrosion. Your grounds are permanently dependable.

Husky, one-piece Copperweld cast body, Type A Clamps and economical Copperweld drawn body, Type B Clamps provide simple and dependable ground wire connections. The Copperweld rod with annealed copper pigtail is used when a pigtail connection is preferred. On 3/8-inch rods a .104-inch annealed copper pigtail is used and on 1/2-inch rods a .128-inch annealed copper pigtail is used. Pigtail rods are furnished in 5 to 8 foot lengths with 18 inch pigtails. The pigtail connections are firmly secured to the rod by means of a crimped sleeve and soldered connection. The pigtail is fastened to the rod one inch from the top so that it doesn't interfere with driving. Rods in bundles of 10.

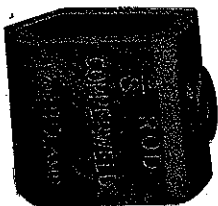
Copperweld Clamps provide simple economical connections.



Type-A Clamp Square Head Set Screw



Type-A Clamp Safety Set Screw



Type-B Clamp with Safety Set Screw. Type-B Clamp Square Head Set Screw shown in upper left.

Standard Ground Rods

Cat. No.	Size	Wt. per 100, Lbs.
S-6206	3/8x5	170
S-6208	3/8x6	205
S-6210	1/2x5	305
S-6212	1/2x6	370
S-6214	1/2x7	430
S-6216	1/2x8	490

Pigtail Type Ground Rods

Cat. No. with 18" Pigtails	Size	Wt. per 100, Lbs.
S-6222	3/8x5	195
S-6224	3/8x6	230
S-6226	1/2x5	330
S-6228	1/2x6	395
S-6230	1/2x7	455
S-6232	1/2x8	515

NOTE: For station grounds or other grounding purposes, a complete range of Copperweld ground rods are available in 3/8", 1/2", 5/8", 3/4", and 1" diameters, with grounding wire clamps to fit each size of rod. Lengths range from 5' to 40' in multiples of even feet.

Rod with 36" Pigtail furnished on special order.

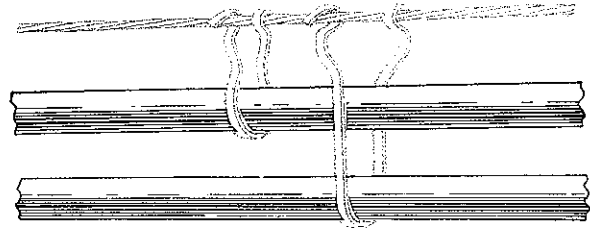
Type B Clamps (Drawn Body)

With Recessed Safety Set Screw	With Square Head Set Screw	Wt. Per Size 100, In. Lbs.
S-3366	S-3364	3/8 7
S-3370	S-3368	1/2 15
S-3359	S-3360	5/8 25
S-3361	S-3371	3/4 30

Type A Clamps (Cast Body)

With Recessed Safety Set Screw	With Square Head Set Screw	Wt. Per Size 100, In. Lbs.
S-3374	S-3372	3/8 15
S-3378	S-3376	1/2 25
S-3382	S-3380	5/8 35
S-3362	S-3363	3/4 45

Copperweld Cable Rings



Copperweld cable rings should be used on all Copperweld messenger installations. This non-rusting construction insures a long life to the aerial cable installation. All standard types of cable rings, as well as Marlin hangers with Copperweld hooks, are available in all sizes. Saddles for these rings also available.

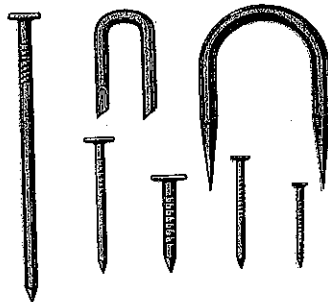
Table at right shows standard sizes of cable rings for use on aerial cable installations.

When ordering cable rings, the style of ring, diameter of ring and the size of the messenger strand should be specified.

Diameter of Cable	Diameter of Cable Ring
Up to 1 inch.....	1½ inches
1 in. to 1⅝ in.....	2 inches
1⅝ in. to 1⅞ in.....	2½ inches
1⅞ in. to 2¼ in.....	3 inches
2¼ in. to 2¾ in.....	3½ inches
2¾ in. to 3⅛ in.....	4 inches
3⅛ in. to 3½ in.....	4½ inches

Copperweld Nails

Wherever strong, non-rusting nails are desired, Copperweld Nails fully meet the requirements. They run approximately 8% more nails per pound than copper nails. Because of their moderate price, they are being used extensively in many types of construction. Some of the uses of these nails are: To secure wood insulator pins in cross-arms; for attaching wood brackets and pole steps; for attaching numbers and identification tags to wood poles; fastening strain plates; erecting board or picket fencing and wooden frame work for supporting fence fabrics; and for slate, tile and composition roofing.



Common Smooth

Packed 100 lbs. to the keg.

Cat. No.	Size	Length (Inches)	Diameter (Inch)	Approx. Nails per Lb.
S-5420	4d	1½	.091	350
S-5422	6d	2	.102	200
S-5424	8d	2½	.128	100
S-5426	10d	3	.144	68
S-5428	20d	4	.182	32
S-5430	30d	4½	.204	23
S-5431	40d	5	.204	20
S-5432	50d	5½	.229	14
S-5434	60d	6	.258	11

Broadhed

Packed 100 lbs. to the keg.

Cat. No.	Size	Length (Inches)	Diameter (Inch)	Approx. Nails per Lb.
S-5415	2d	1	.120	260
S-5416	3d	1¼	.120	220
S-5417	4d	1½	.120	190
S-5418	5d	1¾	.120	160
S-5419	6d	2	.120	145

Copperweld Staples

EASY DRIVING
STIFF STEEL
CORE



NON-RUSTING
THICK OUTER
LAYER OF
PURE COPPER

A Copperweld Rolled Point Staple rests squarely on its points permitting it to be easily driven straight and true. Copperweld Rolled Point Staples make a neat job when installed and—because they are non-rusting—the installation with Copperweld Rolled Point Staples STAYS NEAT. In the smaller sizes, the Cut Point Staples are well suited for general use. Although a little more difficult to drive than the Rolled Point Staple, they cost somewhat less.

Rolled Point Staples

DIMENSIONS Packed in convenient unit
See diagram left boxes—10 boxes to the case



Cat. No.	A Length	B Width between Legs	C Size Wire	Wt. per 100, Lbs.
S-7172	1¼"	¼"	.114"	.7
S-7174	1½"	⅝"	.144"	1.3
S-7176	1¾"	¾"	.144"	1.5
S-7178	2"	½"	.162"	2.2
S-7182	3"	1"	.250"	7.8

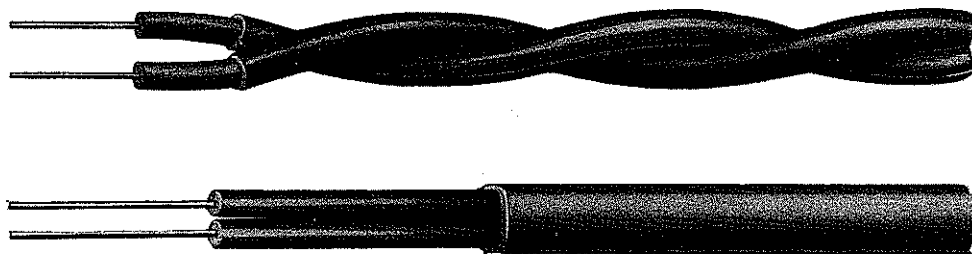
Cut Point Staples

DIMENSIONS
See diagram at left



Cat. No.	A Length	B—Width between Legs	C—Size Wire
S-7169	2"	½"	.162"
S-7170	1⅝"	½"	.162"
S-7171	1½"	¾"	.162"
S-7173	2"	¼"	.162"
S-7175	1¼"	⅝"	.114"

Insulated Telephone Wires
Manufactured by General Cable Corporation
For Automatic Electric Company



NEOTEL Drop Wire

NEOTEL wires are designed primarily for service as telephone drops from service loop to subscriber's premises. Made to rigid specifications and exacting manufacturing standards, they have time-tested, tough, weather and abrasion-resistant, long-lived Neoprene jackets as protective coverings.

Neotel drop wires are available in two standard types, comprising twisted pair and parallel constructions.

Twisted Pair: Conductors individually insulated with high quality rubber insulation, individually jacketed with tough Neoprene, twisted together. **Parallel:** Conductors laid parallel, insulated with high quality rubber insulation, protected by tough Neoprene jacket overall.

Standard conductors of Neotel Drop Wires are size 17 A.W.G. solid, hard drawn, grade 30 bronze or size 18 A.W.G. "Copperweld", tinned or lead alloy coated.

Neotel insulation is a high quality, firm, rubber-type insulation especially compounded to develop the best balance of physical and electrical properties, and long life for communication service. Jackets are of tough, durable Neoprene which affords a high

order of resistance to abrasion, weather, sunlight, oils and greases, acids and alkalis, and flame, and has high surface resistivity even under damp conditions. The construction as a whole is firm and resistant to compression cutting in clamps. The insulation is tightly adherent to the conductors, and the Neoprene jacket tightly adheres to the underlying insulation, obviating slippage or sleeving of component parts with respect to one another and the supporting clamps.

In parallel constructions, polarity identification is provided by two longitudinal ridges molded in one minor face of the overall Neoprene jacket. In twisted pair constructions, identification is provided by two longitudinal ridges molded in the Neoprene jacket of one conductor.

Neotel drop wire is furnished in cartons which are clearly marked showing contents, wire size and footage. The approximate length per carton is 1,000 feet or as specified, but a small percentage of cartons in any one shipment may contain a maximum of 1,250 feet or not more than three lengths per carton. The minimum length of wire in a carton containing more than one length is not less than 250 feet. The actual length in each coil is clearly indicated by tags attached.

<i>Cat. No.</i>	<i>Type</i>	<i>Conductor Assembly</i>	<i>Diameter Over Insulation Inches</i>	<i>Diameter Over Jacket Inches</i>	<i>Minimum Breaking Strength per Conductor Before Insulating Lbs.</i>	<i>Maximum Resistance per 1000 Ft. at 20°C Ohms per 1000 Ft.</i>	<i>Shipping Weight Lbs.</i>
Size 17 A.W.G. Bronze Conductors ("Grade 30")							
S-7904	GT	Twisted Pair	0.110	0.160 (Single)	170	17	40
S-7906	GP	Parallel	0.110 x 0.220	0.190 x 0.280	170	17	40
Size 18 A.W.G. Copperweld Conductors							
S-7816	GT	Twisted Pair	0.105	0.155 (Single)	170	22	36
S-7817	GP	Parallel	0.105 x 0.210	0.185 x 0.270	170	22	36

GENCATEL Drop Wire



GENCATEL telephone drop wires have a combined insulation and jacket of Polyethylene. This synthetic thermoplastic material has excellent physical properties and outstanding electrical properties, making it well adapted indeed for telephone drop service. In fact from the electrical standpoint, polyethylene is perhaps the most nearly perfect of all of the solid type, thermoplastic extrudable insulations. In addition, it is practically immune to the effects of moisture and weather, is suitable for installation and operation over a broad temperature range from -70°C. to $+80^{\circ}\text{C.}$, is little affected by the common acids and alkalis, and the black pigmented type is highly resistant to crazing and checking from ultra-violet light. For this reason black is the standard color of Gencatel drop wires. In common with all thermoplastic materials polyethylene exhibits some tendency toward cold flow under continued heavy pressure, making it advisable to employ types of clamps having liberal bearing surfaces which give relatively low, well distributed clamping pressures.

Gencatel telephone drop wires are available in two standard constructions, twisted pair and parallel. In the twisted pair type, the conductors are individually covered with a combination insulation-jacket of black polyethylene, and then twisted together. In the parallel type, the two conductors are laid parallel and cov-

ered with an oval-section, combination insulation-jacket of black polyethylene. Both constructions are very compact and of light weight, reducing ice and wind loadings and facilitating handling.

Standard Gencatel drop wire is regularly furnished in size 17 A.W.G. solid, harddrawn, Grade 30 bronze conductors. There being no chemical interaction between the conductor and the insulation, tin or lead-alloy conductor coating is dispensed with. Conductors of other sizes and materials are available on special order.

Polarity identification is provided in both forms of constructions. In the twisted pair type, this consists of a ridged tracer on one of the insulated singles. In the parallel type of drop wire, a longitudinal tracer groove is provided in one major face of the oval section.

Gencatel drop wire is furnished in cartons which are clearly marked showing contents, wire size and footage. The approximate length per carton is 1,000 feet or as specified, but a small percentage of cartons in any one shipment may contain a maximum of 1,250 feet or not more than three lengths per carton. The minimum length of wire in a carton containing more than one length is not less than 250 feet. The actual length in each coil is clearly indicated by tags attached.

Bronze Conductors ("Grade 30")

Cat. No.	Conductor Assembly	Wire Size A.W.G.	Diameter Over Insulation Inches	Minimum Breaking Strength per Conductor Lbs.	Maximum Resistance per 1000 Ft. at 20° C. Ohms	Shipping Weight Net Lbs. per 1000 Ft.
S-7825	Parallel	17	.125 x .250	170	17	24
S-7827	Twisted Pair	17	.125*	170	17	24

*Overall diameter of one conductor of twisted pair.

Conduit or Duct Wire



Rubber covered and braided wire, slick finished for easy pulling through conduits. Identical with same gauge bridle wire it can also be used as interior wire. Because of its small size and slick finish a great many wires can be accommodated in one conduit and it should always be used for pulling rather than loose-braided interior wire. Order by number shown below.

Cat. No.	B. & S. Gauge	Colors	Conductor Assembly	Weight per 1000 ft., Lbs.
S-7970	22	Red & Green	Twisted Pr.	14
S-7971	22	Red, Green, Yellow	Triplex	21

Ground Wire



A braided and rubber covered copper wire for sub-station grounds, single conductor only. Use S-7878 for grounding cable terminals and 10 wire cross arm arresters. Furnished in coils of 500 feet.

Cat. No.	Color of Braid	B. & S. Gauge	Weight per M ft., Lbs.
S-7878	Black	6	132
S-7886	White	14	25
S-7888	Black	14	25
S-7890	Brown	14	25
S-7880	Black	12	34
S-7881	Black	10	56

Copper Drop Wire



Twisted pair drop wire used in toll work. Hard drawn copper with a breaking strength of not less than 120 pounds for the 16 gauge, 190 pounds for the 14 gauge. Insulation is of rubber compound especially designed for drop wire service. Compound has high tensile strength and rigidity to resist deformation. It is compounded to resist ageing and assure long life. For identification there is a raised thread tracer in the braid of one conductor. Approximate length of coils is 1000 feet with eyes of 15 inches.

Cat. No.	Type	B. & S. Gauge	Diam. Over Insulation	Weight per 1000 ft., Lbs.
S-7870	S-16-B	16	.125	37
S-7874	S-14-B	14	.156	65

Monotype Interior Wire



Furnished in single, double and triple conductors with 19 and 22 B. & S. gauge tinned soft copper wire. The conductors are smoothly covered with a rubber insulating compound. The wire is then encased in a closely woven uniform braid of hard glazed two-ply cotton thread.

The 19 gauge wire is supplied in coils of approximately 500 feet. The 22 gauge wire is packed in an unbroken 1,000 ft. length arranged in 200 foot fish-line coils, packed in one box.

Cat. No.	Size B. & S. Ga.	No. of Conductors	Braid	Weight per M. Ft., Lbs.
S-7910	22	1	Brown	5
S-7912	22	2	Brown	10
S-7914	22	3	Brown	15
S-7916	22	2	Ivory	10
S-7918	22	3	Ivory	15
S-7920	19	1	Olive Green	10
S-7922	19	2	Olive Green	21
S-7924	19	3	Olive Green	32
S-7935	19	2	Brown	21
S-7936	19	3	Brown	32

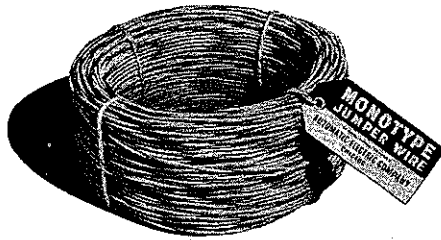
Bridle or Jumper Wire



A rubber covered, black saturated weatherproof braid soft drawn copper wire used to connect open lines to cable terminals. Has pitch and mica finish. The duplex and triplex wires are furnished with tracers for identification of the conductors. Put up in coils of approximately 500 feet.

Cat. No.	Type	Size B. & S. Gauge	Number of Conductors	Weight per 1000 ft., Lbs.
S-7850	S-22-B	22	2	12
S-7852	S-22-C	22	3	18
S-7854	S-20-B	20	2	20
S-7855	S-20-C	20	3	30
S-7856	S-19-A	19	1	11
S-7858	S-19-B	19	2	22
S-7860	S-19-C	19	3	33
S-7864	S-18-B	18	2	28
S-7865	S-18-C	18	3	42

Monotype Flame Proof Jumper Wire



Monotype Jumper Wire is insulated by an exclusive process developed by Automatic Electric engineers. It has a very small diameter and exceptional flame proof and insulating qualities. In a series of carefully conducted comparative tests, it has proved its superiority on seven different points as follows:

1. Higher Insulation Resistance—At average room temperature and humidity, Monotype Jumper Wire shows substantially higher insulation resistance than any other wire tested.
2. Withstands Moisture Better—Monotype insulation resistance, under conditions of high temperature and humidity, is several times that of other types.
3. Better Insulation Recovery—Monotype insulation recovery, after drying out, is practically 100%. No other type approaches this performance.
4. Higher "Kink Test" Insulation—The foregoing

insulation tests show even more startling contrast when made with "kinked" wire.

5. Better Flame Proofing—The burning rate is appreciably slower than that of other jumper wires.

6. Complete Protection Against Corrosion—Monotype insulation is non-corrosive, and safeguards the conductor from external influence.

7. Brighter, More Lasting Colors — Transparent sheath improves and preserves color of insulation.

Monotype Jumper Wire is regularly supplied with No. 22 AWG enameled or tinned copper conductors. It can be supplied with No. 19 or 20 gauge conductors on special order. Furnished in convenient coils of 500 feet or in one piece lengths as specified.

No. 22 Tinned Enameled

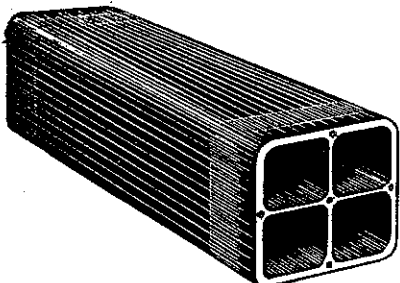
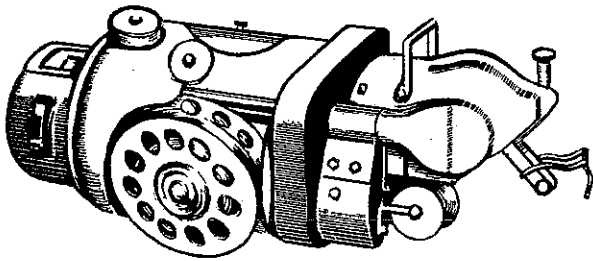
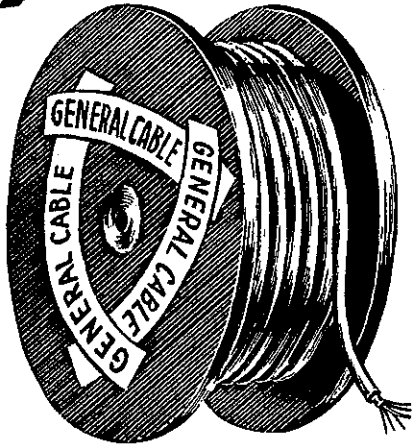
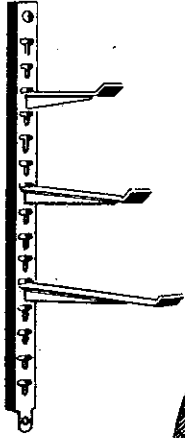
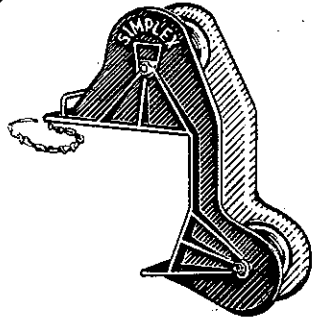
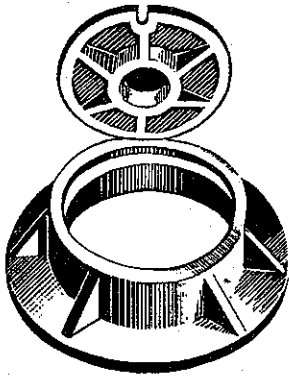
Cat. No.	No. of Conductors	Colors	Weight per 1000 Ft., Lbs.
WA-50	1	White	2.70
WA-51	2	White and Red	5.40
WA-52	2	White and Black	5.40
WA-53	3	White, Red and Blue	8.10
WA-54	4	White, Red, Blue and Black	10.80

No. 22 Tinned Only

Cat. No.	No. of Conductors	Colors	Weight per 1000 Ft., Lbs.
WA-55	1	White	2.70
WA-56	2	White and Red	5.40
WA-57	2	White and Black	5.40
WA-58	3	White, Red and Blue	8.10
WA-59	4	White, Red, Blue and Black	10.80

Comparison of Wire Gauges

No.	Diameter in Millimeters B. & S.	American or Brown and Sharp (B.&S.)	Diameter in Inches Birmingham Wire Gauge (B.W.G.)	Washburn and Moen (W.&M.)	Old English Gauge (O.E.G.)	New British Standard (N.B.S.)
6.....	4.115	.1620	.203	.192	.203	.192
7.....	3.665	.1443	.180	.177	.180	.176
8.....	3.264	.1285	.165	.162	.165	.160
9.....	2.906	.1144	.148	.148	.148	.144
10.....	2.588	.1019	.134	.135	.134	.128
11.....	2.304	.0907	.120	.120	.120	.116
12.....	2.052	.0808	.109	.105	.109	.104
13.....	1.83	.0720	.095	.092	.095	.092
14.....	1.628	.0641	.083	.080	.083	.080
15.....	1.45	.0571	.072	.072	.072	.072
16.....	1.29	.0508	.065	.063	.065	.064
17.....	1.149	.0453	.058	.054	.058	.056
18.....	1.0236	.0403	.049	.047	.049	.048
19.....	.9115	.0359	.042	.041	.040	.040
20.....	.81	.0320	.035	.035	.035	.036
21.....	.7239	.0285	.032	.032	.0315	.032
22.....	.6434	.0254	.028	.028	.0295	.028
23.....	.574	.0226	.025	.025	.027	.024
24.....	.5105	.0201	.022	.023	.025	.022
25.....	.4547	.0179	.020	.020	.023	.020
26.....	.4039	.0159	.018	.018	.0205	.018
27.....	.3607	.0142	.016	.017	.0188	.0164
28.....	.32	.0126	.014	.016	.0165	.0148
29.....	.287	.0113	.013	.015	.0155	.0136
30.....	.254	.0100	.012	.014	.0138	.0124



SPINNING MACHINES

7

Cable - Cable Supplies

MANIPULATOR FRAMES

MANIPULATOR WIRE

CABLE GUIDES

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Paper-Insulated Telephone Cables

*Manufactured by General Cable Corporation
for Automatic Electric Company*

Products of the General Cable Corporation are manufactured under strict supervision, with constant inspection and testing to insure rigid adherence to every specification detail. Over 50 years of experience and constant research guarantee you the finest cable in every respect—in conductors, insulation and sheath.

The Conductors in General Cable are of bright annealed copper wire, rolled and drawn from high-conductivity copper-wire bars.

The Insulation is dry paper, the accepted standard for lead-sheathed telephone cables. It provides maximum transmission efficiency and reliability consistent with economical first cost and maintenance. Dry paper insulation does not deteriorate; it has an extremely long life. This insulation is loosely applied and is of contrasting color on the two conductors of each pair. Successive layers of the paired wires are laid up helically and the final assembly is then covered with more wrappings of paper.

The Sheath is a lead-antimony alloy developed by extensive research in General Cable Corporation laboratories. The life of dry-paper cables is dependent upon a strong and ductile sheath that will remain free from leaks; General Cable manufacturing techniques and standards produce lead sheaths as near to perfection as science has been able to design them.

As a final check of its integrity, the sheath is subjected to an internal gas pressure test immediately before shipment. The pressure is maintained in the cables for 24 hours, or until it becomes stationary, thus giving absolute assurance against leaks.

Several standard types of paper-insulated lead-sheathed cables used by the telephone industry for local or loop service are described in the following pages. Each of these types is recommended for certain applications:

Lead-antimony sheathed cables without further protection are used for aerial service or for underground service in conduit.

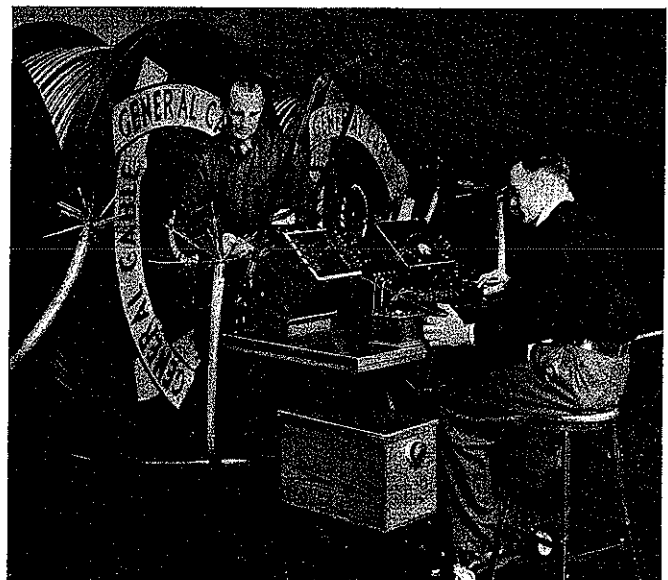
Lead-antimony sheathed cables enclosed within further protective coverings of impregnated jute and steel tape armor are used for direct installation in the earth.

Conventional protective jackets can also be applied over the lead-antimony sheathed cables for installations where corrosive or electrolytic conditions are known to warrant the extra protection.

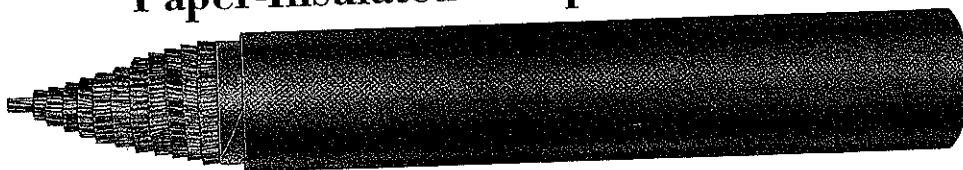
Steel-wire armored cables of special design are used for underwater service.

Testing Telephone Cable

Over 50 years of scientific research and development are behind the cable manufactured by General Cable Corporation. This research and development is your guarantee of long life and low maintenance costs.



Paper-Insulated Telephone Cables



Type 24S-90—(No. 24 AWG)

Conductors: Size 24 AWG with single-wrap dry paper insulation.

Color Coding: Standard color groups.

Mutual Capacitance: (a-c testing): Average not exceeding .090 microfarads per mile of cable.

Conductor Resistance: Not to exceed 145 ohms per mile of cable at 68°F.

Insulation Resistance: Not less than 500 meg-ohm miles.

Dielectric Strength: Insulation capable of withstanding for 2 seconds a-c test potential of 500 volts crest between conductors and 1400 volts crest between conductors and sheath.

Attenuation: Approximately 2.20 decibels per loop mile (1000 cycles).

Sheath: Lead-antimony alloy.

Number of Pairs in Cable	Number of Guaranteed Pairs	Reel Length, Feet	Sheath Thickness, Inches	Mean Overall Diameter, Inches	Weight per 1000 ft., Lbs.
11	10	3500	.061	.40	370
16	15	3500	.062	.43	430
26	25	3500	.064	.49	530
51	50	3000	.067	.61	800
76	75	2500	.069	.72	1020
101	100	2500	.071	.79	1200
152	150	1800	.075	.92	1620
202	200	1600	.078	1.05	1950
303	300	1400	.082	1.24	2650
404	400	1100	.087	1.41	3285
606	601	900	.093	1.71	4625
909	902	650	.101	2.06	6610
1212	1203		.109	2.38	8580

Jute or Parkway Finish is also available. Specifications are identical

Type 22S-90—(No. 22 AWG)

Conductors: Size 22 AWG with single wrap dry paper insulation.

Color Coding: Standard color groups.

Mutual Capacitance (a-c testing): Average not exceeding .090 microfarads per mile of cable.

Conductor Resistance: Not to exceed 92 ohms per mile of cable at 68° F.

Insulation Resistance: Not less than 500 meg-ohm miles.

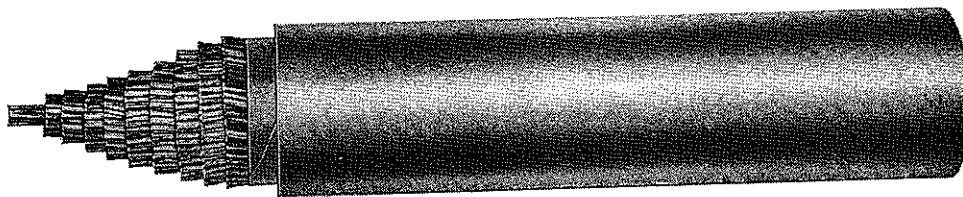
Dielectric Strength: Insulation capable of withstanding a-c test potential for 2 seconds (maximum instantaneous) of 500 volts between conductors, and 1400 volts between conductors and sheath.

Attenuation: Approximately 1.80 decibels per loop mile (1000 cycles).

Sheath: Lead-antimony alloy.

Number of Pairs in Cable	Number of Guaranteed Pairs	Reel Length, Feet	Sheath Thickness, Inches	Mean Overall Diameter, Inches	Weight per 1000 ft., Lbs.
11	10	3500	.063	.45	480
16	15	3500	.064	.50	580
26	25	3500	.066	.58	735
51	50	3000	.070	.75	1095
76	75	2500	.073	.86	1380
101	100	2500	.076	.98	1660
152	151	1600	.080	1.14	2320
202	201	1600	.084	1.29	2440
303	301	1400	.091	1.56	3900
404	401	1200	.095	1.77	4750
606	602	900	.104	2.13	6845
909	903	650	.115	2.56	9975

Jute or Parkway Finish is also available. Specifications are identical



Type 19S-90—(No. 19 AWG)

Conductors: Size 19 AWG with single-wrap dry paper insulation.

Color Coding: Standard color groups.

Mutual Capacitance (a-c testing): Average not exceeding .090 microfarads per mile of cable.

Conductor Resistance: Not to exceed 46 ohms per mile of cable (68°F.).

Insulation Resistance: Not less than 500 meg-ohm miles.

Dielectric Strength: Insulation capable of withstanding a-c test potential for 2 seconds (maximum instantaneous) of 700 volts between conductors, and 1400 volts between conductors and sheath.

Attenuation: Approximately 1.30 decibels per loop mile (1000 cycles).

Sheath: Lead-antimony alloy.

No. of Pairs in Cable	No. of Guaranteed Pairs	Reel Length, Feet	Sheath Thickness, Inches	Mean Overall Diameter, Inches	Weight per 1000 ft., Lbs.
6	5	3500	.063	.47	500
11	10	3500	.065	.57	675
16	15	3500	.067	.65	835
26	25	3000	.070	.75	1100
51	50	2500	.075	.96	1635
76	75	1800	.080	1.14	2325
101	100	1600	.084	1.29	2805
152	151	1400	.090	1.54	3870
202	201	1200	.095	1.76	5040
303	302	900	.104	2.13	6975
404	402	700	.112	2.43	9075
455	452	650	.115	2.56	10015

Jute or Parkway Finish is also available. Specifications are identical

Type 26S-85—(No. 26 AWG)

Conductors: Size 26 AWG with single-wrap dry paper insulation.

Color Coding: Color groups depending on size.

Mutual Capacitance (a-c testing): Average not exceeding .085 microfarad per mile of cable.

Insulation Resistance: Not less than 500 meg-ohm miles.

Dielectric Strength: Insulation capable of withstanding a test potential up to 500 volts a-c.

Attenuation: Approximately 2.9 decibels per mile.

Sheath: Lead-antimony alloy.

No. of Pairs in Cable	No. of Guaranteed Pairs	Reel Length, Feet	Sheath Thickness, Inches	Mean OD of any 10 ft. section, Inches	Approx. Wt. per 1000 Ft.
11	10	3500	.061	.33	310
16	15	3300	.061	.36	360
26	25	4000	.063	.43	440
51	50	4200	.065	.53	640
76	75	3700	.067	.61	800
101	100	3500	.069	.69	950
152	150	2400	.072	.80	1240
202	200	2500	.074	.90	1450
303	300	1600	.078	1.07	1940
404	400	1600	.081	1.20	2410
606	601	1400	.087	1.44	3370
909	902	1100	.094	1.74	4810
1212	1203	900	.100	2.00	6090
1818	1806	800	.110	2.41	8440
2121	2108	800	.115	2.61	10180

Jute or Parkway Finish is also available. Specifications are identical

Type 16S-72—(No. 16 AWG)

Conductors: Size 16 AWG with single wrap dry paper insulation.

Color Coding: Green-orange pairs alternating with blue-orange pairs, and a red-orange pair in each layer containing an odd number of pairs. Two orange-white tracer pairs, one in the center and one in the outside layer.

Mutual Capacitance (a-c testing): Average not exceeding .072 microfarads per mile of cable.

Conductor Resistance: Not to exceed 23 ohms per mile of cable at 68°F.

Insulation Resistance: Not less than 500 meg-ohm miles.

Dielectric Strength: Insulation capable of withstanding a-c test potential for 2 seconds (maximum instantaneous) of 1000 volts between conductors, and 1400 volts between conductors and sheath.

Attenuation: Approximately 0.75 decibels per loop mile (1000 cycles).

Sheath: Lead-antimony alloy.

Number of Pairs in Cable	Reel Length, Feet	Sheath Thickness, Inches	Mean Overall Diameter, Inches	Weight per 1000 ft., Lbs.
11	2000	.072	.85	1200
16	1500	.075	.98	1540
26	1500	.080	1.14	2100
51	1200	.089	1.50	3330
101	800	.103	2.06	6050
152	600	.113	2.47	8350

Jute or Parkway Finish is also available. Specifications are identical

Rubber-Insulated Telephone Cable

For underground distribution, service connections, mines and other locations where severe moisture conditions are encountered. When a subscriber objects to an overhead drop, many telephone companies are making it a practice to install this wire upon payment of extra cost and extra installation charges. Furnished in the required number of pairs, of size 19 AWG annealed, tinned or lead-alloy-coated copper wire, each conductor rubber-insulated to a diameter of .094". Pairs are cabled together with jute fillers (except the two-pair construction where the four conductors are cabled around a jute center); a rubber-faced tape is used to bind the core, and a tightly fitting sheath is applied over the taped core.

Cat. No.	No. Pairs	Sheath Thickness	Overall Diam., In.	Wt. Per 1000', Lbs.
S-7980	1	.047"	.31	260
S-7982	2	.047"	.35	310
S-7986	6	.047"	.64	810

Switchboard Cables

Textile-insulated switchboard cables for installation of telephone equipment, interior distribution or terminating other cables. Conductors are No. 22 annealed copper tinned or tinned enamel, insulated with double acetate yarns and single cotton servings. Standard color coding. Saturated waxed core.

Braided Type—Tinned Conductors

Cat. No.	Pairs	Wt. Per 100 Ft., Lbs.
WB-10	6	5
WB-11	11	7
WB-12	16	10
WB-13	26	15
WB-14	51	30
WB-15	101	75

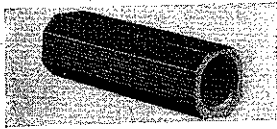
Lead Covered—Tinned Conductors

Cat. No.	Pairs	Wt. Per 100 Ft., Lbs.
WB-16	6	20
WB-17	11	28
WB-18	16	36
WB-19	26	49
WB-20	51	82
WB-21	101	140

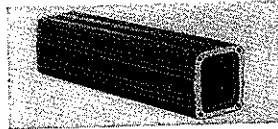
Lead Covered—Tinned Enameled Conductors

Cat. No.	Pairs	Wt. Per 100 Ft., Lbs.
WB-22	6	20
WB-23	11	28
WB-24	16	36
WB-25	26	49
WB-26	51	82
WB-27	101	140

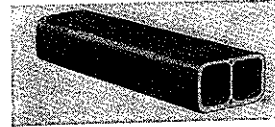
Clay Conduit



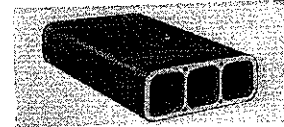
Single Duct— $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " Round bore—18" long.



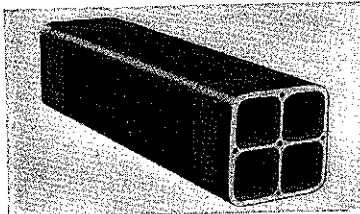
Single Duct — $3\frac{1}{4}$ " x 24" lg. and $4\frac{1}{4}$ " x 18" lg.—Sq. bore.



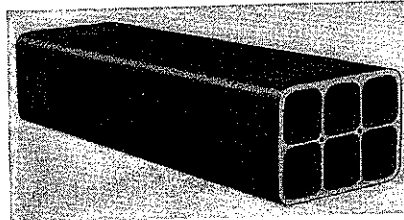
2-way— $3\frac{1}{2}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—24" long



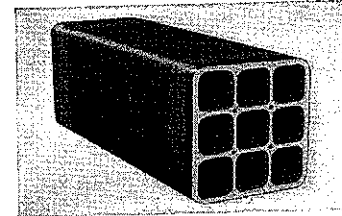
3-way— $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—24" long.



4-way— $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—36" long.



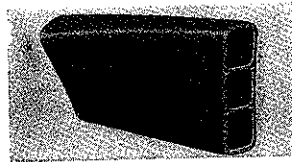
6-way— $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—36" long.



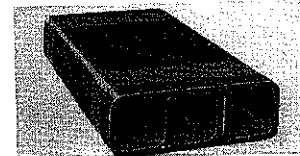
9-way— $3\frac{1}{4}$ " bore—36" long.
9-way— $4\frac{1}{4}$ " bore—24" long.



Mitered Conduit 3° —10' Radius (for curve const.) $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—Approx. length $6'' \times 6\frac{3}{4}''$; 2, 3 and 6-way, edge or flat position; 4 and 9-way in one position.



Transposition Conduit (for transposing ducts and cables) 24" long
2, 3 and 6-way, $3\frac{1}{4}$ " bore; $22\frac{1}{2}^\circ$ R.H. or L.H.
2, 3 and 6-way, $3\frac{1}{2}$ " bore; 18° R.H. or L.H.
2, 3 and 6-way, $4\frac{1}{4}$ " bore; 15° R.H. or L.H.



Branch Conduit (for dividing line) $3\frac{1}{4}$ " , $3\frac{1}{2}$ " and $4\frac{1}{4}$ " bore—24" long;
2, 3, 4, 6 and 9-way for 2 branches;
3 and 6-way for 3 branches.

Short lengths—1, 4, 6 and 9-way—6", 9" and 12" long. 2 and 3-way—6", 8" and 12" long.)

Clay conduit is manufactured from special high-grade fire clays, vitrified at over 2,000 degrees, and salt glazed to provide permanently smooth duct surfaces. Because of the following characteristics, it has been adopted as standard material for underground cable work by many telephone companies:

Permanence—Clay conduit is permanent because it will not soften, swell, or disintegrate on exposure to heat, moisture, frost, steam or chemical attack.

Strength—The thickness of the walls and webs of clay conduit gives it the strength to safely carry street loads and to permit immediate back-filling of the trench. Modern shipping methods insure arrival on the job in good condition with strength unimpaired.

Flexibility—The comprehensive line of shapes and sizes as illustrated assures extreme flexibility in con-

struction, fewer manholes and consequently less splicing and bending of cables and lower installation costs. The smooth duct surfaces provide easy and safe cable pulling.

Low Cost—The economy of clay conduit is evident in savings in maintenance. Repairs to cables can easily be made and the duct line restored to normal with split conduit. Salvage or complete replacement of valuable cables can be made at any time with little expense.

The listings above show all sizes in standard shapes. Scored or split shapes can also be furnished.

Full stocks strategically located assure prompt shipments. Engineering service furnished on special conduit problems.

Clay Conduit—Cont'd.

Duct holes		Number of* dowel holes	Standard length, in.	Duct feet per piece	Actual size of duct hole, in.	Approximate outside dimensions, in.	Lengths in which short pieces are made, in.	Minimum curload, duct feet	Approx. Wt. per piece, pounds
Number per piece	Standard bore, in.								
Single Duct									
1	3 1/4 round	0	18	1 1/2	3 3/8	4 1/2 x 4 1/2	6, 9, 12	8700	12
1	3 1/2 round	0	18	1 1/2	3 5/8	4 7/8 x 4 7/8	6, 9, 12	6900	15
1	4 1/4 round	0	18	1 1/2	4 3/8	5 5/8 x 5 5/8	6, 9, 12	5700	18
1	3 1/4 square	4	24	2	3 3/8	4 3/4 x 4 3/4	6, 9, 12	6100	20
1	3 1/2 square	0	18	1 1/2	3 3/8	5 x 5	6, 9, 12	5700	17
1	4 1/4 square	4	18	1 1/2	4 3/8	5 7/8 x 5 7/8	6, 9, 12	4800	21
Multiple Duct									
2	3 1/4 square	2	24	4	3 3/8	4 3/4 x 8 3/4	6, 8, 12	8200	34
3	3 1/4 square	4	24	6	3 3/8	4 3/4 x 12 3/4	6, 8, 12	8100	48
4	3 1/4 square	5	36	12	3 3/8	8 3/4 x 8 3/4	6, 9, 12	9600	87
6	3 1/4 square	2	36	18	3 3/8	8 3/4 x 12 3/4	6, 9, 12	10000	130
8	3 1/4 square	3	36	24	3 3/8	8 3/4 x 16 3/4	6, 9, 12	10000	187
9	3 1/4 square	4	36	27	3 3/8	12 3/4 x 12 3/4	6, 9, 12	10000	168
2	3 1/2 square	2	24	4	3 5/8	5 1/8 x 9 3/8	6, 8, 12	7000	36
3	3 1/2 square	4	24	6	3 5/8	5 1/8 x 13 5/8	6, 8, 12	7200	54
4	3 1/2 square	5	36	12	3 5/8	9 3/8 x 9 3/8	6, 9, 12	8200	100
6	3 1/2 square	2	36	18	3 5/8	9 3/8 x 13 5/8	6, 9, 12	8600	145
2	4 1/4 square	2	24	4	4 3/8	5 1/8 x 11	6, 8, 12	5600	50
3	4 1/4 square	4	24	6	4 3/8	5 1/8 x 16 1/8	6, 8, 12	6000	70
4	4 1/4 square	5	36	12	4 3/8	11 x 11	6, 9, 12	6600	130
6	4 1/4 square	2	36	18	4 3/8	11 x 16 1/8	6, 9, 12	6800	185
9	4 1/4 square	4	24	18	4 3/8	16 1/8 x 16 1/8	6, 9, 12	7300	170

* For dowels, see Page 130.

Single Duct Bends



Single Duct Bends can be furnished in all standard bores in either 90 degree 18 and 24 inch radii or in 45 degree 18, 24 and 36 inch radii.

Bends can be furnished knifed for splitting.

Joint Paper Tape

Paraffin paper used for wrapping clay-conduit joints before pouring cement or mortaring. Furnished in 4- and 6-inch widths, 100 yards per roll.

Special Shapes and Types

For constructing curves of 10 foot radius or more in single or multiple duct, mitered conduit may be used. Mitered conduit is furnished 3 degree, 10 foot radius and approximately 6 inches long. (30 pieces making one 90 degree curve.) As the 2, 3, and 6 way are furnished in flat and edge position, the customer should specify whether the conduit is to be laid flat or on edge. The radius of the curves built of these sections may be increased by interposing straight short pieces between the mitered pieces.

Branch Conduit

Branch conduit permits the division of multiple duct main lines into two or more branch lines. Such a division is highly advantageous in splaying main

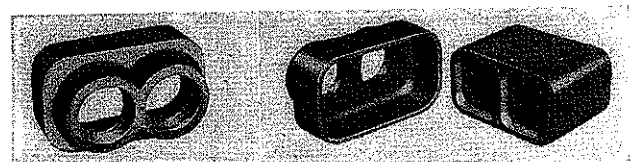
duct lines into central offices, manholes or cable vaults, or for lateral or service connections — frequently saving the necessity of a manhole. Standard length 24 inches.

Transposition Conduit

Transposition conduit (two, three, and six way) is of considerable advantage in changing the position or height of conduit lines, in order to avoid certain streets, or to cross viaducts or bridges—frequently saving the necessity of a manhole. Standard length is 24".

The 3 1/4" bore requires 4 pieces or 8 feet to make a 90 degree turn, the 3 1/2" bore 10 feet and the 4 1/4" bore 12 feet.

Pipe Connectors



For the purpose of connecting clay conduit to cast iron or steel pipe for pole risers or entering buildings, pipe connectors are available in 3 1/4", 3 1/2" and 4 1/4" bore in single, 2, 3 and 4 way. The 3 1/4 and 3 1/2 inch bore is reamed for 3" pipe and the 4 1/4" bore for 4" pipe. Also furnished threaded on special order.

Fibre Conduit

Straight, tough, uniform tubes for underground cable duct. Made of fibrous pulp saturated with a preservative and water-proofing compound. Not affected by heat, cold or acids which may be present in ground. Light in weight—two men can easily carry 200 feet. Readily cut with lathe tools or saw.

Generally supplied in an assortment of five and eight-foot lengths. Approximately 15% short lengths with each order saves time and labor by reducing the number of standard lengths usually cut. Harrington or Socket joints furnished as specified (if type is not specified on order Harrington joints will be shipped).

For the Harrington joint the tapered end fits snugly into a sleeve, or coupling, furnished with each length of conduit. The socket joints (male and female) are carefully cut and fitted so that they make their own water-tight connection, with no offset inside.

Standard bends and elbows are available in "S" bends, 90 degree and 45 degree elbows and bends. Bends and elbows should not be confused, as an elbow has a smaller radius than a bend. These are designed with smooth inside bore to facilitate pulling cable through.

Fibre plugs, butt joint couplings, solid and split bushings and fibre duct bells are available on order.

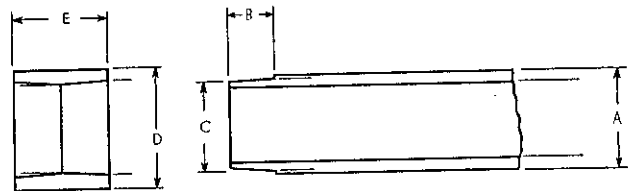
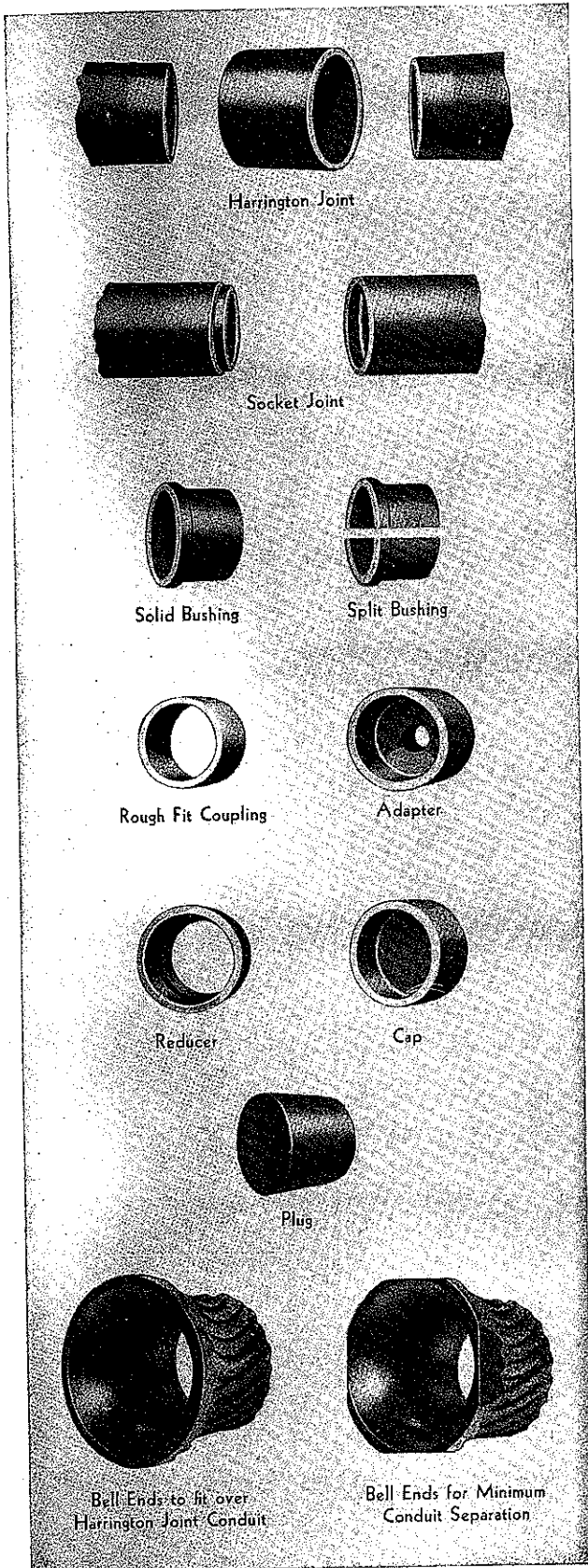
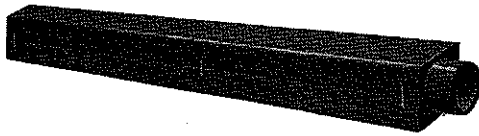


Chart of Harrington Conduit and Couplings

Size of Conduit	Dimensions in Inches				
	A	B	C	D	E
1½	2.094	1.313	1.920	2.469	2.75
2	2.563	1.438	2.390	2.969	3.00
2½	3.063	1.438	2.900	3.469	3.00
3½	4.063	1.688	3.897	4.531	3.50
3	3.530	1.688	3.350	3.969	3.50
4	4.566	1.938	4.378	5.000	4.00
4½	5.142	1.938	4.957	5.656	4.00
5	5.738	1.938	5.553	6.371	4.00

Inter-Locking Wood Conduit



Manufactured from selected Southern Pine, lengthwise split, treated with the best grade of Creosote, 15 lbs. to the cubic foot. Conduit can be opened for repairs at any point. Can be furnished in single ducts or in any multiple desired to meet requirements.

The single ducts have mortised and tenoned joints, the multiples are finished with butt joints.

Furnished in the following sizes:

Size, Inches	<i>Weight Per Ft. of Single Duct, Lbs.</i>
2	3
3	5
3½	6
4½	8

Pipe Bends and Conduit Fittings



Pipe bends serve many purposes in subsidiary conduit construction and are used particularly where cable emerges from the ground at poles or at buildings. They are made of a good grade of cast iron with ends flanged as illustrated for the fittings. All bends are 90°.

The fittings are formed as shown with one end to fit under the "U" cable guard and the other end to fit the pipe bend.

Pipe Bends

<i>Cat. No.</i>	<i>Inside Diam., In.</i>	<i>Radius of Curve, In.</i>	<i>Wt., Lbs.</i>
S-2466	2	24	27
S-2468	3	30	41

Pipe Caps

<i>Cat. No.</i>	<i>Joins Cable Guard Cat. No.</i>	<i>To Pipe Bend Size, In.</i>	<i>Wt. of Caps, Lbs.</i>
S-3272	S-4512	2	1¼
S-3270	S-4512	3	2½
S-3268	S-4514	3	2

Korite Compound



A non-corrosive, acid resisting, non-conducting material used to protect underground cable without the use of conduit. Melting point is approximately 175° F.

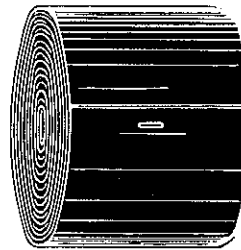
Korite is easy to apply. A trench is dug and a wooden or metal trough is placed beside it. A strip of tarred felt paper is then laid in the trough and coating of Korite applied. After

the compound has cooled slightly, the cable is laid on it and more Korite is poured over it. The paper is then wrapped about the cable and as soon as the compound cools, the cable is laid in the trench and the earth filled in.

100 lbs. of Korite will coat about 325 feet of 25 pairs, 300 feet of 50 pairs, 200 feet of 75 pairs, 165 feet of 100 pairs, 150 feet of 125 pairs, 125 feet of 150 pairs, and 100 feet of 200 pairs.

<i>Cat. No.</i>	<i>Wt. per Container, Lbs.</i>
S-5628	100

Tarred Paper



Tarred felt-paper is used in conjunction with compounds such as Korite for underground cable installation. As described in paragraph on compound (above) it is used to wrap cable before burying. Furnished in rolls 144 feet long.

<i>Cat. No.</i>	<i>Width, In.</i>	<i>Wt. per Roll, Lbs.</i>
S-7456	6	10

Dowel Pins



Used to assure proper alignment and smoothness when laying clay conduit. The Dowel Pins are inserted in holes provided in the end of each length.

<i>Cat. No.</i>	<i>Size, In.</i>	<i>Collar, In.</i>	<i>Wt. per 100, Lbs.</i>
S-5706	⅝ x 3	⅝	9

Fibre Test Boards

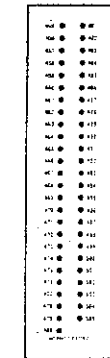
Used for classifying pairs when testing out cable. Large, easy-to-read numbers that will not wash off. Standard numbering. Weights, 6 lbs. per 100.



Cat. No.	Numbering
S-2729	1- 51
S-2730	51- 101
S-2731	102- 152
S-2732	152- 202
S-2733	203- 253
S-2734	253- 303
S-2735	304- 354
S-2736	354- 404
S-2737	405- 455
S-2738	455- 505
S-2739	506- 556
S-2740	556- 606
S-2723	607- 657
S-2724	657- 707
S-2725	708- 758
S-2726	758- 808
S-2727	809- 859
S-2728	859- 909
S-2699	910- 960
S-2701	960-1010
S-2702	1011-1061
S-2703	1061-1111
S-2704	1112-1162
S-2705	1162-1212

Linen Test Boards

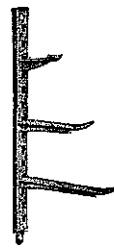
For use in tagging out the conductors in connection with making test splices in cables. Weight, 3/4 lbs. per 100. Consists of tag-linen strips 1 7/8 inches wide and 10 1/8 inches long having numbered holes and printed in the following sets of numbers:



Cat. No.	Numbered
S-2741	1- 51
S-2742	51-101
S-2743	102-152
S-2744	152-202
S-2745	203-253
S-2746	253-303
S-2747	304-354
S-2748	354-404
S-2749	405-455
S-2750	455-505
S-2751	506-556
S-2752	556-606

Underground Cable Racks

Hot Galvanized



Rack sections are made in three lengths which can be combined into almost any desired length. These sections are made from 1 1/2 x 9/16 x 3/16 inch open-hearth channel steel, amply strong to support the heaviest cables. They should be fastened to manhole walls by means of 1/2-inch by four-inch expansion bolts.

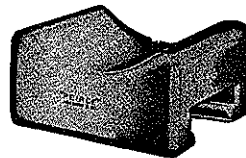
The hooks are cut from open-hearth steel "T" sections and have smooth, well-rounded top surfaces, 1 1/2 inches wide, which will not injure cables.

Cat. No.	No. Holes	Length, In.	Bolt Spacing, In.	Wt. per 100, Lbs.
S-6014	8	15	13 1/2	155
S-6016	14	24	22 1/2	265
S-6018	18	30	28 1/2	315

Cable Rack Hooks

Cat. No.	Ext. Length, In.	Steel Size, In.	Wt. per 100, Lbs.
S-6020	4	1 1/2 x 1 1/8 x 3/8	61
S-6022	7 1/2	1 1/2 x 1 1/8 x 3/8	110
S-6024	10	1 1/2 x 1 1/8 x 3/8	135

Cable Rack Insulators

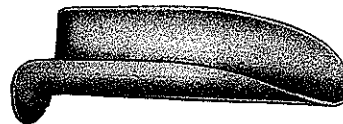


Used on channel-type rack. Provides a smooth, rounded surface for cable. Permits creepage without injury and furnishes proper insulation between cable and rack.

Cat. No.	Radius for Cable, In.	Size, In.	Wt. per 100, Lbs.
S-4930	1 1/2	2 3/4 x 3	105

Zinc Cable Duct Shields

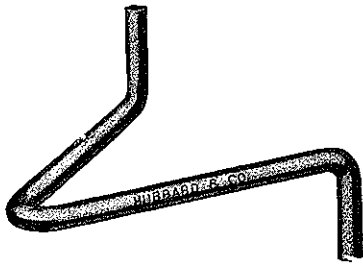
Hot Galvanized



Used at the entrance of the duct to protect cable from creepage wear due to expansion and contraction of the sheaths.

Cat. No.	Diam., In.	Length, In.	Wt. per 100, Lbs.
S-6816	3	8	68
S-6817	3 1/4	6	53

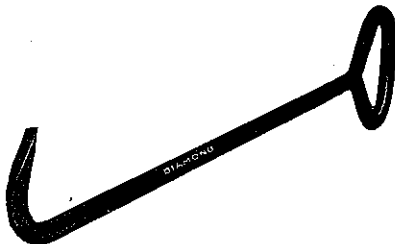
Pulling-In Irons



Pulling-In Irons are set into the concrete walls, or brick walls, of street vaults opposite duct entrances, to provide strong attachments for pulling in blocks when installing or removing cables.

Cat. No.	Diam., Steel, In.	Extension, In.	Wt. per 100, Lbs.
S-4958	7/8	9	550
S-4960	7/8	12	650

Manhole Cover Hook



Designed to raise a manhole cover by prying the wedge-point end of the hook under the groove in the cover. High quality tool steel, suitably hardened to prevent bending.

Cat. No.	Length, In.	Wt. Lbs.
S-4828	26 1/2	3

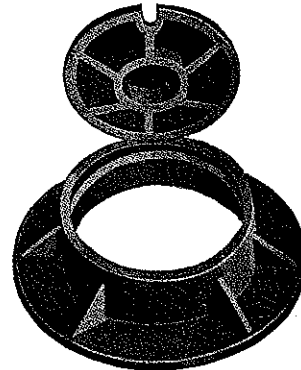
Gas Pressure Cable Testing

For gas pressure testing of aerial or underground cables and cable splices we offer a complete line of plugs, valves, cylinders of gas and all necessary equipment. These are shipped with complete instructions for using. Ask for further information and prices.

Loading Coils

The use of loading coils, even on relatively short runs of aerial or underground cable, has become an important requirement for best transmission under modern conditions. We are prepared to supply compact and efficient loading coil assemblies for any set of conditions. Write for technical information on Monotype Loading Coils, or send complete information and specifications for your proposed cable installation and we shall be glad to make recommendations.

Manhole Frames and Covers



Accurately formed but not machined. Weight used should be determined by traffic to be supported. Base diameters are 36 inches, covers, 22 1/2 inches.

Cat. No.	Type No.	Height, In.	Weight Set., Lbs.
S-4255	R-1015	9	540
S-4256	R-1030	9	450
S-4257	R-1040	9	400
S-4258	R-1077	7	325
S-4259	R-1080	6	320

Type B

Heavier cast type with machined cover to assure accuracy and eliminate cover rocking.

Cat. No.	Type No.	Diam., In.	Weight Set., Lbs.
S-4249	11351	24	582
S-4250	11353	27	670
S-4251	14052	30	800

Manhole Ladders

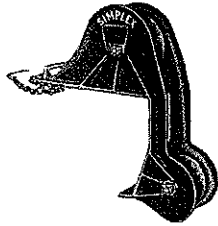
Hot Galvanized

Galvanized open-hearth steel manhole ladders. Supports are 1 1/2 x 9 / 16 x 3 / 16 inch channel steel. Rungs are 5/8-inch round open-hearth steel. The rungs pass through the supports and are riveted on the outside of the ladder for greater safety. Rung spacing is 12 inches, ladder width (inside) 12 inches.



Cat. No.	No. Rungs	Length, Ft.	Wt., Lbs.
S-5142	5	6	23
S-5143	6	6 1/2	24 1/2
S-5144	7	8	30
S-5145	9	10	38
S-5146	10	11	42
S-5147	11	12	46
S-5148	12	13	49

Manhole Sheave



For pulling cable or carrying the winch line at right angles. Built for all sizes of cable up to three inches diameter, or any size winch line.

Can be used on end of truck, or over top of manhole, in connection with a snatch block in the manhole, eliminating the necessity of manhole skids.

Large sheave is three inches wide, diameter is 7¾ inches. Small sheave is three inches wide, 4¾ inches diameter. Furnished as illustrated including ¼-inch chain, 24 inches long, with hook for anchoring when winch line is released suddenly.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-6791	100

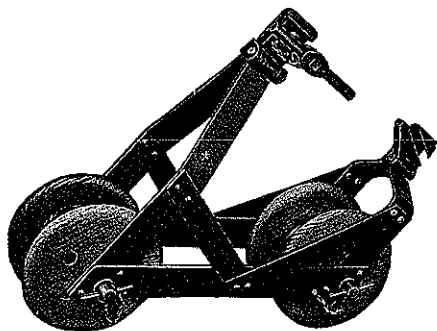
Skids and Sheaves



For leading the pulling line from the mouth of the duct through the manhole to the capstan or winch. The skids have pin holes every six inches from top to bottom, so that the sheaves can be placed at correct height to correspond to height of duct and top of manhole. Standard length nine feet. Other lengths are available on special order.

<i>Cat. No.</i>	<i>Length</i>	<i>Wt., Lbs.</i>
S-3275	9 Ft.	235

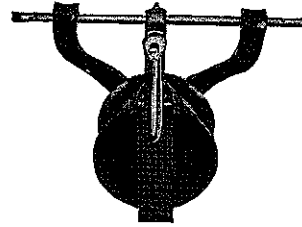
Aerial Cable Guides



With wood rollers. For pulling cable into supporting rings.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-4536	32

Bierce Cable Rollers

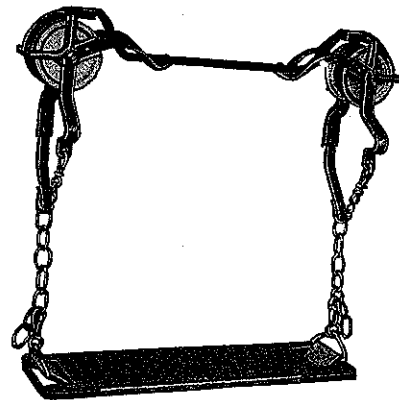


The frame is made of forged steel and the roller of cast iron, supported and protected on both sides by pressed steel disks, which insures the roller as well as the cable against injury, and prevents the cable or rope from catching when being pulled over the roller.

The clamping device is mounted upon the hinged member and allows the frame to be rigidly clamped in position without placing any side strain upon the messenger.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-6256	7½

Lineman's Flexible Safety Chair



These flexible chairs can be collapsed, strapped and tied for convenient transportation. Adjustable, up or down, by snaps and chain.

Seat is made of high grade fir reinforced with strap steel imbedded in wood. Holes are provided in frame for safety belt attachment.

Electric welded link chain. Drop forged snaps. Rubber tired wheels that can easily be re-tired.

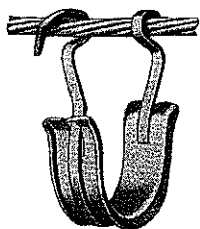
<i>Cat. No.</i>	<i>Height</i>	<i>Width, In.</i>	<i>Wt., Lbs.</i>
S-3317	Adjustable	21	27

Rigid Safety Chair

The framework is made of steel channels and braced with steel straps.

<i>Cat. No.</i>	<i>Height</i>	<i>Width, In.</i>	<i>Wt., Lbs.</i>
S-3316	25½"	21	29

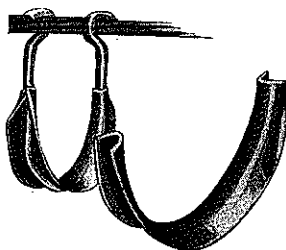
National Cable Ring Saddles



Made to fit inside of rings and support the cable sheath so that vibration will not cut and chafe it. Made of galvanized steel. Bronze or aluminum cable ring saddles available on special order.

Cat. No.	Size, In.	Standard Package	Wt. per M, Lbs.
S-6290	1½	1000	90
S-6294	2	1000	100
S-6298	2½	500	110
S-6306	3	500	135
S-6307	3½	500	150

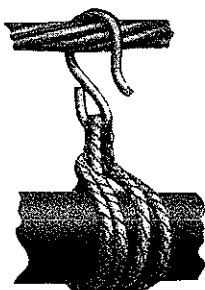
Kearney Cable Ring Saddles



Especially formed to be installed on rings now in service, to provide a wide, smoother bearing service for the cable sheath and eliminate ring-cutting. They are easily installed by closing the ends of the saddles around the rings,

as shown, with a pair of pliers. Made of soft aluminum. Available in five sizes.

Cat. No.	Saddle Size, In.	Wt. per 100, Lbs.
S-6288	1½	2
S-6292	2	2
S-6296	2½	3
S-6300	3	4
S-6302	3½	4



Marline Cable Hangers

The hooks are made from No. 9 wire and are regalvanized by the hot-dip process after they are formed. This makes them practically rust-proof. The loop is three-ply marline twine in the lengths indicated in the listing below.

Cat. No.	Max. Diam. Cable, In.	Loop Length, In.	Wt. per M, Lbs.
S-4723	⅞	9	35
S-4711	1	10	36
S-4712	1⅛	11	37
S-4713	1¼	12	38
S-4714	1½	13	39
S-4715	1⅝	14	40
S-4716	1¾	15	42
S-4717	2	16	45
S-4719	2¼	18	49
S-4721	2½	20	62

Reliable Zinc Cable Hangers

These cable hangers have proved that wear on cable sheath can be eliminated. Hangers are rust-proof and unusually neat in appearance. Entire sheath is solidly grounded to messenger and grade clamp is not needed as cable will not creep on steep grades.

Maintenance cost of aerial cable is materially reduced and enclosure of entire cable and messenger with cable moulding may be made.

Pull cable into rings spaced six to ten feet apart to support cable while Reliable hangers are placed.

Use three bolt cable suspension clamps with groove below through bolt or universal messenger hangers. Messenger safety straps are not needed except on very large cables.

Wear gloves with leather-faced fingers.

Select the correct size Reliable hanger for clamping the cable and cable splice from this table:

Cat. No.	Type	Length, In.	Max. Cable Size on ⅜-in. Str.	Wt. per 1000, Lbs.
S-4724	1	7⅞	¾"	50
S-4725	2	11	1⅛"	65
S-4726	3	14	1⅝"	105
S-4727	4	16	2"	135

Larger sizes are available on request

Space the hangers 20" apart but not nearer than 10" from any splice.



1

"V" opening near bottom of cable

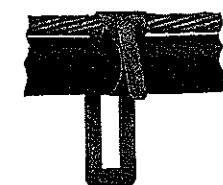


2

Remove bends and fit hanger snugly to cable

Wrap cable with lead strips (suspension clamp shields) under each piece of messenger hardware which might abrade cable sheath, or

Suspend cable to clear messenger hardware by using one adjustable cable strap on each side.



3

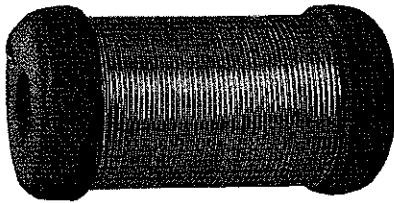
Bend both ends sharply over strand



4

Do not use cutting jaws of pliers on hangers

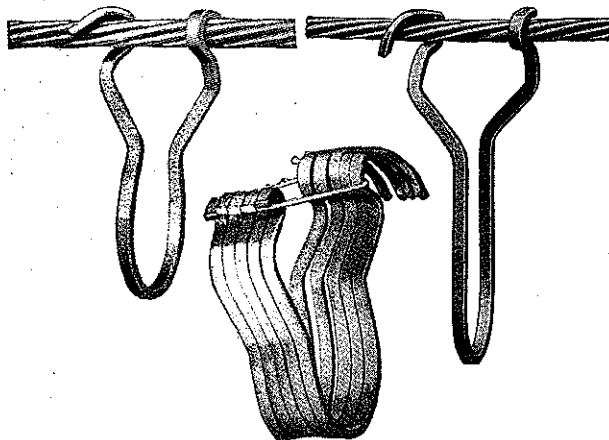
Lashing Wire



For use in lashing lead sleeves and for attaching aerial cable to supporting strand. Consists of No. 16 B. & S. Ga. annealed tinned copper wire. Approx. 1 lb. spool.

<i>Cat. No.</i>	<i>Std. Pkg., Lbs.</i>
S-7810	30

National Cable Rings



National Rings have a reputation for dependability. With them you can pull the cable either way. You don't have to reride the messenger to replace or respace rings. Once placed, because of the tension-grip, they remain rigidly in place and will not slip along, or jump off, the messenger.

National Rings are made from the finest materials procurable and are hot-dip galvanized by a special process assuring maximum smoothness.

National Extra-Long Rings, designed to enable you to hang an additional cable on existing strand, create savings in time and material.

Regular Galvanized

<i>Cat. No.</i>	<i>Size In.</i>	<i>For Cable Diam., In.</i>	<i>Standard Package</i>	<i>Wt. per 1000, Lbs.</i>
S-6118	1½	½ to 1⅞	1000	47
S-6119	2-Light	⅞ to 1⅞	500	66
S-6121	2-Heavy	⅞ to 1⅞	500	90
S-6123	2½	1⅞ to 1⅞	500	106
S-6125	3	1⅞ to 2¼	400	125
S-6071	3½	2¼ to 2⅝	300	140
S-6073	4	2⅝ to 3	250	250
S-6075	4½	3 to 3½	250	210

Regular rings are made in all strand sizes—specify size desired.

Regular Copperweld

<i>Cat. No.</i>	<i>Size, In.</i>	<i>Strand Size, Inches</i>	<i>Wt. per 1000, Lbs.</i>
S-6133	1½	⅞ to ⅞	43
S-6134	2	⅞ to ⅞	96
S-6135	2½	⅞	110
S-6136	3	⅞	125
S-6137	3½	⅞	140

Standard packages of 1000 each.

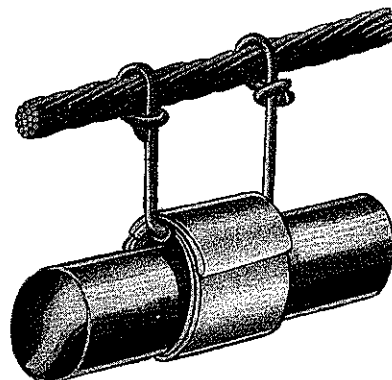
Extra-Long Galvanized

<i>Cat. No.</i>	<i>Size, In.</i>	<i>Length Under Strand, In.</i>	<i>Standard Package</i>	<i>Wt. per 1000, Lbs.</i>
S-6105	1½	4¾	500	114
S-6106	2	5¼	300	170
S-6107	2½	6¾	250	216
S-6109	3	7½	200	255
S-6111	3½	8	200	270

Made in all strand sizes. Specify size desired.

Also available in Copperweld.

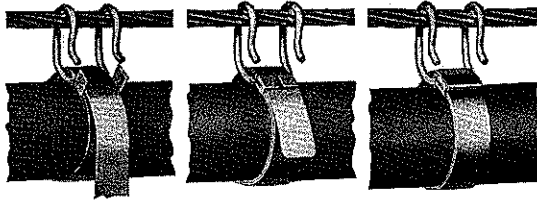
Aerial Cable Supports



For supporting cable at poles, preventing ring cut. Adjustable to any height. Supports without wires are used on spun cable, with cable spacers shown on next page.

<i>Without Wire Cat. No.</i>	<i>Length of Strap, In.</i>	<i>Maximum Size Cable or Sleeve Dia. In.</i>	<i>Maximum Size Cir. In.</i>	<i>Wt. per 1000, Lbs.</i>	
S-7366	S-7377	10	¾	2⅞	84
S-7368	S-7378	16	1⅞	3⅝	110
S-7370	S-7379	22	2	6⅞	130
S-7372	S-7380	28	2⅝	8⅞	162
S-7374	S-7381	34	3⅞	10	186
S-7385	S-7387	50	5	15⅞	256

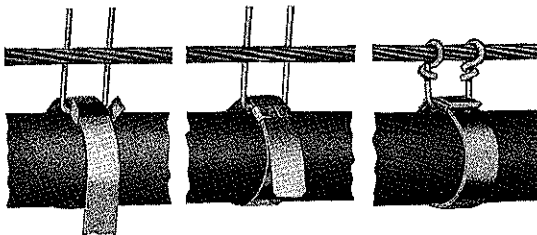
National Zinc-Wraps



Zinc-Wraps are designed for use in supporting the entire span. They may be easily and quickly installed. The split clasp allows the strap to be tightly wrapped around the cable and locked. This feature eliminates the difficulty of feeding the strap through a solid buckle.

Cat. No.	Max. Cable Diam., In.	Package	Wt. Pkg., Lbs.
S-8129	¾	500	39
S-8130	1	500	40
S-8131	1½	500	48
S-8132	2	250	28
S-8133	2½	250	40

National Adjust-A-Strap



National Adjust-A-Straps are designed for use where the cable is hung with rings and it is desirable to replace two or more rings on either side of the pole. They have long wire supports which can be bent to line-up with any size cable ring.

Cat. No.	Cable Diam., In.	Package	Wt. Pkg., Lbs.
S-2001	¾	500	39
S-2007	1	500	40
S-2008	1½	500	48½
S-2010	2	250	28
S-2011	2½	250	40
S-2031	3¼	200	37½
S-2032	5	200	52¼
S-2034	6½	200	62
S-2035	6½ (10 inch hanger)	200	66

Cable Spacers



Used in lashed cable construction to provide a separation between cable and strand. Upper concave surface bears against underside of strand; lower concave flanges may be bent to fit curve of cable. Also used in connection with aerial cable supports. Page 135.

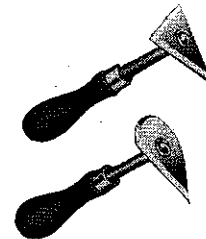
Cat. No.	Size, In.	Wt. Per 100, Lbs.
S-7144	¼	12½
S-7145	½	20
S-7155	¾	25

Hardwood Dressers



Cat. No.	Weight Per Dozen, Lbs.
S-3950	10

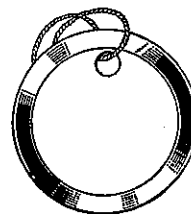
Shave Hooks



These are made so that the blade may be taken off or put on by means of the set screw, as illustrated. Furnished either with triangle or half oval blades.

Cat. No.	Type of Blade	Length, In.	Wt. per Doz., Lbs.
S-4862	Triangle	5½	2¾
S-4864	Half Oval	5½	2¾

Metal Rim Tags



For tagging cables or wires as a means of identification after they have been tested out and assembled into groups. Made of thin, tough cardboard and bound with metal. Ordinarily furnished in one inch diameter but can be supplied in other sizes upon special order.

Cat. No.	Wt. per 1000, Lbs.
S-9762	1¼

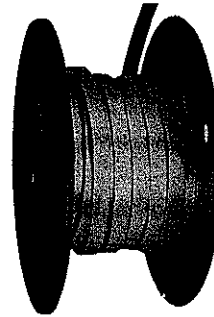
Terminal Tags



For use in marking pairs at cable terminals. Made of sheet lead. Slot and tongue type (illustrated) fastens around the cable terminal stub. Round type has hole for mounting with wire. Diameter is 1 3/8 inches.

Cat. No.	Type	Wt. per 100, Lbs.
S-7400	Slot and tongue	10
S-7402	Round	9

Bonding Ribbon

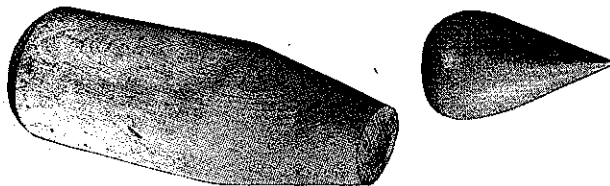


Consists of spools of .0625 x .375 inch copper strips used for bonding cable. Approximately 12 feet to the pound.

Furnished in 5 lb. spools as illustrated.

Cat. No.	Wt. per Spool, Lbs.
S-6062	6

Turn Pins; Drift Plugs

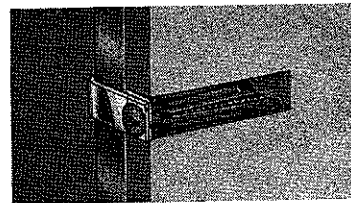


Used for expanding ends of lead sheaths and for smoothing out and straightening lead sheaths. Turn Pin is top shaped (as shown), Drift Plug is cylindrical with tapered end.

Cat. No.	Turn Pins Diam., In.	Wt., Lbs.
S-5683	1	1/8
S-5684	2	1/4
S-5686	2 1/4	1/4
S-5688	2 1/2	1/4
S-5690	2 3/4	3/8

Cat. No.	Drift Plug	Wt., Lbs.
S-5848	1	1/8
S-5849	1 1/4	1/8
S-5850	1 1/2	1/4
S-5851	1 3/4	1/4
S-5852	2	3/8
S-5853	2 1/4	3/4
S-5854	2 1/2	7/8
S-5846	2 3/4	1 1/8
S-5856	3	1 3/8
S-5855	3 1/2	2 1/4
S-5857	4	3 3/8
S-5858	4 1/2	5 1/4
S-5859	5	7 1/8

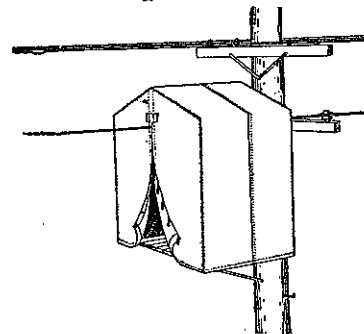
Bonding Ribbon Clamp



Used for clamping bonding ribbon in manholes and cable vaults. Mounts with S-2121, 1/4" x 1" Hammer Drive Anchor (see page 50).

Cat. No.	Wt. per 100, Lbs.
S-3356	3/4

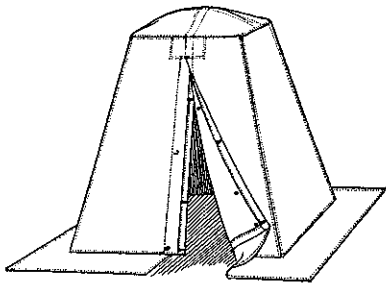
Cable Splicer's Tents



Used in conjunction with pole platforms. Made of 10 oz. white army cotton duck. The roof is spread and supported by means of a collapsible three-ribbed galvanized metal framework which fastens to the cable suspension strand. On each of two opposite sides of the tent there is an opening which can be laced from the inside after the tent is erected. Height; 8'8"; width, 4'6 1/2". Furnished in two lengths as shown.

Cat. No.	Type	Length	Wt., Lbs.
S-7467	S100	3'2"	34
S-7468	L100	4'6"	41

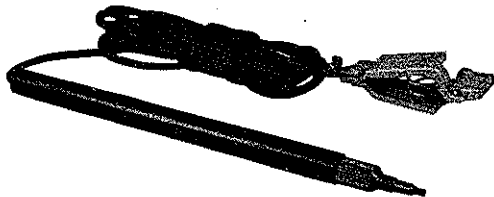
Ground Tent



For use of underground cable splicing forces when working during inclement weather. Consists of an iron pipe frame work covered with 10 oz. cotton duck. A sod flap 1 ft. wide is provided around the base except at the opening. 6½' high, 3' wide at top, 6' wide at bottom.

Cat. No.	Type	Wt., Lbs.
S-7466	1020	60

Needle Point Test Pick



Used by cable splicing forces for identifying wires in making test splices. Consists of a brass sleeve covered by a brass shell with a brass nipple holding a number of sewing needles screwed in one end. A six-foot cord is fastened to the other end and is trimmed with a test clip. Extra needle-points also available.

Cat. No.	Description	Wt., Oz.
S-7482	Test Point Complete	3
S-7489	Extra Needle Point Only	¼

Allen Soldering Stick



Convenient flux cylinder. Easy to carry and apply. No waste — just apply to heated joint. Non-corrosive.

Cat. No.	Wt., Oz.
S-7212	2

Soldering Paste



Nokorode soldering paste is absolutely non-corrosive. It can be used for soldering any metal except aluminum. Carefully compounded, does not discolor or stain. A small amount suffices for any ordinary job. Not affected by heat or spatter, solder does not turn dark after using. Safe and fast.

Cat. No.	Standard Package
S-5632	2 Oz. Can
S-5634	1 Lb. Can

Self-Fluxing Solder



Three types—acid, rosin and stearine core. Efficient all around solders for general use. A hollow core carries the flux and when heated and melted with the iron the solder becomes self-fluxing.

Cat. No.	Core	Diam., In.	Wt. per Spool, Lbs.
S-7092	Rosin	3/32	1
S-7094	Rosin	3/32	5
S-7100	Acid	1/8	1
S-7102	Acid	1/8	5
S-7104	Stearine	1/8	1
S-7097	Stearine	1/8	5
S-7101	Rosin	1/16	1
S-7103	Rosin	1/16	5

Wire Solder

Same type as bar solder but preferred by some users. Furnished in one pound and five pound spools.

Cat. No.	Size	Type	Wt., Lbs.
S-7112	9	40% Tin; 60% Lead	1
S-7114	9	40% Tin; 60% Lead	5
S-7116	9	50% Tin; 50% Lead	5
S-7120	6	50% Tin; 50% Lead	5

Arsenical Cable Wiping Solder
Telephone Specification

Finer-textured solder especially designed for cable wiping. Has a small amount of arsenic added to lead-tin alloy which makes it solidify more slowly.

Cat. No.	Description	Wt. per Bar, Lbs.
S-7105	Cable Wiping Solder	1½

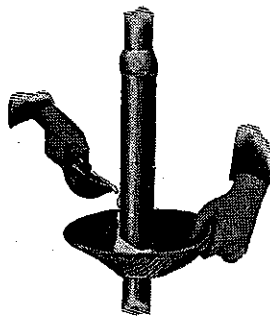
Bar Solder



Standard type bar solder furnished in 1½ pound bars packed 100 pounds to the box. Different types and compositions are listed below. Order by catalog number.

<i>Cat. No.</i>	<i>Type</i>
S-7106.....	Wiping Solder, 37% Tin; 63% Lead
S-7108.....	40% Tin; 60% Lead
S-7110.....	50% Tin; 50% Lead

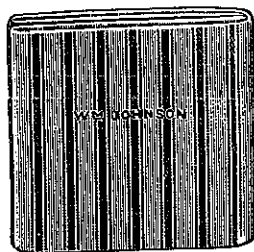
Vertical Joint Wiping Cloths



Economical wiping cloths which make a vertical splice as smooth and easy to make as a horizontal. Wiping side which comes in contact with solder is perfectly smooth. Wiping surface of selected English moleskin is treated with special dressing to protect cloth from heat and prevent half-molten solder from sticking to surface. Exceptionally durable and long-lived.

<i>Cat. No.</i>	<i>Size Opening, In.</i>	<i>Outside Diam., In.</i>
S-3743	1	9
S-3744	1¾	11
S-3745	2¾	12
S-3748	3¾	14
S-3749	6	17

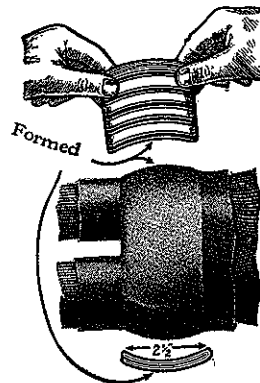
Wiping Cloths



Made of cotton ticking, in the following sizes:

<i>Cat. No.</i>	<i>Size, In.</i>
S-3728.....	2½ x 2½
S-3730.....	3½ x 3½
S-3732.....	4 x 4

Formed Wiping Cloths



Cloth ticking with a curved shape to give a symmetrical wiping surface. Herringbone design. Require no breaking in as the firm press takes the clumsiness out of the cloth. Can be worked up to any desired flexibility by bending in the fingers. Has a slick, smooth surface to which solder cannot stick.

Formed Cloths

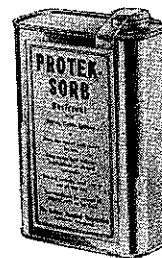
<i>Cat. No.</i>	<i>Size, In.</i>
S-3712.....	2 x 2
S-3714.....	3½ x 2½
S-3716.....	3 x 3
S-3718.....	3½ x 3½
S-3720.....	4 x 4

Catch Cloths

Flat, straight edged cloths made of ticking.

S-3736.....	5 x 5
S-3738.....	6 x 6
S-3740.....	6 x 7
S-3741.....	7 x 8
S-3742.....	8 x 8

Protek-Sorb Desiccant—Type B



Use of Protek-Sorb Desiccant for drying cable splices eliminates the hazards and inconveniences of "boiling-out" cable splices with hot, melted paraffin. Splices are dried by pouring a recommended quantity of Protek-Sorb Desiccant into the splice before it is closed. Protek-Sorb desiccant is a granular material. It is chemically inert and non-corrosive. It will not dust, cake, powder or liquefy even when completely saturated.

<i>Cat. No.</i>	<i>Size</i>	<i>Cans Per Case</i>	<i>Wt. Per Can, Lbs.</i>
S-5957	160 Grams	12	½
S-5958	650 Grams	12	1½

Drierite Desiccant



An improved method of drying out cable splices. A granulated compound, it is placed in among conductors after wires have been spliced. Wrapping with muslin and covering with lead sleeve is then done in the usual manner. No boiling out of conductor insulation is necessary. No fumes, no danger of burns.

Cat. No.	Quantity
S-5956	..... 1/8 Pt.
S-5959	..... 1/2 Pt.
S-5960	..... 1 Qt.

Use of Dessicant is indicated in following table:

Total Number of Pairs Entering Splice	Number of cans Required in Splice			
	Paper Insulation		Textile Insulation	
	Small	Medium	Small	Medium Large
Up to 80	1/2		1	
81 to 130	1/2		2	
131 to 205	1		3	
206 to 255	1		1	1
256 to 360	1 1/2		1	1
361 to 410	2			1 1/2
411 to 475	2			2
476 to 725	3			2
476 to 725	3			2 1/2
726 to 810	3			3
811 to 965		1		1
966 to 1115	1	1		1

Pothead Compound

A pothead or filling compound of high insulating quality which is non-corrosive and will not melt at temperatures lower than 190 F.

Cat. No.	Description	Weight, Lbs.
S-3770	1 Gallon Pothead Compound	11

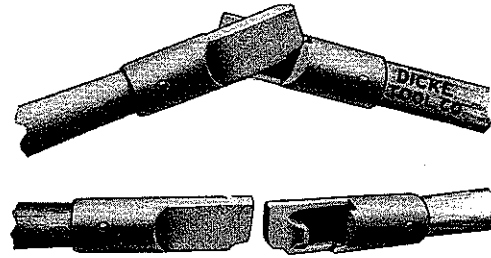
Cable Pulling Compound



An improved compound, neutral in reaction, which will not attack lead sheath of cable. Water repellent — will not dissolve or emulsify. Maximum lubricating value, won't separate, harden or gum. Forms a permanent film on cable which will lubricate on entrance or removal of cable from duct. Easily applied by brush, two pounds will lubricate approximately 100 feet of 3 1/2-inch O. D. cable.

Cat. No.	Size
S-3772	..... 40 Lb. Pail
S-3778	..... 150 Lb. Drum

Universal Duct Rods



Fitted with galvanized malleable iron couplings designed so that the rods can be joined together without forcing and have a minimum of end play. Shafts are seasoned, straight-grained hickory and are tapered to eliminate drag. The couplings are interchangeable and the construction is entirely open to prevent clogging with sand or clay. The couplings will not separate until one rod is moved not less than 35 degrees from horizontal position.

Cat. No.	Length, Ft.	Wt., Lbs.
S-4088	3	1 1/2
S-4089	4	2
S-4092 (with wheels)	3	2 1/2
S-4094 (with wheels)	4	3

Double-Jacketed Compound Kettle

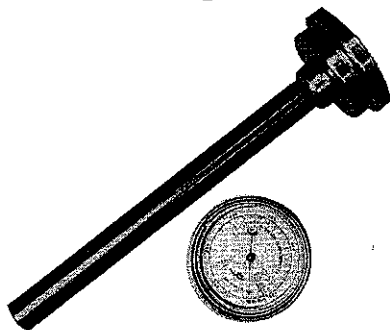


A five-quart double-jacketed kettle for melting compounds. Made of heavy steel with bottom and spouts brazed, furnished complete with double ring on bail for lowering and raising in manhole or on a pole.

Double-jacket, covering sides, top and spout, prevents explosions of the compound while melting by conducting the heat from the furnace to all parts of the kettle and insures even melting of the compound in its entire mass. Jacket also keeps the compound at correct pouring temperature after removing from the furnace.

Cat. No.	Capacity, Qts.	Weight, Lbs.
S-5030	5	6 1/2

Dillon Temperometer

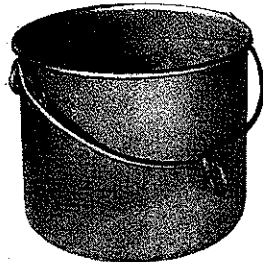


A scientific instrument that measures the correct temperatures of cable damming and impregnating waxes and compounds and wiping solder. For best results these compounds must be heated to specific temperatures. The Temperometer tells you what these temperatures are and registers them for you.

The Temperometer is rugged and compact. The dial is 2 1/8-inch diameter, calibrated from 150 degrees to 1000 degrees Fahrenheit.

Cat. No.	Length, In.	Tube Size, In.	Wt., Lbs.
S-7464	9	3/4	1/4

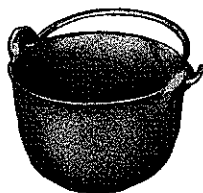
Paraffin Pots



Steel pot for use in heating paraffin and beeswax compounds for cable splices, etc. Capacity is eight quarts. Cover must be ordered separately.

Cat. No.	Description	Wt., Lbs.
S-5942	Melting Pot Less Cover	5 1/4
S-5943	Cover Only for Melting Pot	1/2

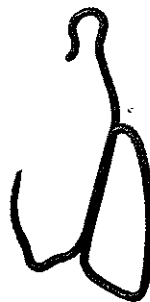
Melting Pots



Cast iron solder-melting pots.

Cat. No.	Diameter, In.	Wt., Lbs.
S-5936	5	2 1/2
S-5938	6	3 3/4
S-5940	8	9 1/4

Pot Hook Handle



For use of cable splicers in carrying paraffin or solder pots; hanging pots on aerial cable messenger or, for suspending pots from cable hooks underground. Made from 5/16-inch steel rod with hook and rest on one side and handle on the other.

Cat. No.	Wt. per Doz., Lbs.
S-4858	4

Drip Pans

For use of cable splicers in boiling out cable splices, forms, etc. Size is 15 inches by 26 inches by 2 1/2 inches.

Cat. No.	Wt., Lbs.
S-5619	6

Paraffin Dipper

For use of cable splicers in boiling out insulation on cable conductors, etc. Capacity is 1 3/4 pints. Has 10-inch strap-iron handle.

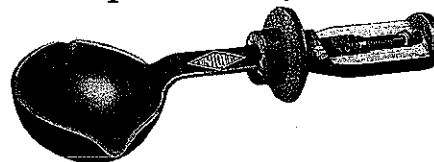
Cat. No.	Wt., Lbs.
S-3940	1

Metal Pouring Ladles



Cat. No.	Size, In.	Lead Capacity, Lbs.	Wt., Lbs.
S-5176	3	2 1/4	1/2
S-5178	4	4 1/2	1

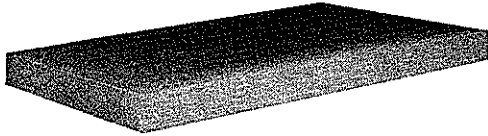
Unique Pouring Ladles



A short ladle with wood handle. Air space around the shank keeps handle cool. Designed with lips lower than bowl and rounded to enable user to pour solder drop by drop or in a large stream without spilling over the edge. Handle easily attached or removed with only a screw driver.

Cat. No.	Diameter of Bowl, In.	Depth of Bowl, In.	Capacity Pt.	Weight, Oz.
S-5168	2 1/2	1 3/8	1/8	10
S-5170	3	1 1/2	1/4	12
S-5172	3 1/2	1 3/4	3/8	14
S-5174	4	2	1/2	18

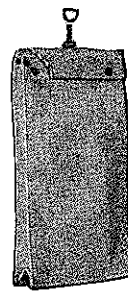
Paraffin



Used for boiling out paper insulated cable. Can be supplied in any quantity desired but is usually furnished in 11 lb. cakes as illustrated or in cartons of approximately 93 lbs. each. Melting point, 125-127°F.

<i>Cat. No.</i>	<i>Std. Pkg.</i>	<i>Wt. per Ctn., Lbs.</i>
S-5626	9 Cakes	93

Rubber Glove Carrier



Made of 4/0 (36-ounce) hard woven duck with heavy webbing gussets. Front, bottom, back and flap made of one piece, which adds materially to durability and strength. Equipped with two-way snap for convenience in detaching from deering. Ventilating eyelets in bottom. Eight inches wide, 15 inches long and 2 3/4 inches at bottom. Expansion at top is 5 1/2 inches.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-2337	7/8

Beeswax



Finest quality beeswax for impregnating or boiling out cable forms, cores of silk and cotton cables to render them moisture-resisting and prevent the insulation from fraying. 100% pure beeswax.

<i>Cat. No.</i>	<i>Wt. per Cake, Lbs.</i>
S-2397	1

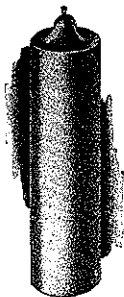
Rubber Gloves



Steam-cured, gum rubber. Designed to meet all specifications—government or A.S.T.M. Exceptional flexibility permits handling small wires or pliers without tiring. Made in two styles—curved or straight finger as listed below. Both are 10,000 volt rated. Standard length is 14 inches.

<i>Cat. No.</i>	<i>Finger Type</i>	<i>Size</i>	<i>Wt., Lbs.</i>
S-4438	Straight	9	3/4
S-4440	Straight	10	3/4
S-4442	Curved	9	3/4
S-4446	Curved	10	3/4
S-5962	Leather Protectors For Rubber Gloves		1/2

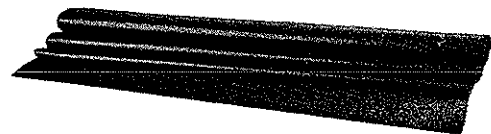
Candles



Both stearine (stearic acid) or plumber's (tallow) candles. For application to lead sheath prior to pouring on hot lead in making splices. The stearine candles are wickless and sold by the pound—approximately six to the pound. Plumber's candles are sold by the dozen.

<i>Cat. No.</i>	<i>Description</i>	<i>Length, In.</i>	<i>Wt. per 100, Lbs.</i>
S-7190	Stearine Candles	4 1/2	17
S-3250	Plumber's Candles	4	20

Cable Wrapping Cloth



A closely woven cotton fabric impregnated with waterproofing compound. For use in temporarily closing splices and openings in sheath of aerial cables to protect them from the weather. Furnished in sheets 24 inches by 38 inches or in yardage approximately 38 inches in width.

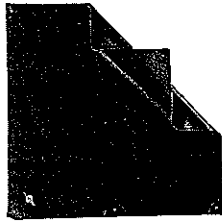
<i>Cat. No.</i>	<i>Description</i>	<i>Wt., Lbs.</i>
S-3708	Sheet—24" x 38"	1/4 per Sheet
S-3710	Yardage as specified	3/8 per Yard

Cable Splicer's Mirror

Generally used by cable splicers in examining under side of wipe-joint or cable splices. Consists of a heavy, polished plate glass set into a rubber frame. Convenient size—3 1/2 inches by 3 1/2 inches.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-5324	1/4

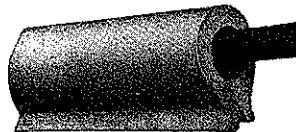
Rubber Blankets



For folding, wrapping or hanging to provide an insulating barrier between workers and high tension wires. Made of highest quality to withstand 20,000 volts for three minutes. Substantial bead moulded on all four edges to strengthen and prevent tearing. Furnished in black rubber, with or without eyelets as follows:

Cat. No.	Type	Description	Size, In.
S-2575	300	Plain, 1/8 in. thick	36 x 36
S-2576	300-E	With Eyelets, 1/8 in. thick	36 x 36
S-2579	400	Plain, 1/8 in. thick	27 x 36
S-2580	400-E	With Eyelets, 1/8 in. thick	27 x 36

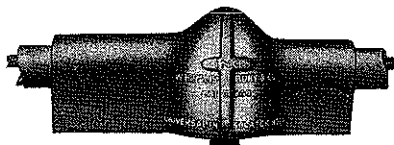
Rubber Line Hose



A convenient means of protecting linemen from accidental contact with energized lines. Easy to install. Patented locking arrangement prevents accidental loosening. High dielectric strength.

Cat. No.	Inside Diameter, In.	Length, Ft.	Wt., Lbs.
S-4866	5/8	3	2 1/2
S-4867	5/8	4 1/2	4
S-4868	5/8	6	5
S-4869	1	3	3 1/2
S-4870	1	4 1/2	4 1/2
S-4871	1	6	7

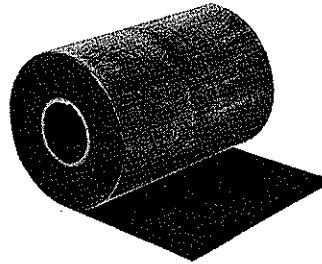
Rubber Insulator Hoods



Used in conjunction with Line Hose to cover conductors where they pass over insulators. Easy to install. Lock under insulators and cannot be accidentally dislodged.

Cat. No.	Type of Insulator	Wt., Lbs.
S-4819	Power	4 3/4
S-4820	Telephone	4 3/4

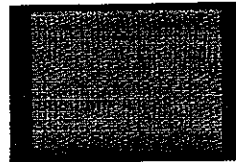
Rubber Insulating Bandage



Used for temporary insulation to protect cable splices from moisture, or, as a temporary insulating barrier for protection from high-tension wires. Roll is 14 feet long, four inches wide.

Cat. No.	Weight, Oz.
S-2343	12

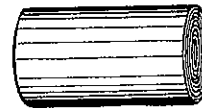
Cable Splicer's Cotton Tape



One inch cotton tape used to protect insulation of cable conductors from the cut edges of lead sheath. Should not be confused with cable splicer's muslin which is four inches wide.

Cat. No.	Size	Wt., Lbs.
S-7412	1 in. wide x 18 yds. long	1/4

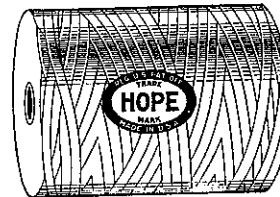
Cable Splicer's Muslin



Also called Muslin Tape. Used for wrapping cable splices. Put up in rolls 4" wide and approximately 10 yards long.

Cat. No.	Size	Wt., Lbs.
S-5370	4 in. x 10 yds.	1/4

Cotton Sleeving



A tubular white cotton fabric used to insulate bare wires for ties, relays, keys or jacks.

Cat. No.	Diameter, In.	Yards Per Lb.	Wt. per Spool, Lbs.
S-7042	1/16	525	1
S-7044	1/8	215	1
S-7046	5/32	180	1

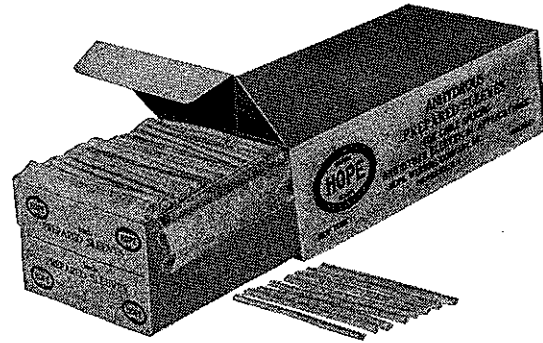
Lead Sleeving



Furnished in a wide range of lengths and diameters to meet specific requirements. Listed below are the most commonly used sizes and lengths. These sizes can also be furnished in six or 10 foot mill lengths for greater economy. Inside diameters are given below. All sleeves under three inches have a wall thickness of 1/8-inch; those with a diameter of three inches or more have a 3/16-inch wall.

Cat. No.	Size, In.	No. Pr.	B & S Ga.	Wt. Per Ft., Lbs.
S-6819	3/4 x 15	6	19,22	2.00
		11	19,22,24	
		16	19,22,24	
		26	24	
S-6820	1 x 15	51	24	2.18
		26	19,22	
S-6821	1 1/4 x 15	51	22	2.66
		76	24	
S-7059	1 1/2 x 15	51	19	3.15
		76	22	
		101	22,24	
S-7062	1 3/4 x 17	76	19	3.63
		152	24	
S-7064	2 x 17	101	19	4.11
		152	22	
		202	24	
S-6822	2 1/4 x 17	202	22	4.60
		303	24	
S-6823	2 1/4 x 20	152	19	4.60
		303	24	
S-6825	2 3/4 x 20	202	19	5.56
		303	22	
		404	24	
S-6827	3 x 20	404	22	9.00
		455	22,24	
S-6829	3 1/2 x 20	303	19	10.50
		606	22,24	
S-6831	4 x 20	404	19	12.00
		455	19	
		909	22,24	
S-6833	4 1/2 x 20	1212	24	13.50

Prepared Sleeves



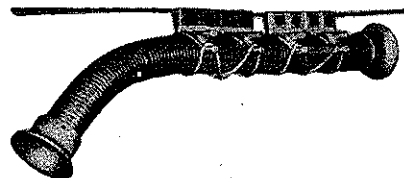
Prepared waxed single-wall cotton sleeves 3 1/4 inches long. Packed in moisture-proof boxes, ready to use.

Cat. No.	Size, In.	For Gauge	Approx. No. to Box	Wt. per Box, Lbs.
S-6902	3/32	26	900	1
S-6896	1/8	24	700	7/8
S-6898	5/32	22	400	3/4
S-6900	1/4	19-16	200	3/4
S-6904	3/8	13	100	3/4

Double-wall sleeves for toll cable splicing.

Cat. No.	Size, In.	For Gauge	Approximate No. in Box	Wt. per Box, Lbs.
S-7115	5/32	22	300	1
S-7117	1/4	19-16	150	1

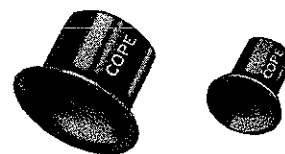
Aerial Cable Feeder



Used for pulling in aerial cable. Wide-mouth aluminum bells and flexible steel tubing prevent injury to cable or sheath. Feeder is 6 ft. long. Two pairs of malleable iron clamps are included.

Cat. No.	Wt., Lbs.
S-3233	26

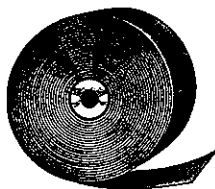
Drawing-In Protector



Machined brass protector used to protect cable while it is being drawn into conduit.

Cat. No.	Conduit Size, In.	Wt., Lbs.
S-3242	3 Round	3
S-3244	3 1/2 Round	3 1/2
S-3259	4 Round	4
S-3260	3 Square	4 1/2
S-3261	4 Square	5

Cable Pastes



Two-inch paper gummed on one side for use in limiting the length of a wiped joint and giving it a neat and finished appearance. Furnished in rolls of 100 feet.

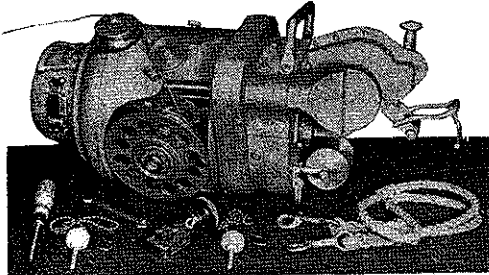
Cat. No.	Wt., Lbs.
S-5646	1/2

Cable Spinning Equipment

The following equipment was designed to support and maintain aerial cable to steel or Copperweld supporting strand by spiraling a suitable size wire around

the cable and strand. This method has proved its value; with the proper equipment, it's easy and quick, and cable once up is up to *stay*.

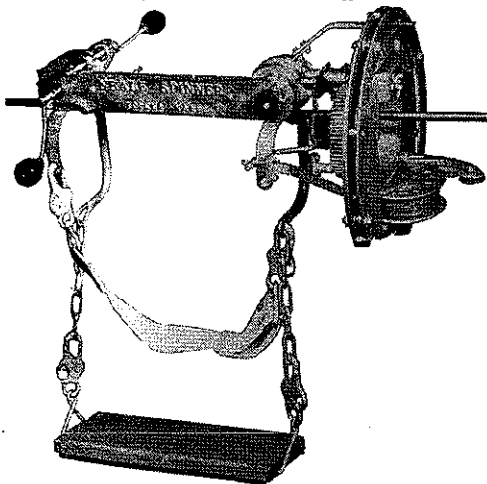
Model D Pull-type Spinner



Designed for use by construction crews to place and spin new cable, or for maintenance spinning of existing cable. This machine is instantly adjustable to take cable from minimum size to a maximum diameter of 2 1/4 inches. The spinning wire supply is always visible. A ratchet on the strand wheel makes it impossible for the spinning wire to slack off when pull on the tow line is released. Furnished with one lashing wire clamp, two adjustment wrenches, one screwdriver, one open end wrench, one tow rope, and is packed in a sturdy metal-bound chest.

Cat. No. Wt., Lbs.
S-7141 42

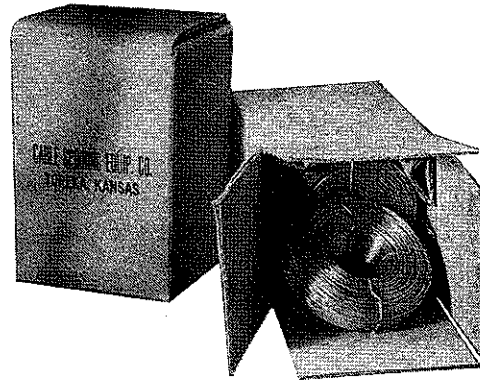
Model B One-Man Spinner



Designed for spinning new cable or maintenance spinning of existing cable. May be operated by man riding the seat, or pulled along the supporting strand by a man on the ground. Two supporting trolley wheels are linked by means of a sprocket chain. Machine is shipped with the following equipment: spinner chest, seat, safety belt, one tube of grease and one lashing wire clamp.

Cat. No. Wt., Lbs.
S-7121 53

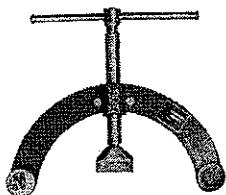
Cable Spinning Wire



All types of spinning wire are furnished on a Type 1A cone-shaped hub, the standard hub on all Neale Spinning Machines (Type 3A straight hub, standard on Western Electric Pull Type Spinner, can be furnished on request). Spinning wire packed 6 coils per carton. In figuring the amount of spinning wire, add 10% to the length of the cable that is to be spun.

- Cat. No.
- S-7790 .091" Steel Spinning Wire. Type 1A. Heavy galvanized "C" coating on annealed steel spinning wire. For use where corrosion conditions are normal. Use with steel strand. Approx. 325' per coil. Wt., 45 1/2 lbs. per carton.
 - S-7789 .091" Aluminum Alloy Spinning Wire. Type 7A. High corrosion resistance. Used with steel strand. Approx. 325' each coil. This wire (alloy 525 1/4 H) is approximately one-third the weight of steel or copper wire of equivalent diameter. It has good strength characteristics with an ultimate tensile strength of 197 lbs. minimum. Wt., 16 1/2 lbs. per carton.
 - S-7777 .061" Type 10A Stainless Steel Spinning Wire. Highest corrosion-resisting spinning wire under all conditions. Approx. 650' per coil. Grade: Stainless type 316 cold drawn wire (Chromium 16% to 18%; Nickel 10% to 14%; Molybdenum 2% to 3%.) Size: .061". Tensile Strength: 90,000 to 105,000 PSI. Breaking Load: 250 lbs. minimum, 325 lbs. maximum. Wt., 40 lbs. per carton.
 - S-7791 .091" Copperweld Spinning Wire. Type 4A. Recommended for use in areas subject to corrosive fumes of atmosphere. Used only with Copperweld strand. Approx. 325' each coil. Wt., 45 lbs. per carton.
 - S-7779 .090" Copper Spinning Wire. Type 6A. Solid soft-drawn spinning wire. Used in heavy corrosive areas. Use only with Copperweld strand. Approx. 325' each coil. Wt., 45 lbs. per carton.
 - S-7793 .061" Galvanized Spinning Wire. Type 9A. Heavy galvanized "C" coating. Used on small cable up to and including 51 pair, 26 gauge, in areas where corrosion is normal. Used with steel strand. Approx. 650' each coil. Wt., 42 lbs. per carton.

Little Giant Slack Puller



The Little Giant Slack Puller makes a simple operation out of an ordinarily difficult one. Furnished with either slip handle or ratchet. Yoke and moving parts are cadmium plated.

<i>Cat. No.</i>	<i>Handle</i>	<i>Wt., Lbs.</i>
S-6009	Regular Slide	16½
S-6010	Ratchet	17

Lashing Wire Clamp



A positive-action clamp to hold the spinning wire in place when terminating at the pole, and to keep slack from running back when repairing cable. Made of bronze alloy with cadmium-plated screw.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-3430	1

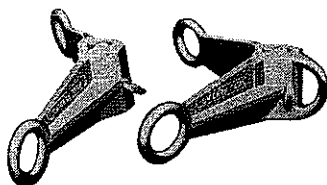
Handline Block



Clamps on the strand without damage to the cable, and will not slip on a grade. No wrench needed for installation. Made of bronze alloy.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-2581	4

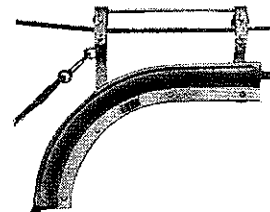
Platform Clamps



Used for supporting splicer's platform from aerial cable. Clamps made of bronze alloy and will not slide on grade or damage the cable. Packed one pair to carton.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-3431	11

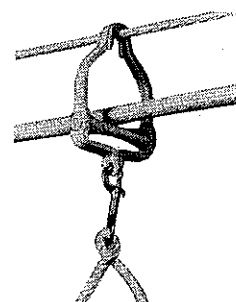
Cable-Placing Shoe



Used ahead of the spinner to raise the cable from the reel to the strand when placing and spinning cable in same operation. Made of light-weight cast aluminum with steel arms and rollers. Special locking pins make it impossible for shoe to come off the strand.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-3347	19

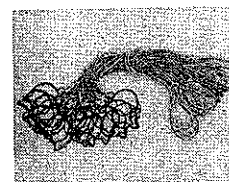
Bronze Cable-Placing Ring



Cast bronze body and bronze roller eliminate any possible damage to cable sheath. Hinges open to facilitate placing on strand. Can be used on all sizes of cable. Recommended for use where cable is to be placed in temporary rings prior to spinning. Furnished less rope.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-3348	1

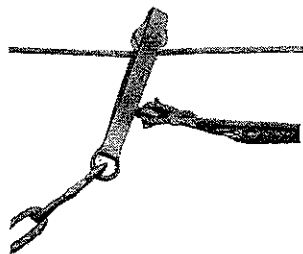
Steel Cable-Placing Rings



Used for pulling in new cable. Attached to cable, rings distribute themselves every five feet along length of the span. Furnished in sets of 20, with 110 feet of rope.

<i>Cat. No.</i>	<i>Wt., Lbs.</i>
S-3349	5½

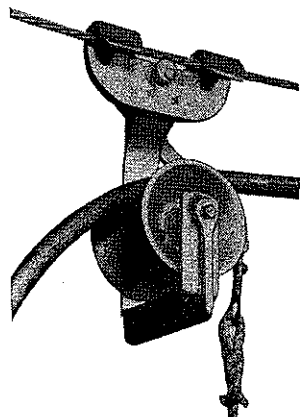
Cable Placing Ring Guide Roller



Made of cadmium-plated steel with bronze bushing. Used with cable placing rings, it offers a means of pulling the cable in, and guiding it from the ground. The cable grip and cable placing ring rope is secured to roller and a pulling line is fastened to bottom eye.

Cat. No. *Wt., Lbs.*
S-3351 4

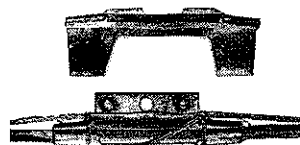
Cable Placing Roller



Made of cast aluminum with bronze bushings. Can be locked or released on the strand or from the ground.

Cat. No. *Wt., Lbs.*
S-3353 5

Lead Shields

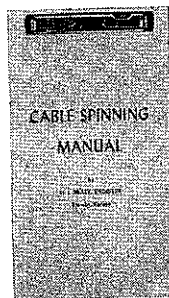


Molded lead shields designed for maximum protection at the pole. Serve as a dampener to high-frequency vibrations while allowing absolutely no slacking off of spinning

wires. Cable cannot bow at the pole or be injured by supports or hangers.

<i>Cat. No.</i>	<i>Type No.</i>	<i>For Cable Diam., In.</i>	<i>Wt., Lbs.</i>
S-6805	1	1	3
S-6801	2	1½	3½
S-6803	3	2.61	4

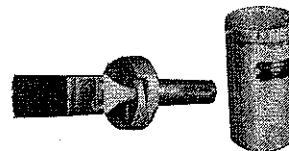
Cable Spinning Manual



A compact pocket size manual explaining the correct way to solve the problems encountered in spinning cable.

Cat. No. *Wt., Lbs.*
S-5991 ¼

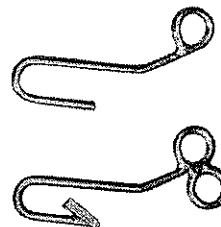
Soap Can and Brush



Keeps pressure testing soap and paint from drying out. Light-weight cast aluminum can with a tight fitting top. Cover serves as handle and holder for paint brush. Spring belt clip on the side of the container.

Cat. No. *Wt., Lbs.*
S-3839 1½

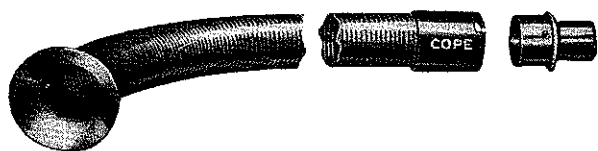
Platform Hooks



Single-eye hook is used on supporting ropes of splicer's platform when the ropes are adjustable. Double eye hook is used on splicer's platform when supporting ropes are not adjustable. (Platform is made adjustable by threading rope through double-eye hook.) Made of Cadmium plated steel.

<i>Cat. No.</i>	<i>Type</i>	<i>Wt., Lbs.</i>
S-4855	Single	1
S-4856	Double	1¼

Cable Feeder

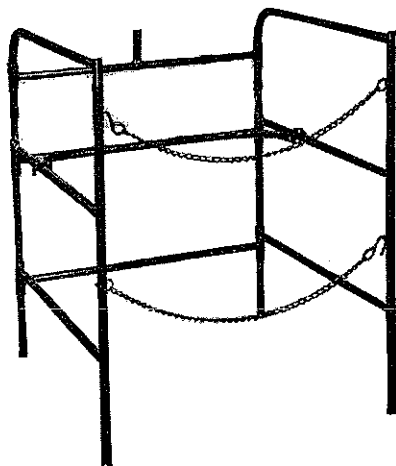


Used to feed the cable from the reel into the conduit. Feeder protects the cable, and facilitates lubrication. Heavy 4" galvanized flexible steel tubing is securely fixed to a finished brass bell. Conduit end of tube terminates in a steel sleeve to which a brass nozzle of conduit size can be attached.

Feeders		
Cat. No.	Length	Wt., Lbs.
S-3234	9' - 0"	40
S-3235	12' - 0"	50
S-3236	16' - 0"	65
S-3237	20' - 0"	80

Nozzles		
Cat. No.	Size	Wt., Lbs.
S-3238	3" Diameter	4
S-3239	3 1/2" Diameter	4 1/2
S-3240	4" Diameter	5

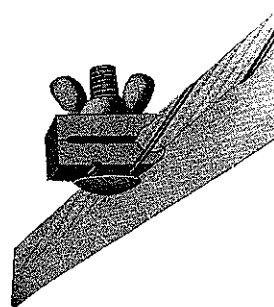
Manhole Guard Rails



Made of 3/4" steel pipe; all fixed joints are welded, sleeves and hinges are seamless steel tubing. Has 2 chains, and a flag holder. Finished in red enamel. Size: 42" high, 32" deep, 32" wide.

Cat. No.	Wt., Lbs.
S-4518	50

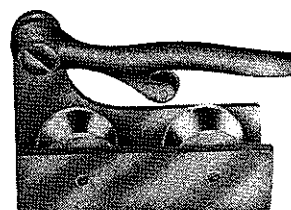
Cable Lashing Clamp



Used for binding spinning wire to strand. Made of galvanized steel.

Cat. No.	Wt., per 100, Lbs.
S-3463	18

Cable Sheath Slitter



Used for longitudinally slitting the sheath of cables from 1/2 to 1 inch in diameter. It consists of an aluminum frame with 2 V-shaped rollers and a hinged handle with a disc cutter.

Cat. No.	Wt., Lbs.
S-3281	3

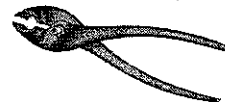
Cable Sheath Opener



Used in prying open the sheath of cables after slitting, to expose the conductors for repairs. Opener has two hooks of different shapes to care for difference in cable size and for changes in the sheath contour during the opening operation.

Cat. No.	Wt., Lbs.
S-3279	1/2

Sheath Closing Pliers



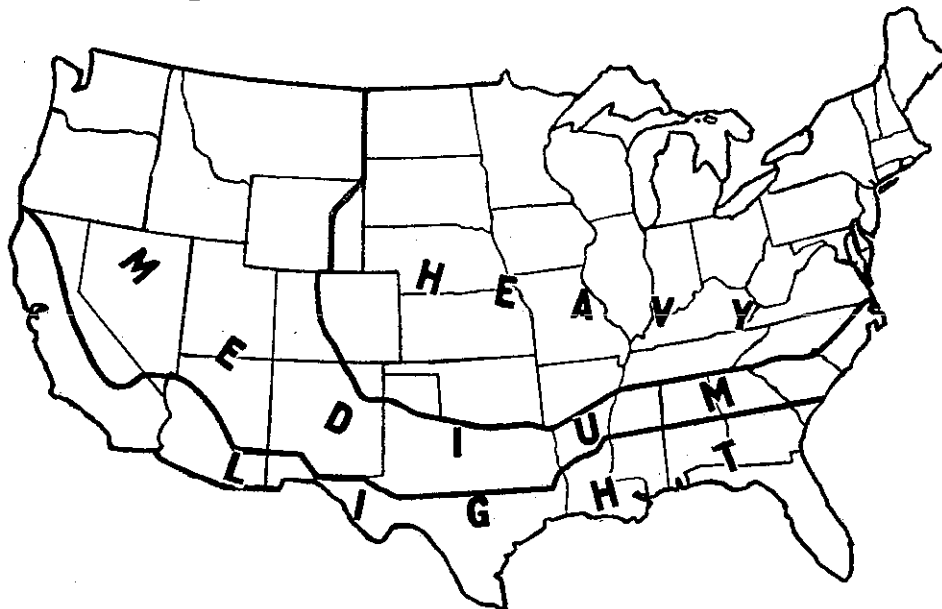
Used for closing the cable sheath after it has been slit and opened to expose the conductors for repairs.

Cat. No.	Wt., Lbs.
S-3277	1/2

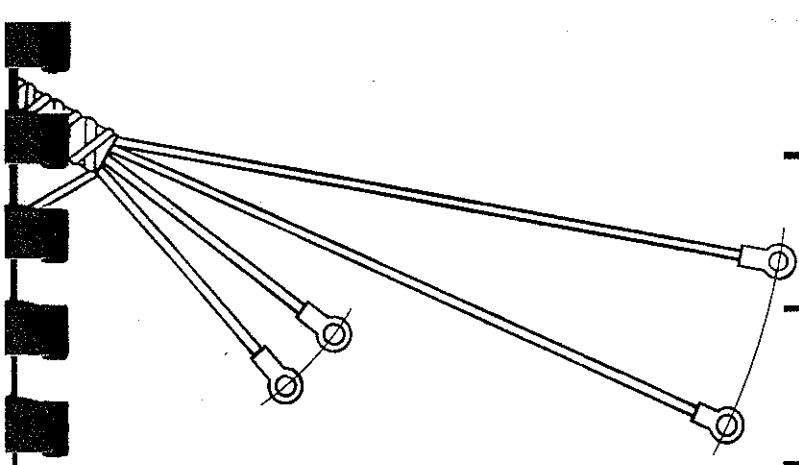
Tables of Wires and Cables

Wire Gauge Size	Open Wire							Cable								Tw. Pr.			
	NBS	NBS	NBS	NBS	BWG	BWG	BWG	B&S	B&S	B&S	B&S	B&S	B&S	B&S	B&S	B&S	AWG	AWG	
	8	10	12	14	10	12	14	10	12	13	16	19	20	22	24	14	17		
Kind of Wire	H.C.	H.C.	H.C.	H.C.	Iron	Iron	Iron	C.W.	C.W.	Cop.	Cop.	Cop.	Cop.	Cop.	Cop.	Cop.	C.W.	C.W.	
Diameter in Inches...	.160	.128	.104	.080	.134	.109	.083	.102	.081	.072	.051	.036	.031	.025	.020	.064	.045		
Area in Circular Mils.	25600	16500	10816	6400	17956	11881	6889	10404	6561	5178	2580	1290	1022	642	404	4110	2050		
Resistance Ohms per Loop Mi.	4.02	6.68	10.12	17.1	44.08	66.6	114.88	27.00	42.8	22	44	87	117	171	271	26.6	182		
Breaking Load (Lbs.)	1280	828	528	337	722	476	277	800	520										
Attenuation in D.B. Per Circuit Mile .....	.030	.051	.075	.12	.265	.303		.157	.24	.52	.75	1.12	1.35	1.81	2.1	.80	1.70		
Weight in Lbs. Per Single Mile	420	264	166	105	258	170	99	154	96										
Equiv. 22 Ga. Conductors										8	4	2	..	1	.6285				

Map of Standard Loading Zones, U. S. A.



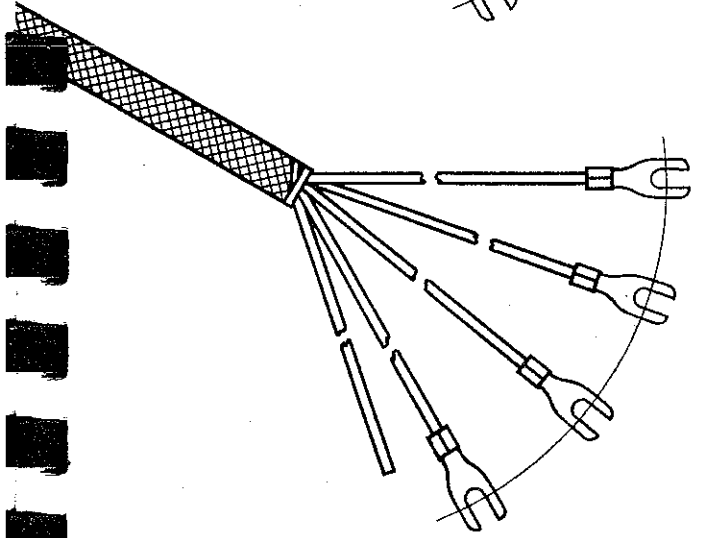
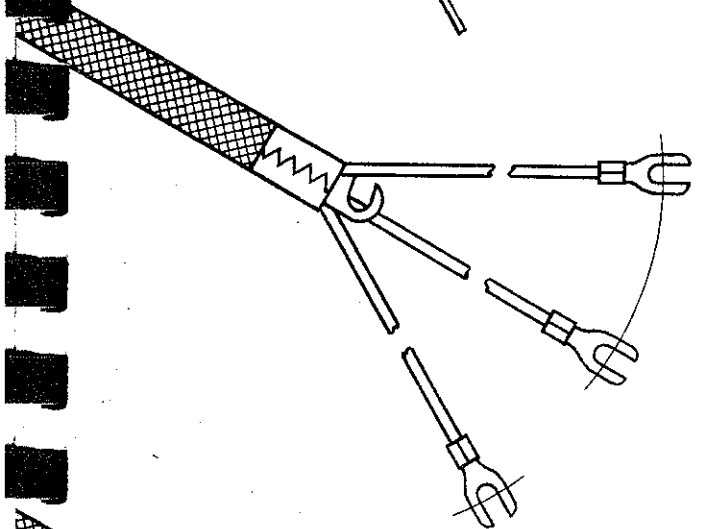
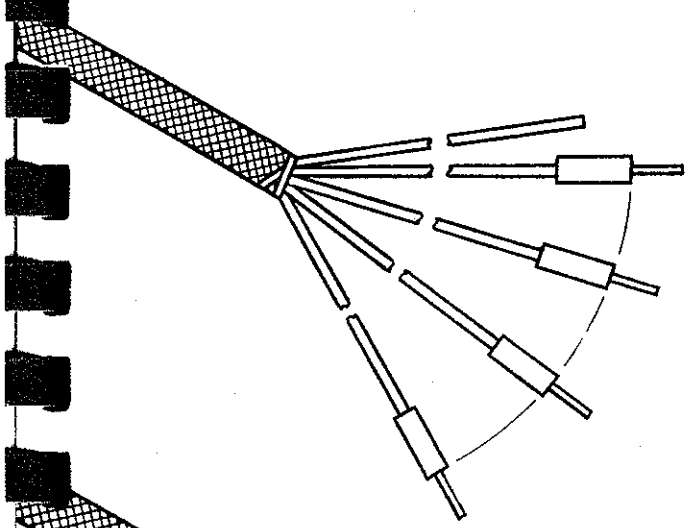
Courtesy U. S. Bureau of Standards



DESK SET CORDS

HANDSET CORDS

SWITCHBOARD CORDS



8 Cords

NEOPRENE COVERED

BRAID COVERED

TERMINALS

Index for this section on reverse side



Index for Section Eight

Page	Item
151....	Neoprene and Braid Construction
152....	Fittings
153....	Replacement Listing Desk Stand Cords
154....	Desk Stand Cords
155....	Desk Stand Cords Handset Cords
156....	Handset Cords
157....	Switchboard Cords Extensicord

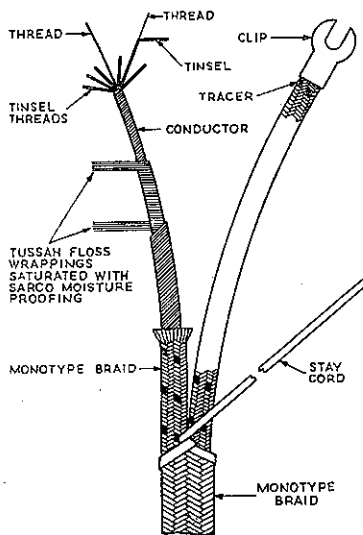
AUTOMATIC  **ELECTRIC**

Monotype Telephone and Switchboard Cords

Braid

The high quality of Monotype Braid Cords has made them the leader in their field. Monotype Braid Cords have the standard tinsel construction with Tussah floss insulation. The insulation is saturated with highly efficacious Sarco moisture proofing. This protection plus the closely woven outer braid produces a cord that is not injured by humid climates or accidental immersion.

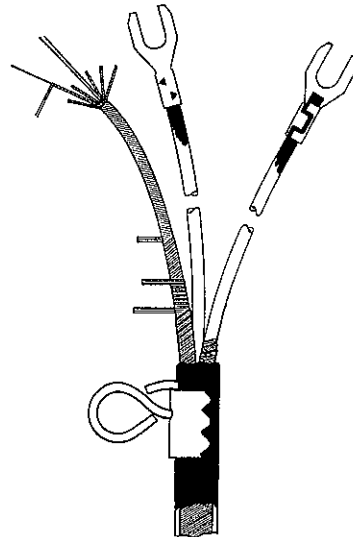
Telephone cords are furnished with either brown or black outer braid. Switchboard cords are furnished in white, red or green. White is the standard color; red or green are designated by adding "R" or "C" to the catalog number.



Neoprene

The advantage of the Neoprene cords is primarily in their long life, which is many times that of the braid. Neoprene is a plastic insulation that does not crack or dry out under excessive heat or sunlight. It is extremely pliable and will not break or crack under continual bending and straightening. The Neoprene cord is also moisture and water proof and it is resistant to most acids and oils.

The construction of the Neoprene cord is similar to the braid in that it uses the standard tinsel conductors. The conductors are covered with a colored rubber covering and have a Neoprene jacket overall. Neoprene cords are furnished in black.



Here's Why Monotype Cords Are Better

Monotype Cords Resist Kinking

In the telephone cords, the conductors are laid straight, not twisted. Twist the cord in any direction and the conductors wind together. Release it, and it straightens out again. The conductors do not separate, and permanent kinks cannot form.

In the switchboard cords the conductors are twisted, with the necessary filler, to make a round cross-section. The assembly is covered with a silk-smooth braid, and glazed. This construction also prevents kinks and snarls, as it assures smooth action of the cord weights.

Monotype Cords Are Always Quiet

Noise in cords is caused by separation and breaking of the tinsel strands comprising the conductors. In Monotype Cords the tinsel is wound on a cotton thread, in such a manner that the cotton takes all mechanical

strain. The construction, as described above, also provides a maximum of flexibility, and eliminates kinking. The conductors bend, instead of separating and breaking, so they do not develop noises.

Monotype Cords Are High Quality

Automatic Electric Monotype telephone and switchboard cords are manufactured to the same close tolerances as the other Automatic equipment. Highest quality material, skilled craftsmen and years of research and development in the field as well as in the laboratory are bound together to bring you the finest telephone cords available.

When you use Monotype telephone and switchboard cords (whether the braid or Neoprene type) you are assured of long life and exceptionally satisfactory service.

Monotype Cords—Cont.

Space does not permit us to show all the Monotype cords. Please ask for information on any cords you may need.

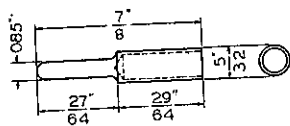
On the following pages we have listed the more common trims of Monotype Cords. We recommend the use of these stock designs wherever possible.

NOTE: In accordance with the practice of most cord manufacturers, Monotype telephone cord lengths are measured overall including the longest trims at both ends. All Monotype switchboard cords are measured from the butt at the plug end to, and including, the longest trim at the switchboard end.

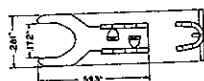
EXTENSICORD: The new convenient, stretchable handset cord for greater convenience will be found on Page 157.

Fittings Used on Monotype Cords

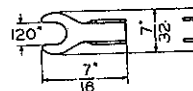
(All fittings, except Test Clips, shown approximately actual size)



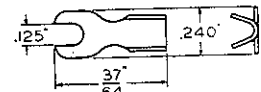
WA-14



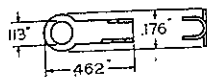
WA-15



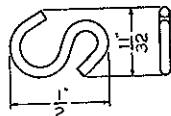
WA-20



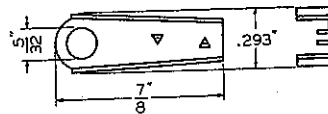
WA-22



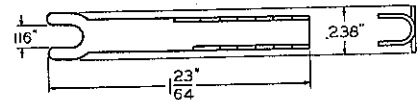
WA-24



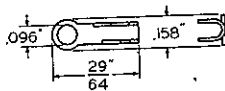
WA-26



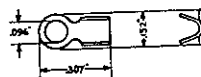
WA-27



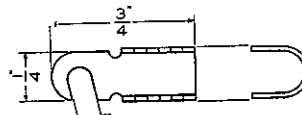
WA-28



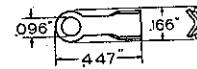
WA-29



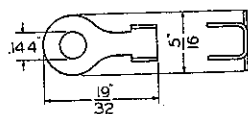
WA-30



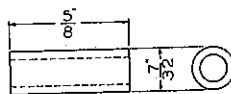
WA-32



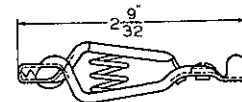
WA-33



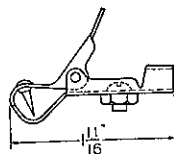
WA-34



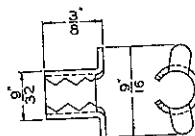
WA-41
SOFT RUBBER SLEEVE



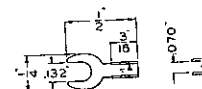
UNIVERSAL
TEST CLIP



FRANKEL
TEST CLIP



WA-98



WA-97

For Kellogg Switchboard and Supply Co. Equipment

For 301-TO Switchboard Cord—18" long.....	Order DS-30
For 301-TO Switchboard Cord—24" long.....	Order DS-31
For 301-TO Switchboard Cord—36" long.....	Order DS-32
For 301-TO Switchboard Cord—48" long.....	Order DS-33
For 301-TO Switchboard Cord—60" long.....	Order DS-34
For 301-TO Switchboard Cord—72" long.....	Order DS-35
For 301-TO Switchboard Cord—84" long.....	Order DS-36
For 309-TO Switchboard Cord—60" long.....	Order DS-27
For 309-TO Switchboard Cord—72" long.....	Order DS-24
For 309-TO Switchboard Cord—84" long.....	Order DS-25
For 309-TO Switchboard Cord—48" long.....	Order DS-28
For 1000 Series Telephone	Order AD-69
For 100 Series Telephone	Order AD-70
For 46-C Handset	Order AH-39

For Stromberg-Carlson Equipment

For S-32-K Switchboard Cord—36" long.....	Order DS-50
For S-32-K Switchboard Cord—60" long.....	Order DS-51
For S-32-K Switchboard Cord—72" long.....	Order DS-52
For S-32-K Switchboard Cord—84" long.....	Order DS-53
For C-3-B Hand Unit Cord.....	Order AH-11
For MC-3B Hand Unit Cord.....	Order AH-11
For 1248 Telephone—78" Long	Order AD-66
For 1242 Telephone—78" Long	Order AD-67
For 1242 Telephone—78" Long	Order AD-68
For 46-C Handset	Order AH-37
For 46-C Handset	Order AH-38

For Western Electric Company Equipment

For S3B Switchboard Cord—75" long.....	Order DS-61
For S3B Switchboard Cord—48" long.....	Order DS-62
For S3B Switchboard Cord—60" long.....	Order DS-63
For S3B Switchboard Cord—96" long.....	Order DS-64
For 448 Switchboard Cord—75" long.....	Order DS-61
For 448 Switchboard Cord—48" long.....	Order DS-62
For 448 Switchboard Cord—60" long.....	Order DS-63
For 448 Switchboard Cord—96" long.....	Order DS-64
For 302-305 Telephone 2 Conductor.....	Order AD-71
For 302-305 Telephone 3 Conductor.....	Order AD-72
For F-1-AW Handset	Order AH-40

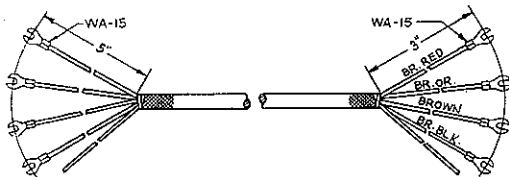
For Monarch Equipment

For MC-5442 Switchboard Cord—48" long.....	Order DS-10
For MC-5443 Switchboard Cord—60" long.....	Order DS-12
For MC-5444 Switchboard Cord—72" long.....	Order DS-13
For MC-54229 Switchboard Cord—48" long.....	Order DS-16
For MC-54230 Switchboard Cord—60" long.....	Order DS-17
For MC-54231 Switchboard Cord—72" long.....	Order DS-18
For MC-54232 Switchboard Cord—84" long.....	Order DS-19
For D-540270 Switchboard Cord—20" long.....	Order DS-21
For MC-540271 Switchboard Cord—36" long.....	Order DS-22
For D-540272 Switchboard Cord—66" long.....	Order DS-23
For D-540273 Switchboard Cord—72" long.....	Order DS-24
For D-540274 Switchboard Cord—84" long.....	Order DS-25
For D-540275 Switchboard Cord—96" long.....	Order DS-26
For D-540276 Switchboard Cord—60" long.....	Order DS-27
For D-541299 Switchboard Cord—48" long.....	Order DS-28
For D-541596 Switchboard Cord—42" long.....	Order DS-29
For D-540271 Switchboard Cord—36" long.....	Order DS-22
For D-540048 Switchboard Cord—78" long.....	Order DS-20
For MC-54260 Desk Stand Cord.....	Order AD-10

For Automatic Electric Company Equipment

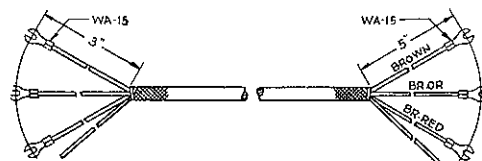
For D-542511-A Desk Stand Cord.....	Order AD-10
For D-541844 Desk Stand Cord.....	Order AD-10
For D-542275 Desk Stand Cord.....	Order AD-10
For D-542273 Desk Stand Cord.....	Order AD-13
For D-542510-A Desk Stand Cord.....	Order AD-13
For D-542229 Hand Unit Cord.....	Order AH-10
For D-542507-A Hand Unit Cord.....	Order AH-10
For D-542271 Hand Unit Cord.....	Order AH-11
For D-542509-A Hand Unit Cord.....	Order AH-11
For Type 40 Monophone 3 Conductor.....	Order AD-73
For Type 40 Monophone 2 Conductor.....	Order AD-18
For Type 40 Monophone 3 Conductor.....	Order AD-57
For Type 40 Monophone 5 Conductor.....	Order AD-64
For Type 40 Monophone 4 Conductor.....	Order AD-63
For Type 1-A Monophone 3 Conductor.....	Order AD-76
For Type 1-A Monophone 4 Conductor.....	Order AD-75
For Type 41 Handset 3 Conductor.....	Order AH-27
For 10 and 12 Handset	Order AH-11
For CD-351053 Handset	Order AH-42
For Type 38 Handset	Order AH-43

Monotype Desk Set Cords



Replaces Auto. Elec. Co.'s Nos. D-542273 and D-542510-A, used on Type 21 Telephones with 3-winding induction coils and Type 1-A, 5-A and 9 Monophones.

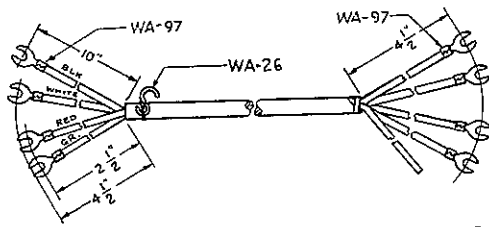
Cat. No.	Description	Overall Length, In.
AD-13	Four-Conductor Desk Set Cord	72



Replaces Auto. Elec. Co.'s Nos. D-541844 and D-542275 and Amer. Elec. No. MC-54260 used on Type 200 desk stand. Also replaces D-452511-A used on Type 11A and 15A Monophones and Type 21 desk stands with 2-winding induction coil.

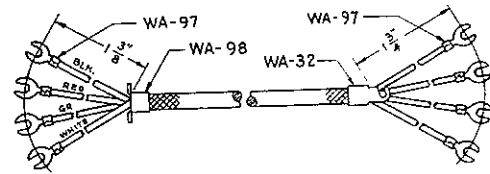
Cat. No.	Description	Overall Length, In.
AD-10	Three-Conductor Desk Set Cord	72

Monotype Desk Set Cords—Cont.



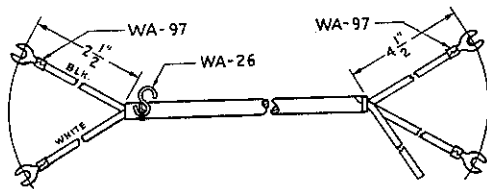
Desk set cord. 4 conductor for Stromberg Carlson 1248 telephone replaces Stromberg Carlson WD-4-J. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-66	4 Conductor Desk Set Cord	72



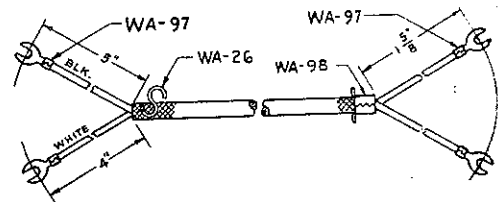
Desk set cord. 4 conductor replaces Kellogg No. 771-MFP Type 3020 for 1000 series handset telephone. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-70	4 Conductor Desk Set Cord	71 3/4



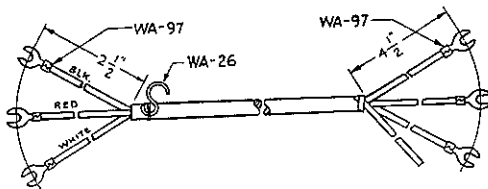
Desk set cord. 2 conductor for Stromberg Carlson 1242 telephone. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-67	2 Conductor Desk Set Cord	78



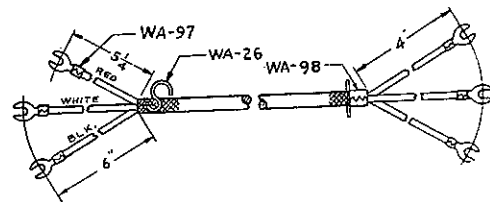
Desk set cord. 2 conductor for Western Electric Co. Type 302-305 telephone. Replaces Western Electric Co. D-2-D. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-71	2 Conductor Desk Set Cord	65 3/4



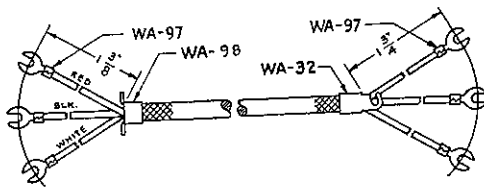
Desk set cord. 3 conductor for Stromberg Carlson 1242 telephone. Replaces Stromberg Carlson WD-3-J. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-68	3 Conductor Desk Set Cord	72



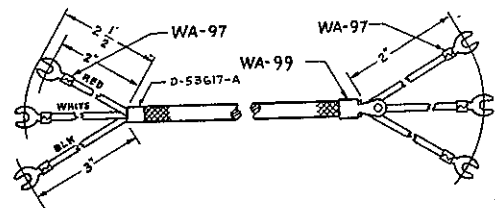
Desk set cord. 3 conductor for Western Electric Co. Type 302-305 telephone. Replaces Western Electric Co. D-3-AL. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-72	3 Conductor Desk Set Cord	86



Desk set cord. 3 conductor replaces Kellogg 769 MFP Type 3004 for 1000 series handset telephone. Neoprene.

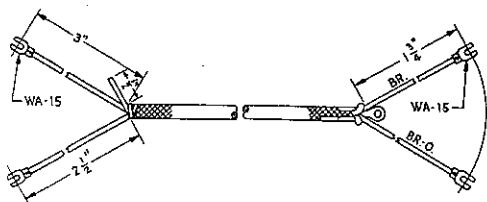
Cat. No.	Description	Overall Length, In.
AD-69	3 Conductor Desk Set Cord	71 3/4



Desk set cord. 3 conductor for Automatic Electric Type 40 Monophone. Neoprene.

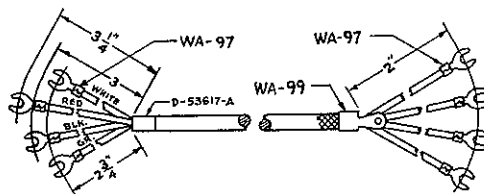
Cat. No.	Description	Overall Length, In.
AD-73	3 Conductor Desk Set Cord	72

Monotype Desk Set Cords—Cont'd.



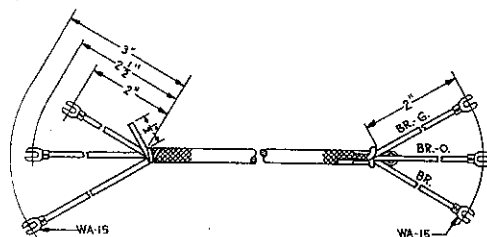
Desk Set Cord for Automatic Electric Type 40 Monophone, metallic ring.

Cat. No.	Description	Overall Length, In.
AD-18	Two-Conductor Desk Set Cord	72



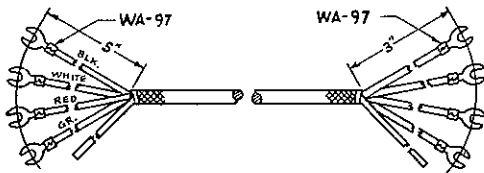
Desk set cord, 4 conductor for Automatic Electric Type 40 Monophone. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-74	Four-Conductor Desk Set Cord	72



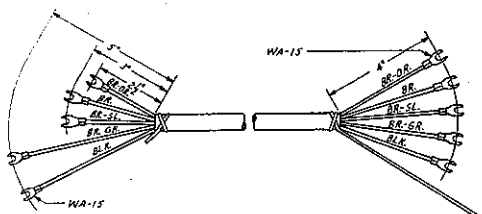
Desk Set Cord for Automatic Electric Type 40 Monophone, ground ring.

Cat. No.	Description	Overall Length, In.
AD-57	Three-Conductor Desk Set Cord	72



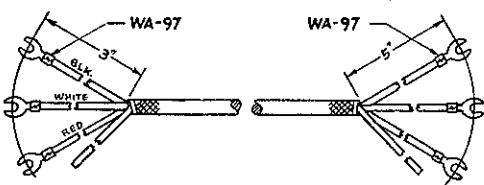
Desk set cord, 4 conductor for Automatic Electric Type 1A Monophone. Neoprene.

Cat. No.	Description	Overall Length, In.
AD-75	Four-Conductor Desk Set Cord	72



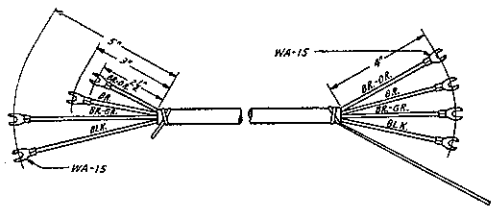
Used with A. E. Type 40 Magneto Monophone convertible to common battery, ground ring.

Cat. No.	Description	Overall Length, In.
AD-64	Five-Conductor Desk Set Cord	72



Desk set cord, 3 conductor for Automatic Electric Type 1A Monophone. Neoprene.

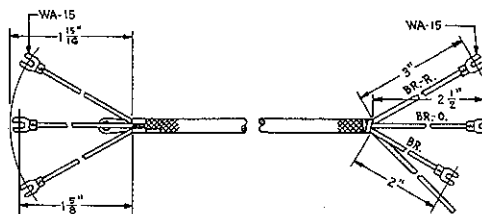
Cat. No.	Description	Overall Length, In.
AD-76	Three Conductor Desk Set Cord	72



Used with A. E. Type 40 Magneto Monophone convertible to common battery, metallic ring.

Cat. No.	Description	Overall Length, In.
AD-63	Four-Conductor Desk Set Cord	72

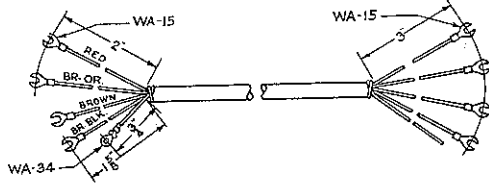
Monotype Handset Cords



Handset cord for Automatic Electric Type 41 Monophone.

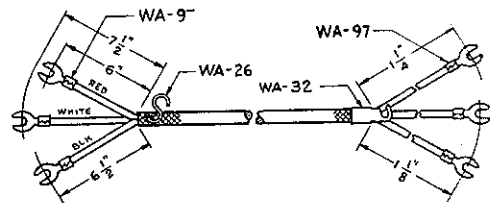
Cat. No.	Description	Overall Length, In.
AH-27	Three-Conductor Handset Cord	53

Monotype Handset Cords—Cont.



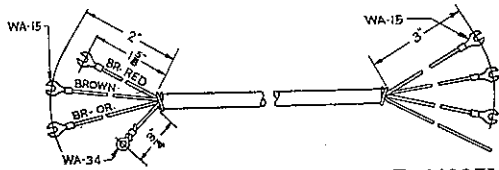
Replaces Automatic Electric No. D-542229 and D-542507-A.

Cat. No.	Description	Overall Length, In.
AH-10	Four-Conductor Handset Cord	53



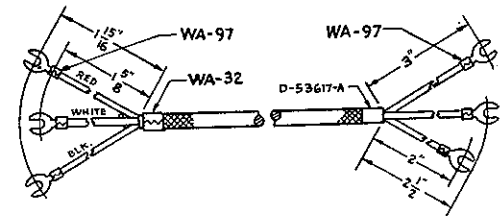
Handset cord for Western Electric Co. F-1-AW. Replaces Western Electric Co. H3C-9. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-40	Three-Conductor Handset Cord	54 1/2



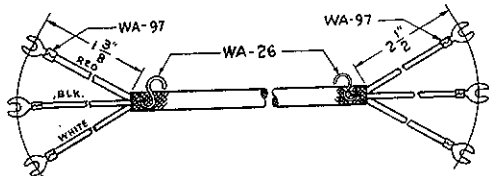
Replaces Automatic Electric Nos. D-542271 and D-542509-A and S-C No. C-3-B and MC-3B used with No. 10 and 12 handsets.

Cat. No.	Description	Overall Length, In.
AH-11	Three-Conductor Handset Cord	53



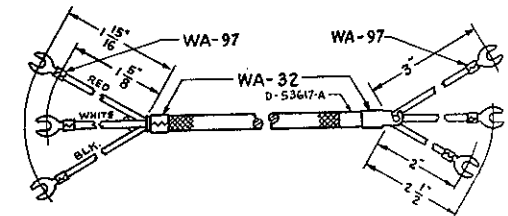
Handset cord. 3 conductor for Automatic Electric Type 41 handset. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-41	Three-Conductor Handset Cord	53



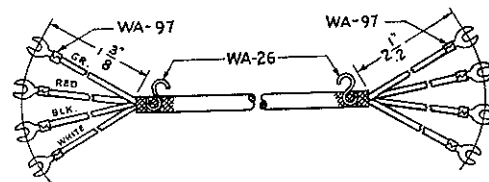
Handset cord. 3 conductor for Stromberg Carlson 46-C handset. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-37	Three-Conductor Handset Cord	54



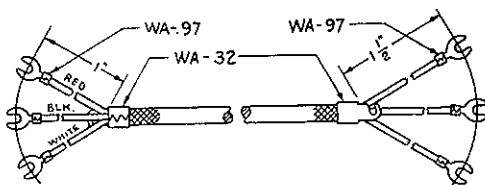
Handset cord. 3 conductor for Automatic Electric Type 41 handset for use on paystations. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-42	Three-Conductor Handset Cord	53



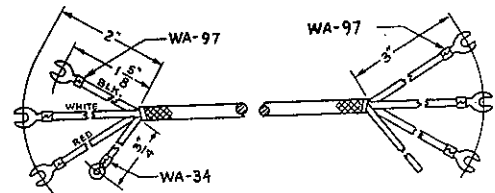
Handset cord. 4 conductor for Stromberg Carlson handset. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-38	Four-Conductor Handset Cord	54



Handset cord for Kellogg No. 46-C. Replaces Kellogg 770 MFP Type 3000. Neoprene.

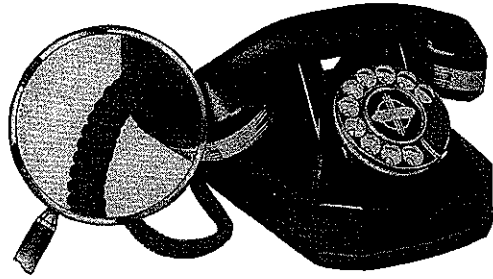
Cat. No.	Description	Overall Length, In.
AH-39	Three-Conductor Handset Cord	48



Handset cord. 3 conductor for Automatic Electric Type 38 handset. Neoprene.

Cat. No.	Description	Overall Length, In.
AH-43	Three-Conductor Handset Cord	53

The Extensicord

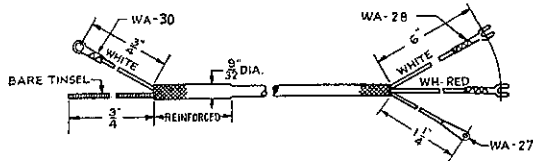


Here is a handset cord that actually s-t-r-e-t-c-h-e-s! It is normally only 32 inches long, and settles down close to the telephone when not in use. But when the handset is lifted, Extensicord stretches easily in a straight line, to almost twice its normal length. Thus, it permits the handset user to stand, sit down, or move about with exceptional freedom. When the handset is replaced, the cord returns to its normal shortened form—no kinking, twisting, or knotting, or getting

snarled with other objects on the desk or table. Telephone subscribers welcome the convenience provided by this unique cord.

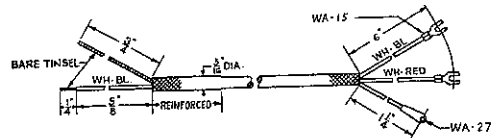
- Cat. No. AH-29—Cord for Type 41 Monophone Handset—Black
Has 3 conductors, each covered with black braid. Used on Monophone Types 40, 50, 43, 44, 47.
- Cat. No. AH-21—Cord for Type 38 Monophone Handset—Black
Has 3 conductors covered with black braid. Use on earlier types of Monophones using the Type 38 handset.
- Cat. No. AH-22—For W.E. No. E1B Handset—Brown Cord
Replaces W.E. Co's No. H3B.
- Cat. No. AH-23—For Kellogg No. F27 Handset—Brown Cord
Replaces Kellogg's No. F673-G.
- Cat. No. AH-31—For W.E. Co. No. F1 Handset—Brown Cord
Replaces W.E. Co's No. H309
- Cat. No. AH-32—For Leich Handset—Brown Cord
- Cat. No. AH-33—For S.-C. Handset—Brown Cord

Monotype Switchboard Cords



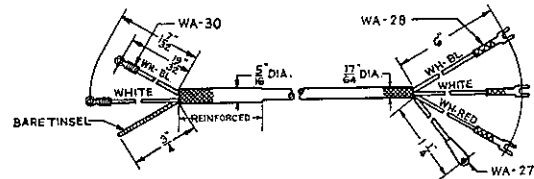
Replaces W. E. Co.'s Nos. S3B and 448, used on W. E. Plug No. 110. White furnished unless otherwise specified.

Cat. No.	Description	Length, In.
DS-62	Three-Conductor Switchboard Cord	48
DS-63	Three-Conductor Switchboard Cord	60
DS-61	Three-Conductor Switchboard Cord	75
DS-64	Three-Conductor Switchboard Cord	96



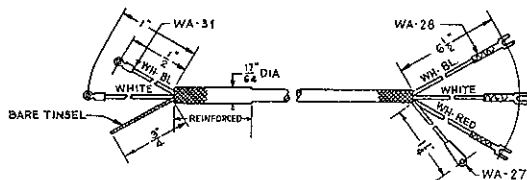
Replaces Amer. Elec. Co.'s Nos. MC-5442, -3 and -4, used on MC-5702 and MC-5743 plugs. Fits Plug K-43. White furnished unless otherwise specified.

Cat. No.	Description	Length, In.
DS-10	Two-Conductor Switchboard Cord	48
DS-12	Two-Conductor Switchboard Cord	60
DS-13	Two-Conductor Switchboard Cord	72



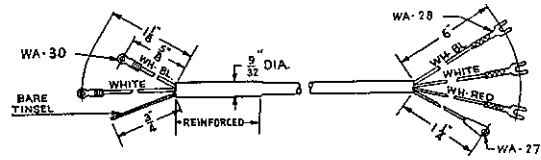
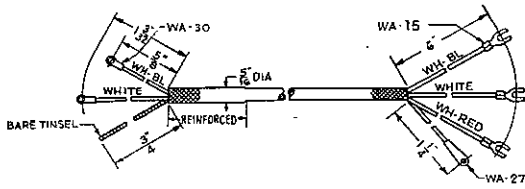
Replaces Kellogg's No. 309-TO and Amer. Elec. Nos. D-540048, D-541299 and D-540270, -1 -2, -3, -4, -5 and -6. Used on Kellogg 12, 13, 74, 106, 152, and 202 plugs. Fits Auto. Elec. Co's D-5752 and D-5753 plugs. White furnished unless otherwise specified.

Cat. No.	Description	Length, In.
DS-21	Three-Conductor Switchboard Cord	20
DS-22	Three-Conductor Switchboard Cord	36
DS-29	Three-Conductor Switchboard Cord	42
DS-28	Three-Conductor Switchboard Cord	48
DS-27	Three-Conductor Switchboard Cord	60
DS-23	Three-Conductor Switchboard Cord	66
DS-24	Three-Conductor Switchboard Cord	72
DS-20	Three-Conductor Switchboard Cord	78
DS-25	Three-Conductor Switchboard Cord	84
DS-26	Three-Conductor Switchboard Cord	96



Replaces S-C Co.'s No. S-32-K, used on S-C Plugs Nos. 53X, 54G, 54N, 55, and 55N. White furnished unless otherwise specified.

Cat. No.	Description	Length, In.
DS-50	Three-Conductor Switchboard Cord	36
DS-51	Three-Conductor Switchboard Cord	60
DS-52	Three-Conductor Switchboard Cord	72
DS-53	Three-Conductor Switchboard Cord	84



Replaces Amer. Elec. Co.'s Nos. MC-54229, -30, -31, and -32, used on Amer. Elec. Plug No. MC-5735. Fits Plugs K-35, K-55 and K-56. White furnished unless otherwise specified.

Replaces Kellogg's No. 301-TO, used on Kellogg Plugs Nos. 3, 42, 70, 109, and 138. White furnished unless otherwise specified.

<i>Cat. No.</i>	<i>Description</i>	<i>Length, In.</i>
DS-16	Three-Conductor Switchboard Cord	48
DS-17	Three-Conductor Switchboard Cord	60
DS-18	Three-Conductor Switchboard Cord	72
DS-19	Three-Conductor Switchboard Cord	84

<i>Cat. No.</i>	<i>Description</i>	<i>Length, In.</i>
DS-30	Two-Conductor Switchboard Cord	18
DS-31	Two-Conductor Switchboard Cord	24
DS-32	Two-Conductor Switchboard Cord	36
DS-33	Two-Conductor Switchboard Cord	48
DS-34	Two-Conductor Switchboard Cord	60
DS-35	Two-Conductor Switchboard Cord	72
DS-36	Two-Conductor Switchboard Cord	84