

WESTERNER

Omaha Works
May 1986



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On the cover

Don McKinney, a utility operator in Dept. 282, conducts periodic inventories of shielded, stranded conductor cable. It is a type of cable that figures prominently in the Omaha Works' electronic wire and cable (EW&C) production. The Works is entering a new era of wire and cable business, and the prospects are excellent. A story on electronic wire and cable starts on Page 5.

WESTERNER

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Published by the reproduction department for employees of AT&T Network Systems, Omaha Works
P.O. Box 37000
Omaha, Nebraska 68137
402-691-3795



Fishing fever rises with temp

It's a fever and yet it's a cure. We're talking about fishing fever. Every year about this time a good number of the WEOMA Sportsman's Club members catch the fever. They head for rivers and lakes and streams in all parts of the country, hoping to hook a record catch. They will tell you that angling is good therapy for all that ails you, be it on-the-job stress or fighting a losing battle against grub worms.

In talking with club president Bill Peters of Dept. 553, you learn that the anglers among the club's 130 members take their sport seriously — some more so than others.

Steve Pokorski, a screw machine operator in Dept. 221, plans some of his weekends and vacation time around bass fishing tournaments. He attends six tourneys a year sponsored by the Husker Bass Club, placing second recently at a contest in Missouri.

Pokorski spent five days at this last tourney, three days of which he spent practicing — mapping out where the bass were in the lake. It was no guarantee the fish would be there for the competition, but one thing is certain. A successful fisherman must possess "a lot of patience," he said, "because you do a lot of sitting in that boat."

He's right. Pokorski's patience has won him a berth in state bass tourneys two years in a row, and once landed him a spot in a regional tournament.

Gary Lemonds knows the virtues of patience. He has to — he's a muskellunge ("muskie") fisherman. Muskies are territorial fish which have been

known to weigh 60 pounds or more. Anglers reportedly have devoted years trying to hook the same fish.

Lemonds, a toolroom inspector in Dept. 545, already has one muskie to his credit — a 24-plus-pounder he caught at the Lake of the Woods in Minnesota. It may be a long time before his next muskie, he said, but fortunately Lemonds enjoys "being outdoors — and watching others bring 'em in."

Aim low

Muskies are a favorite of Bob Dinslage, too (he's caught three). Come spring, however, you're likely to find the Dept. 545 toolmaker bow-and-arrow fishing for carp and buffalo fish.

Patience isn't as much a required skill as balance — and steady aim. Dinslage said he stands on a three-foot platform in a boat and wears sunglasses for viewing into the water. "You want to shoot below the fish," he explained, because water refracts light.

If you have aimed correctly, you bring in the fish by pulling on the cord attached to the arrow. The biggest fish Dinslage has hauled into his boat this way was a 28-pound buffalo fish.

Bow-and-arrow fishing may be Dinslage's style, but Don Morgan and Bob Viox would rather rely on the allure of lures to catch their trophies. And an angler can never have too many lures.

Morgan, an assembler in Dept. 239, estimates he has 10 large tackle boxes full of lures — "a good 1,000 lures, at least," he said. His fishing buddy and Dept. 221 layout operator Viox was less specific. "Let's just say

I've never thrown away a lure."

Bass, walleye and crappie are the favorites of the two men, both of whom began fishing when they were young boys. Along the way their sport developed into a craft as they began making some of their own fishing rods and lures. Years ago the variety and selection of fishing equipment wasn't as extensive as it is today. The only way an angler could have gear out of the ordinary was to make it.

Today Viox spends more time fishing than making equipment, but Morgan has continued the hobby, with numerous lures and some 30 rods in his collection.

Spinners (spoon-shaped lures that spin in water) with jigs made from feathers, spinners with "buck tails" of vinyl strips, and spinners painted in various colors and designs attract different fish at different times.

"Fish are moody," Morgan said. "They like one color one day and another color the next."

Environmental factors such as atmospheric pressure and water clarity can affect color preferences of fish, Viox noted.

Scientific approach

Science figures into making fishing rods, too, the men agreed. Should the rod be of fiberglass or ultra-lightweight graphite? How many guide loops are needed to properly thread the fishing line?

A person must determine which way a rod bends best before applying the guides. Then thread is wound carefully and uniformly around each guide, affixing it to the rod before shellac is applied.

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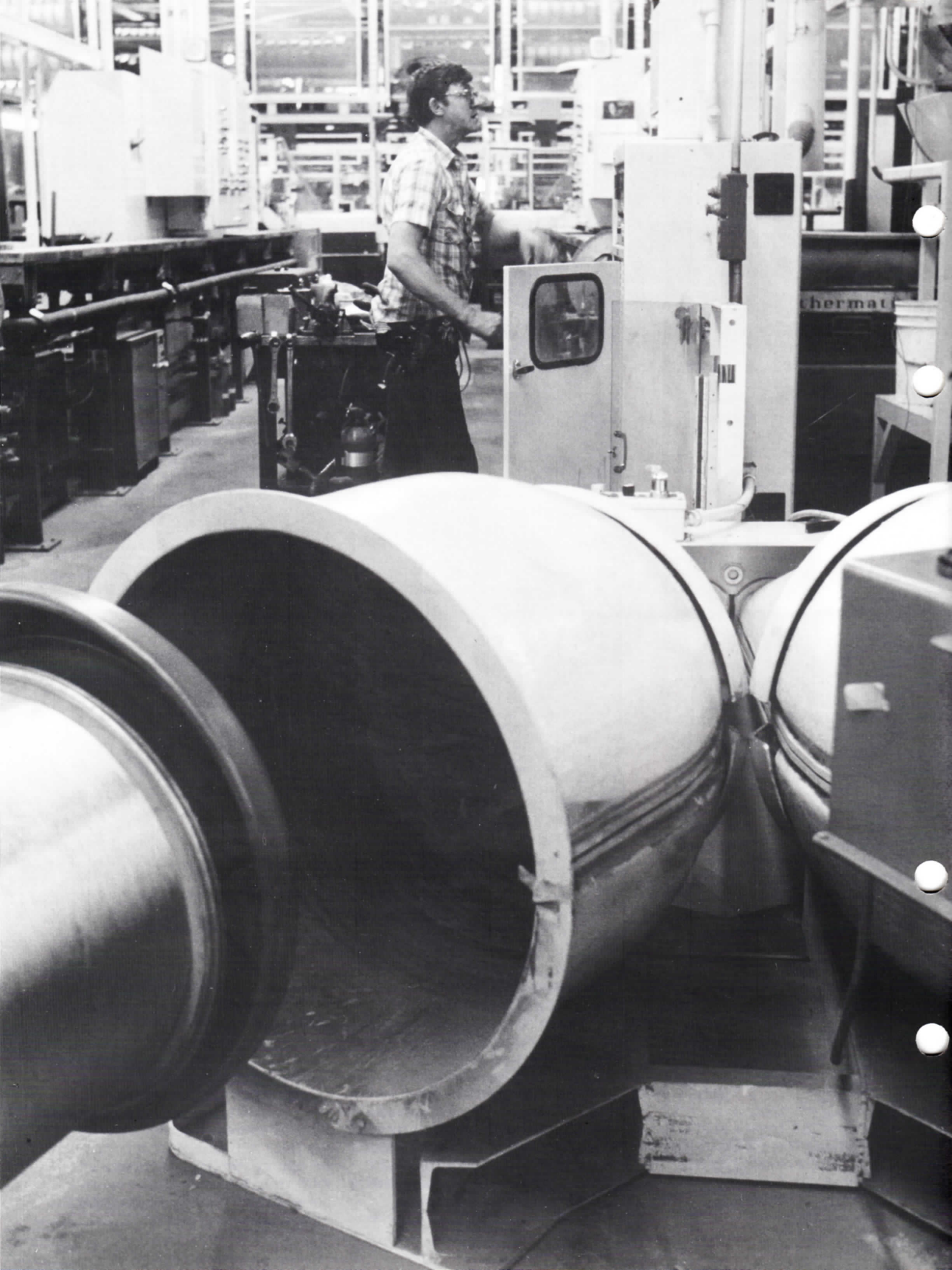
NOT ONE OUT OF LINE . . . Don Morgan (right) assures fishing buddy Bob Viox that the guides on his handmade fishing pole are lined up correctly. On the table are a few of the lures the two have made, along with some of the paraphernalia many anglers can't resist collecting.

Morgan said the hobby is time consuming but he enjoys knowing why and how the equipment works. "Then I like to pass it along to the next generation," he said, explaining that he often makes gifts of his handiwork to children of friends.

Viox said that making one's own fishing gear doesn't ensure instant success in fishing. However, neither of the men can complain. Both have earned master angler awards — Viox for

a largemouth bass and Morgan for bass, walleye and bluegill.

When Viox retires in July he plans to spend more time going after those record catches. But Morgan doesn't seem to be too envious. Fishing is the perfect sport, he said. When a particularly difficult week on the job puts him in a sour mood, he can go fishing on the weekend, return Monday and "you've got a different attitude altogether about work."



EW&C: It's a whole new world

When the Omaha Works transferred its exchange cable operations to the Phoenix Works more than a year ago, it was like losing a friend on whom we always could depend. It had been a staple in our business operations since the plant's doors were first opened.

But today, the Works is in the wire and cable business more than ever. The difference is we are producing a new generation of wire and cable — electronic wire and cable. And business prospects are excellent.

Industry analysts project that market demand for electronic wire and cable will reach \$1.2 billion by 1987, and continue to grow. The reason is that electronic wire and cable — or to use industrial jargon, EW&C — has multiple applications compared to standard telephone uses of the past.

It's as if a whole new world has been opened up for the Omaha Works, commented Rex

Stewart, department manager for electronic wire and cable engineering. Considering the applications for EW&C, Stewart's optimism is understandable:

— Computer uses. Control and hookup wiring for data processing equipment.

— Instrumentation. Measurement and control equipment.

— Telecommunications. Inside wiring for residence and business, station set wiring, switching and transmission equipment cabling.

— Audio. Speaker and intercom systems, speaker phone.

— Hookup. Cross-connect and point-to-point hookup wire for various applications.

— Terminal wiring. Point-of-sale and data terminals.

— Local area networks. Combination data/voice pairs, and shielded cables for inter-building and intra-building integrated networks.

— Plenum cable. Fire and

smoke-suppressed cable for installation in air return plenums.

— Broadcast. Precision video camera cabling.

— Connector cable. Round and flat cable for interconnecting telecommunications and data circuits.

New product codes

Renovation work began more than a year ago in Building 50 to install metal fabrication facilities and to relocate existing and install new cable manufacturing equipment for EW&C production. Included in the product lines are more than 200 new product codes designed specifically as EW&C codes, never manufactured by AT&T. Those codes are now in a "ready to manufacture" (RTM) mode.

Stewart mentioned that previous Works' wire and cable production focused on telephone business which did not include electronic applications. Besides making exchange cable, we manufactured polyvinylchloride (PVC) cable which proved to be to our advantage.

He explained that much of the equipment used to make PVC cable was adapted or enhanced to make electronic wire and cable. The Works still makes

(Continued on Page 6)

PREPARING TO INSULATE . . . Ron Brockman, an operator in Dept. 281, sets up stranded conductor wire to be insulated. A reel of the wire fits into one of two cone-shaped payoffs (foreground). From there, Brockman threads the stranded wire through a preheater. The double payoffs allow for continuous feeding of wire to be insulated.

(Continued from Page 5)

PVC cable to satisfy strictly telecommunications demands, but we have considerably broadened our markets with EW&C manufacturing capabilities.

The physical characteristics of the wire and cable we make today greatly differ from our PVC cable in the past. For one thing, the average pair size of cable is much smaller because "the market for electronic wire and cable doesn't require large-pair cable," Stewart said. Less floor space is needed in production.

Another difference is that most previous wire and cable we made were solid conductors. Now we also make stranded conductors. The tinned copper conductor is stranded or bunched, using a specified number of individual wires before insulation is applied. This differs from insulating individual copper wire conductors. Stranded conductor cable is more flexible, Stewart said, a requirement for many EW&C applications.

Foil shield needed

One of the biggest changes in how the Works makes its wire and cable today, however, is in the use of foil shielding. Foil-shielded cable is a necessity in today's electronically sensitive

environment, said Karen Moser. Moser is a senior engineer who oversees the Work's EW&C shielding and jacketing operations.

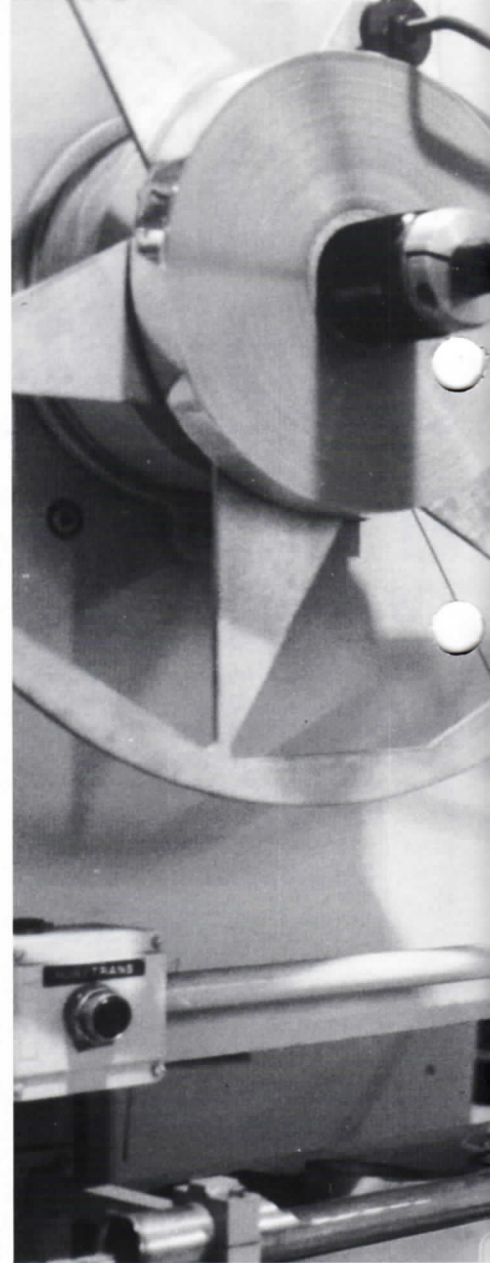
"There is a lot of high-speed data transmission today and if cable isn't shielded, interference can disrupt this flow of information" with disastrous consequences, Moser said.

Electromagnetic interference (EMI) can play havoc with sophisticated electronic equipment, such as laboratory recording instruments. The instruments' individual conductors or pairs which may influence one another must be shielded to reduce the likelihood of measurement errors.

To assure that our wire and cable is properly shielded, the Works must meet stringent Underwriters Laboratories (UL) specifications before we can sell our products in the open market. This wasn't required when all we made was vinyl and exchange cable for the telephone companies, Moser said.

In fact, the Omaha Works was the first EW&C manufacturing location in the nation to pass a new UL quality program audit. Competitors for EW&C business must pass identical audits.

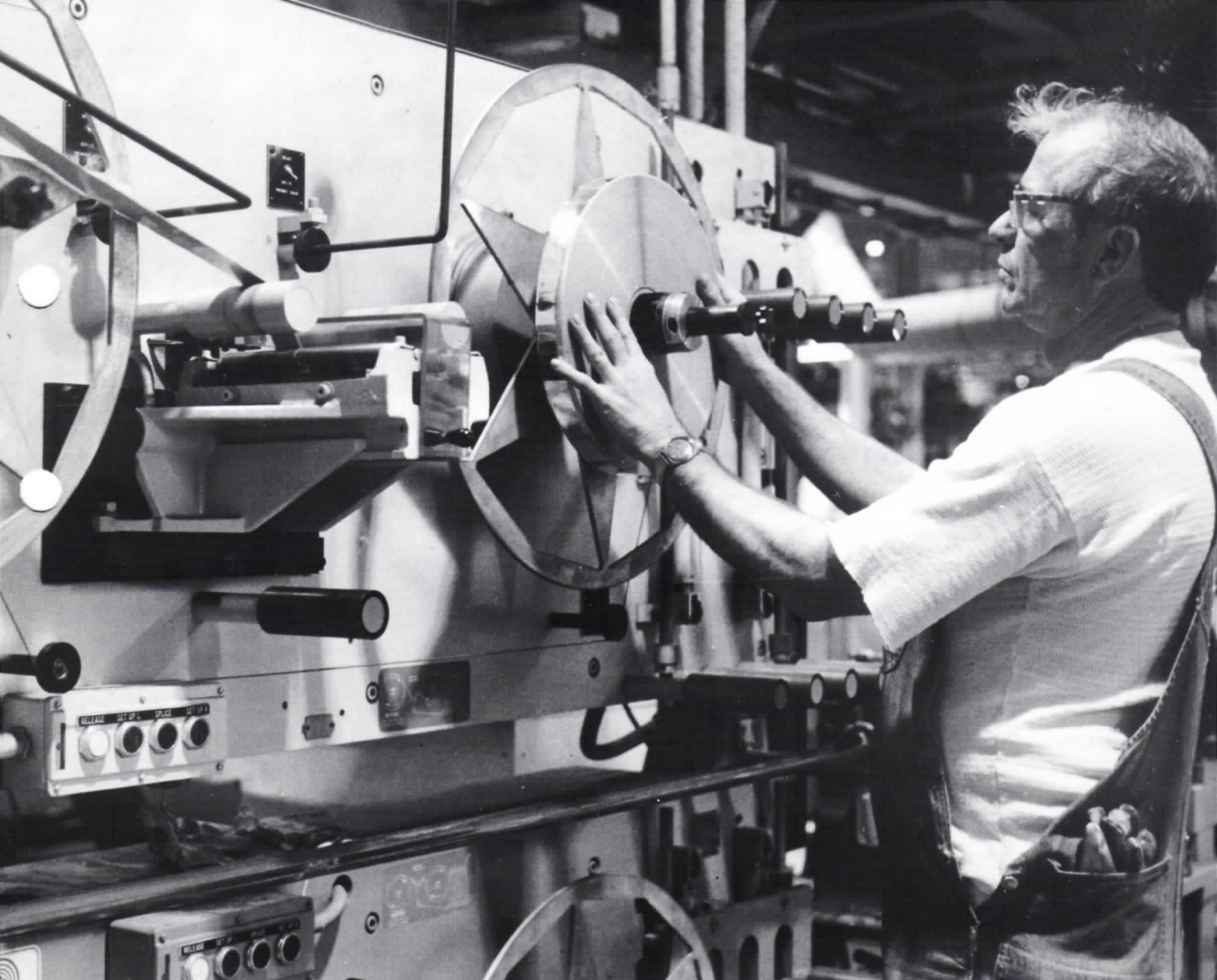
Foil shielding differs considerably from any shielding we may have applied to cable in the



past. It consists of paper-thin aluminum bonded to a polyester wrap for strength.

Moser said the thickest shield used measures at 0.004 inches or 4 mils, with the thinnest being 0.00085 inches or .85 mils. That's thinner than tablet paper (about 3 mils) and even thinner than a strand of hair (about 2½ mils).

"Foil this thin is difficult to form and overlap," Moser said. If



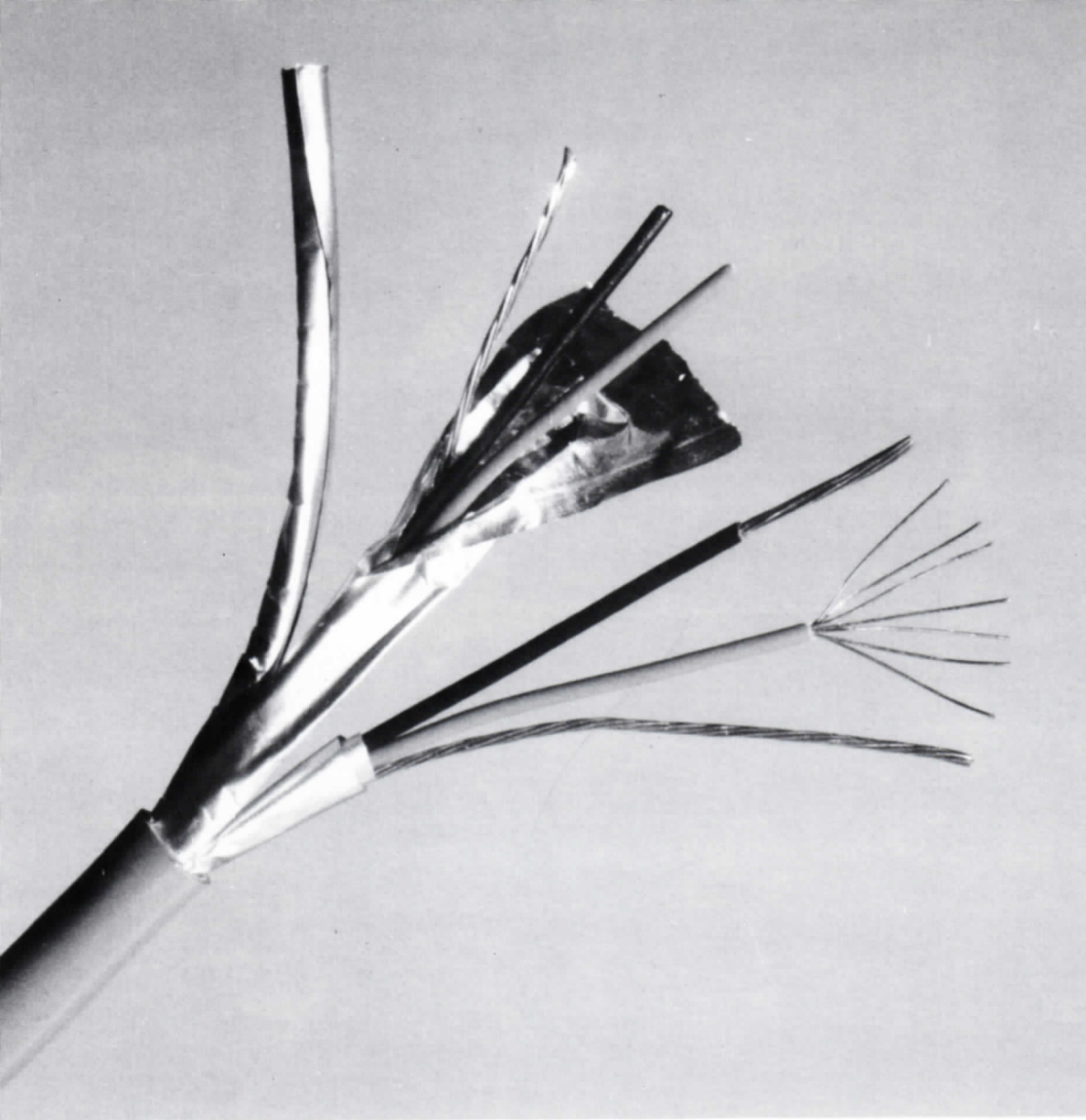
it isn't applied to wire correctly, interference can result.

Foil shielding also can pose problems in jacketing. Moser said tooling modifications have been made to assure smooth jacketing in certain foil-shielded cable designs. "Employees with (previous) jacketing experience were a big help when we switched to this," he said.

Senior engineer Paul Koehler has been overseeing changes

"FOILED" again . . . Before shielding can be applied to a 600 series cable, utility operator Sam Baker of Dept. 283 loads a pad of foil bonded to polyester wrap on one of the Works' jacketing lines.

(Continued on Page 8)



TAKING THE WRAP
... This sample of stranded shielded cable shows how three pairs of stranded conductors are individually foil-shielded against interference. Each pair and a drain wire (for grounding) are wrapped with a foil shield. Note how insulation has been applied to seven strands of wire to form a conductor. This differs from solid conductors in which individual wires are insulated.

(Continued from Page 7)

as they pertain to insulating EW&C products. The introduction of stranded conductors required a change in how we set up our insulating lines, for example. Changes are especially evident in one area of manufacture, those pertaining to insulating plenum cable.

Plenum cable is used to transmit voice and data and is installed in places where conduit isn't used — such as in air return spaces and suspended

ceilings. It must possess superior fire resistance and low smoke-producing characteristics.

Extrusion is different

Fluoropolymers are plastics used to insulate plenum cable to achieve these characteristics. Unlike standard plastics we used in previous cable insulating processes, fluoropolymers require what Koehler calls "tubing

extrusion" instead of "pressure extrusion." It meant we had to adapt to an entirely different insulating process, incorporating the use of a vacuum.

Engineers and operators working with fluoropolymers found that they required much higher temperatures during the insulating process. There were many processing difficulties to overcome as we became familiar with the fluoropolymers.

Koehler added that materials like the fluoropolymers "are much more expensive than standard plastics," requiring extra caution to keep costs down.

"You have to remember that some of our competitors have been working with these materials for maybe 10 years," he said, while the Works is relatively new to this aspect of wire and cable manufacture.

Manufacturing electronic wire and cable has even affected how the Works manages its materials and customer service. The minimum order a customer must place has been reduced, to more accurately coincide with the quantities customers prefer. Instead of measuring EW&C by million conductor feet (MCF), it is measured in thousand conductor feet (TCF).

Reel packaging is offered as a convenience to customers. An alternative to winding cable on a reel or spool, cable is wrapped not unlike a skein of yarn and boxed so it will not tangle when used.

"We have also cut manufactur-

ing intervals from eight weeks to four weeks" on all EW&C products, said Mike Wenninghoff of products materials management. In effect, this allows material management centers to cut their intervals or turnaround time, giving the customer prompt delivery. "We get the product to the customer when *they* want it," Wenninghoff said.

These and similar accommodations to the customer are having positive results, he said, if the growing demand for our EW&C products is any indication. Plenum cable especially is in demand, he noted.

Positioning the Works in the EW&C marketplace has required considerable teamwork among

employees, remarked Rex Stewart.

"Consider that we had to introduce the manufacture of new cable designs as well as establish new layouts, labor rates, product descriptions and costs, for example. All of this required the cooperation of operating personnel, engineers, production control and PECC (Product Engineering Control Center)," among others, he said. Now the Works is beginning to gather the fruits of its labor.

The early success of our electronic wire and cable production has "so far proven the potential that was forecast for growth," Stewart said. "We're right on target at this point.

From Reading Works

McKinnon heads Works

On May 31, Jack McKinnon will become the Omaha Works' new manufacturing vice-president, replacing Jack Childs who is retiring. McKinnon and Childs have concurrent authority at the Works until that date.

McKinnon, a native of Lynn, Mass., formerly was director of manufacturing at the Reading (Pa.) Works. He joined the company as a product engineer at the Merrimack Valley Works in August 1962 and has since had various assignments, including several at the Omaha Works.

He came to the Omaha Works as a department chief in the early '70s, advancing to assistant manager of engineering and then assistant manager of personnel and labor relations. McKinnon later worked at a division office in Chicago and in product line management (PLM) in Warrenville, Ill., where

he was promoted to manager, product planning — operations support systems in March 1977. He also was a manager at the Allentown (Pa.) Works before he was transferred to the Reading Works in November 1982.

McKinnon has a bachelor of science degree in electrical engineering from Merrimack College in North Andover, Mass., and a master of business administration degree from Butler University in Indianapolis, Ind.



Jack McKinnon

Hello? Safety calling

Groucho used to tell his game show contestants to say the secret word and win \$100. All Omaha Works employees have to do is recite the safety slogan for the month and they win one of several prizes, each valued at more than \$50.

Each week during the Safety Calling Game, which began May 1, a member of the Works' safety department will call the home of an employee randomly selected and ask for the safety slogan of the month. During May if the employee — or whoever answers the phone — says, "I take safety everywhere," he or she wins the prize of the week. Prizes range from a food processor to an AM/FM radio-cassette recorder.

The slogan for a given month will be printed on a card and distributed along with employee pay details for the previous

month. Telephone-shaped magnets have been distributed so employees may affix the card to refrigerators, for example, to remind family members about the slogan.

There is no set day when calls will be made during a week, but if a day-shift employee's name is selected, the call will be made between 7 and 9 p.m. For a second- and third shift employee, the call will be made between 9 and 10 a.m.

If there is no answer at a residence, another call will be made until someone responds to the question. An employee whose name is selected for a week's calling again becomes eligible for the contest when a new month's slogan is issued.

The contest, which will run at least for a year's time, is part of an effort to increase safety awareness at home.



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Service anniversaries

40 years

V. C. Allen 5/15
A. W. Hawkins 5/31

35 years

E. J. Filarecki 5/31
J. A. McGerr 5/23
C. A. Moore 5/31
J. Wilk 5/28

30 years

H. U. Cook 5/21
R. R. Seaman 5/29

25 years

M. V. Abrams 5/30
V. D. Callahan 5/31

L. R. Campbell 5/29
N.J. Christiansen 5/28
R. D. Davis 5/31
H. J. Esch 5/15
C. D. Garrett 5/23
D. G. Johnson 5/31
B. M. Klaumann 5/14
P. D. Oliver 5/4

20 years

B. E. Bianchi 5/10
J. D. Butcher 5/2
P. B. Dahlhauser 5/9
E. P. Dean 5/11
B. R. Douglas 5/20
T. J. Freis 5/2
M. S. German 5/10
L. L. Keeton 5/6
T. D. McKiddy 5/22

G. N. Meckes 5/3
G. M. Newman 5/9
R. C. Oliver 5/9
R. Parks 5/18
S. J. Patterson 5/3
C. W. Rangel 5/9
G. F. Samla 5/10
M. B. Smith 5/11
R. F. Staack 5/24
L.W. Winterstein 5/2

15 years

M. G. Brewer 5/21
J. A. Elliott 5/20
N. S. Latch 5/23
L. K. Mumm 5/15
E. M. Petersen 5/9
C. Ward 5/2

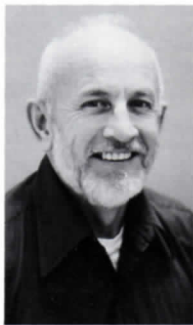
Retirements



Ed Turnquist
29 years



Lynn Bohannon
21 years



Russell Evans
27 years



Marjorie Hosch
16 years

Not pictured:

Duane Hiatt — 39 years
Reuben Gerlach — 34 years
Edith Swaney — 29 years
Ken Kucera — 27 years
Bill Schleusener — 27 years
Dean Hallam — 25 years
Erma Hester — 23 years
Bernice Hooper — 21 years
Anna Keaton — 20 years
Helen Nosky — 20 years
Dorothy Verbocy — 20 years
Maureen Van Arsdale —
19 years
John Krayneski — 17 years



Clark Schroeder
39 years



Beth Welte
25 years



Doris Otte
24 years



John Voss
29 years



Enid Landis
25 years



Eugene Hawk
29 years



Last frame

What used to be a window will soon be a wall at a former church building in South Omaha. Contract worker Ray Schimonitz bricks in one of the basement windows of what will be the new home of the South Omaha Girls Club.

Cornhusker Pioneers have

adopted the renovation of the church as their special project in the community. With the Pioneer chapter serving as general contractor, inside demolition has been completed by chapter members who volunteered their help.

Contract workers have begun remodeling work in both the interior and exterior, but soon more Pioneer volunteers will be needed, said Pioneer coordinator Tom Olson.

In addition to the volunteer services Pioneers are providing,

the chapter has donated \$30,000 to the project and is enlisting support from other community businesses. Assistance from the Pioneers will save the South Omaha Girls Club an estimated \$165,000 in costs.

Formerly the St. Nicholas Serbian Orthodox Church at 30th and S streets, the remodeled building will provide the girls' club with more room than it currently has for activities at the LaFern Williams Center, 30th and Q streets.



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