PLAINTIFF'S EXHIBIT
CT-317

Economical artificial RAINMAKING
made easy with
permanently trouble-free

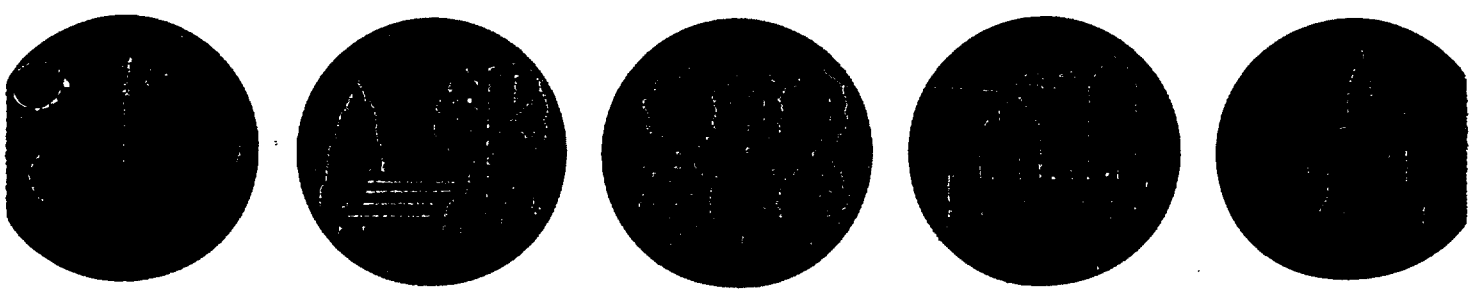
# CERTAIN-TEED "K&M" ASBESTOS-CEMENT

**UNDERGROUND**

# PIPE

for better, greener, more profitable
GOLF COURSES, FARMS, ORCHARDS, NURSERIES,
PARKS, CEMETERIES, etc. . . .

CTD031115



". . . one of the best investments we've ever made," writes the supervisor of the beautiful Whitemarsh Valley Country Club, Whitemarsh, Pa., where "K&M" irrigation pipe replaced a rapidly deteriorating metal pipe system.

Gentlemen:

As you can probably imagine, a golf course needs lots of water in order to keep in top "tournament" condition. This is particularly true during summer months when the greens and fairways take a real beating from the hot sun.

With the increasingly dry weather we've been having in this area our old irrigation system was no longer able to give us the watering capacity our course needed. We found that during periods of drought we weren't getting the volume of water we needed and parts of the course were inadequately watered. Travelling sprinklers were working 24 hours a day—even when members were on the course playing.

Things will be different from now on though. With our new irrigation system using "K & M" Asbestos-Cement pipe, we are able to get water to every part of the course, and in sufficient quantity to keep it properly conditioned. Moreover, the ease of laying K & M pipe enabled us to use our own crews who installed it during the winter months.

In view of this, we feel that this is one of the best investments the club ever made.

Sincerely yours,

Ross C. Woodward

Ross Woodward
Golf Course Superintendent

". . . in crops saved and labor eliminated, the installation with "K&M" pipe paid for itself in a few years," writes Charles Heal, the owner of a large truck farm in Burlington, N. J.

Gentlemen:

On truck farms, where we can never be sure of enough rainfall, drought is an ever present danger. Not enough water can mean not only the loss of our entire crop but in some cases, complete ruin as well.

That's why I'm glad the crops on our farm are protected by "K & M" Asbestos-Cement Underground Irrigation Pipe. With a system using your pipe, we don't have to worry about rainfall. We can make our own, with the result that our crops get all the water they need throughout the important growing season. Moreover, in addition to insurance against drought conditions, our low lying crops are also protected against early spring frosts. By starting the sprinklers working at the right time, we prevent frost from forming when the dew point occurs.

Our savings began the day we put your pipe into the ground. We even used our own equipment and the K & M couplings were so easy to put together, we were able to lay the asbestos-cement pipe with our own men.

Because we've never had any trouble with the pipes corroding or becoming stopped up, our maintenance costs have been small. In terms of crops saved, and other labor costs, we figure the installation of K & M pipe has already paid for itself many times over. It has been an investment we will always be glad we made.

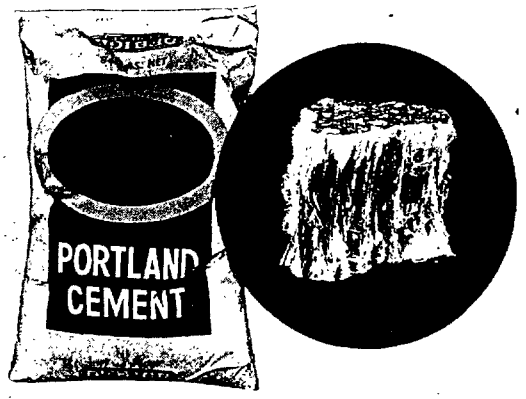
Sincerely yours,

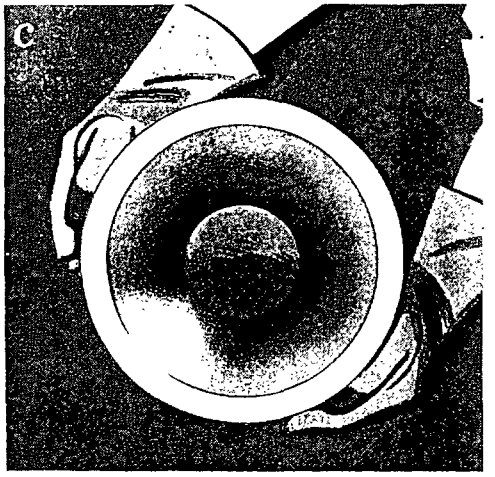
Charles S. Heal

CTD031116

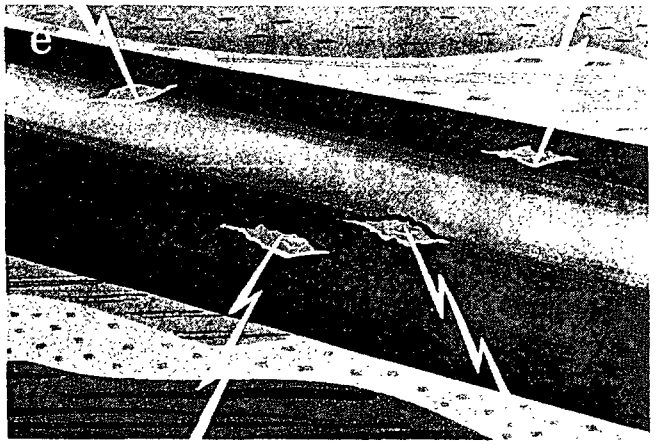
FARMS, GOLF COURSES, ORCHARDS, NURSERIES, PARKS, CEMETERIES, etc., from coast to coast have found ARTIFICIAL RAINMAKING with "K&M" asbestos-cement irrigation pipe, efficient, economical, and trouble-free.

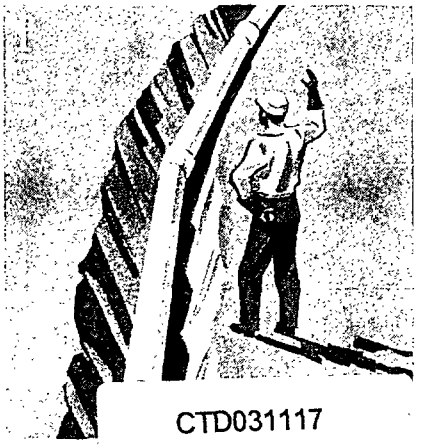







**a.** LIGHT AND EASY TO HANDLE. Lightweight K&M asbestos-cement irrigation pipe means lower shipping costs, easier handling, and faster installations by fewer men.

**b.** RUGGED, LASTING STRENGTH. Tough asbestos fibers act like reinforcing steel when combined with durable portland cement. Each pipe length receives the same quality control in manufacturing, assuring uniformly high performance.

**c.** NON-TUBERCULATING, SMOOTH BORE. Smooth inner surface remains the same for years. Will not tuberculate—corrosion resistant. Nozzle clogging is eliminated. Pumping costs remain low.

**d.** QUICK, FOOLPROOF INSTALLATION. K&M's patented FLUID-TITE coupling gives you a tight, permanent seal . . . makes quick work of joining pipe lengths . . . allows up to 5 degrees deflection per joint. Even in bad weather, K&M pipe is easily installed.

**e.** IMMUNE TO ELECTROLYSIS. With K&M asbestos-cement pipe, electrolysis is impossible. Your lines are always in service, year in and year out. Ordinary irrigation pipe pits and rusts, until the exhausted lengths have to be replaced.

**f.** FLEXIBLY LAID TO FIT YOUR LAYOUT. The 5-degree deflection allowed by K&M's remarkable FLUID-TITE coupling permits turns to by-pass obstacles like trees and roads that are better left undisturbed.

# "K&M"® PATENTED FLUID-TITE®

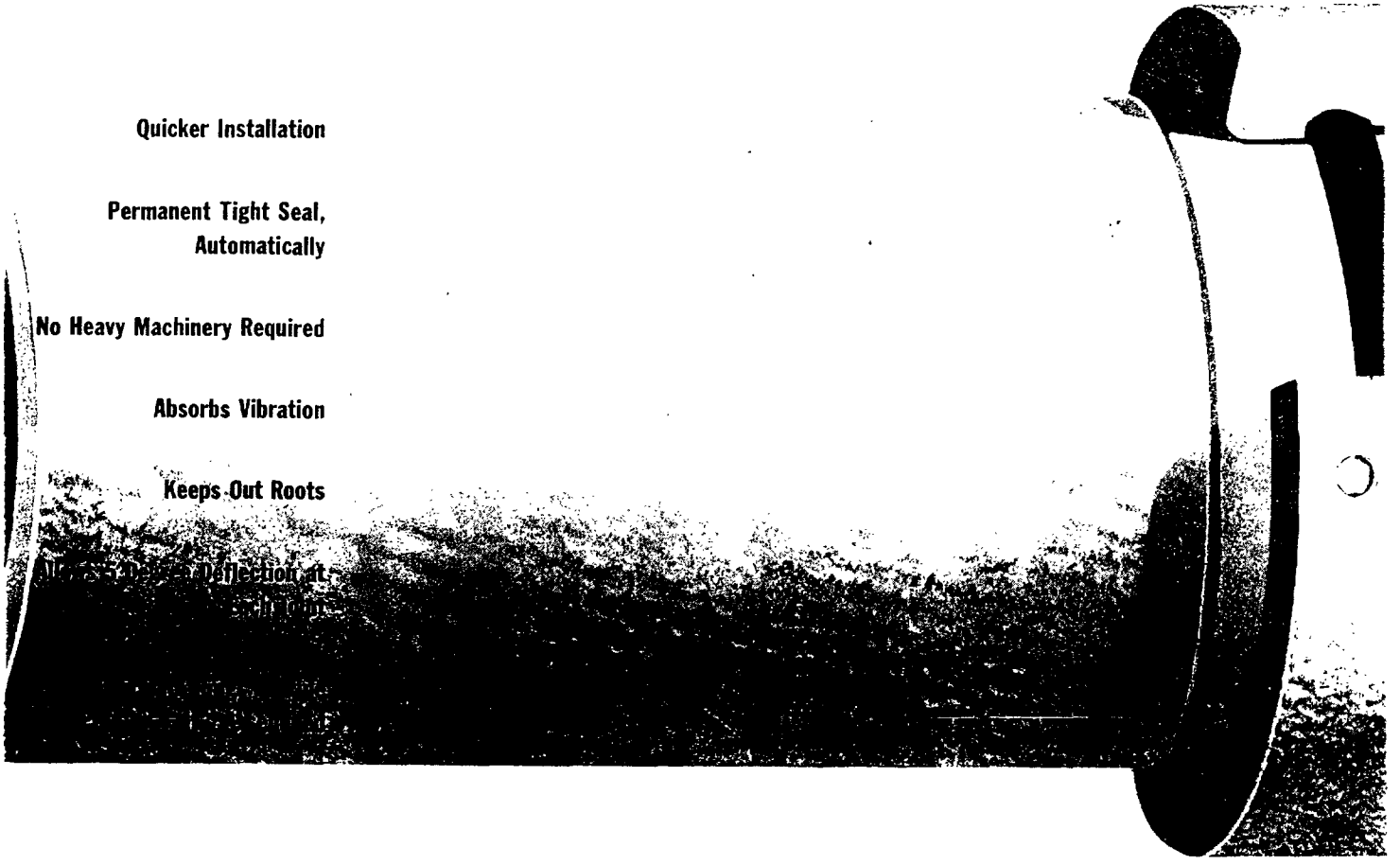
**Quicker Installation**

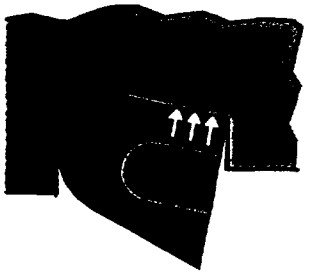
**Permanent Tight Seal, Automatically**

**No Heavy Machinery Required**

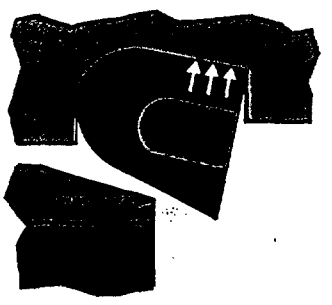
**Absorbs Vibration**

**Keeps Out Roots**





Cross-section of gasket in place in coupling. The groove is slightly larger than the gasket, providing space for the elongation of the gasket under compression. Arrows show forces caused by slight twist in the gasket, the result of the groove design serving to hold the gasket tightly in the groove.

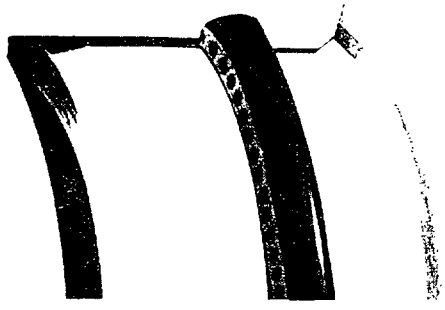


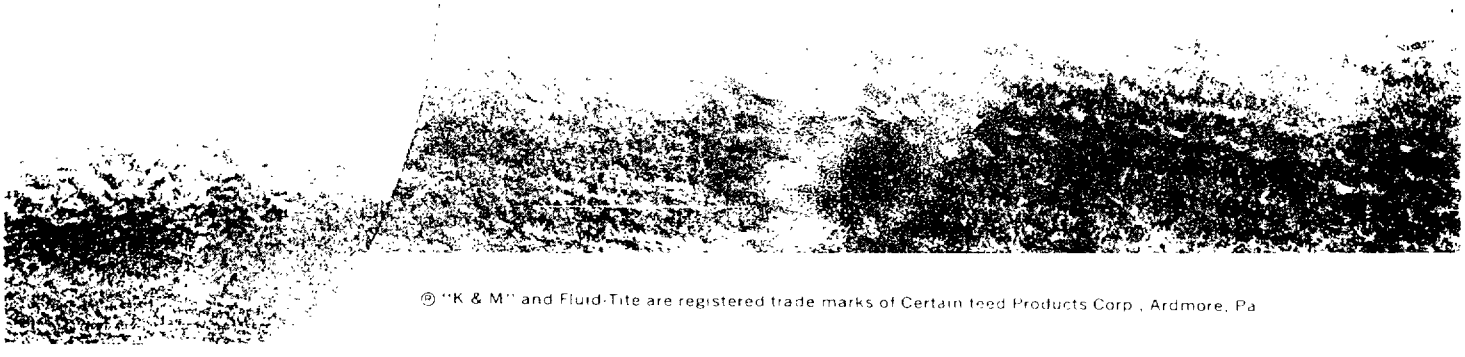
Pipe entering coupling. The taper on the pipe at this point has a flatter angle than that of the gasket. This allows the pipe end to come in contact with the gasket beyond the mid-point . . . preventing the pipe end from pushing against the solid heel of the gasket and rolling it out of its groove.

CTD031118

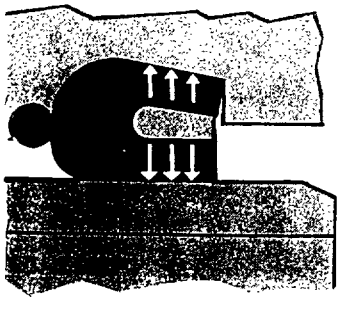
# IRRIGATION COUPLING

The exclusive, patented coupling from Certain-teed, leaders in asbestos-cement products. More pipe laid per hour with fewer men.

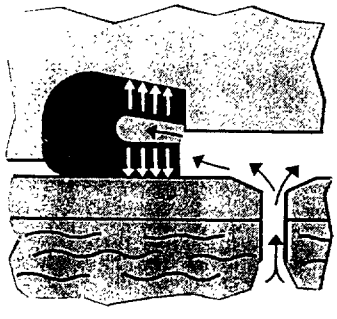




© "K & M" and Fluid-Tite are registered trade marks of Certain teed Products Corp., Ardmore, Pa



Pipe in place in coupling. The gasket is compressed between the pipe and the bottom of the coupling groove. Compressive forces act along the area of contact to prevent leakage at this point. The compression of the heel of the gasket acts to seal out root intrusion and ground water penetration



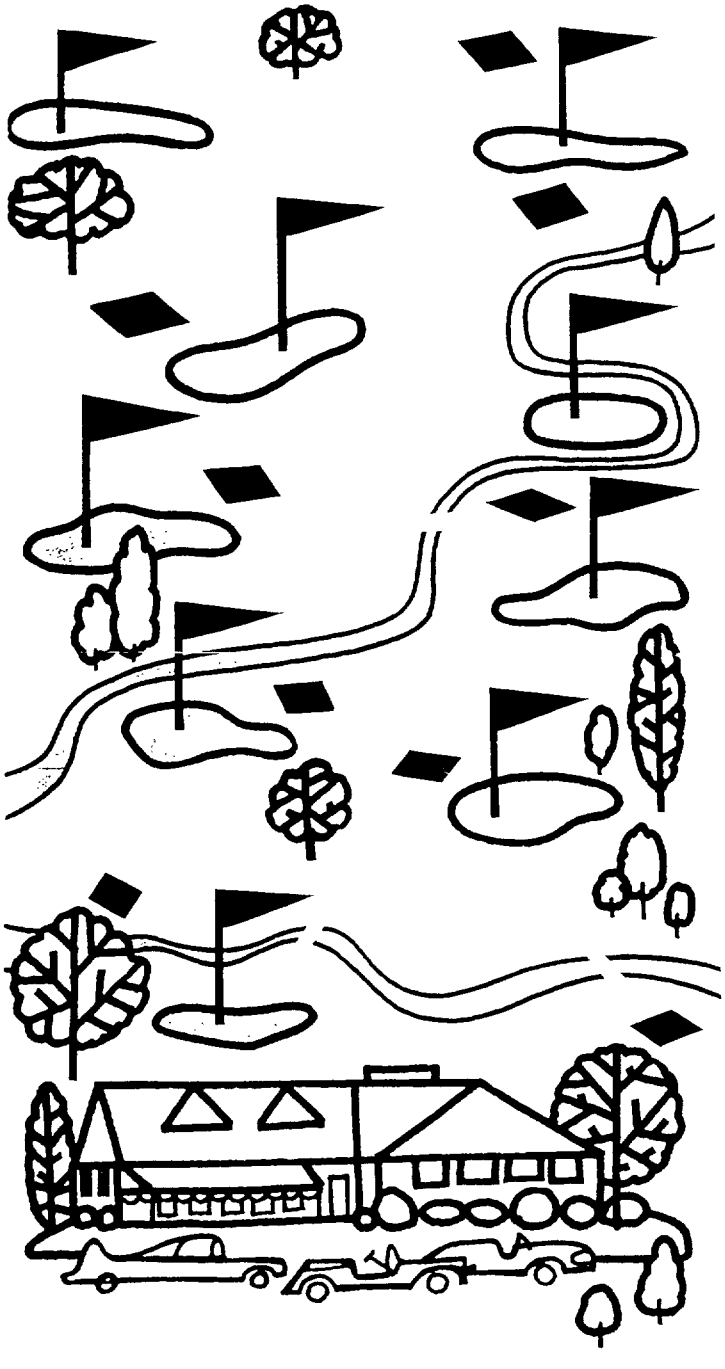
When pressure is applied to the line, water entering between the separation of the pipe ends, within the coupling, expands the perforated surface of the gasket. It enters these orifices and further expands the gasket. Thus, as internal pressure increases, the seal becomes even tighter

CTD031119

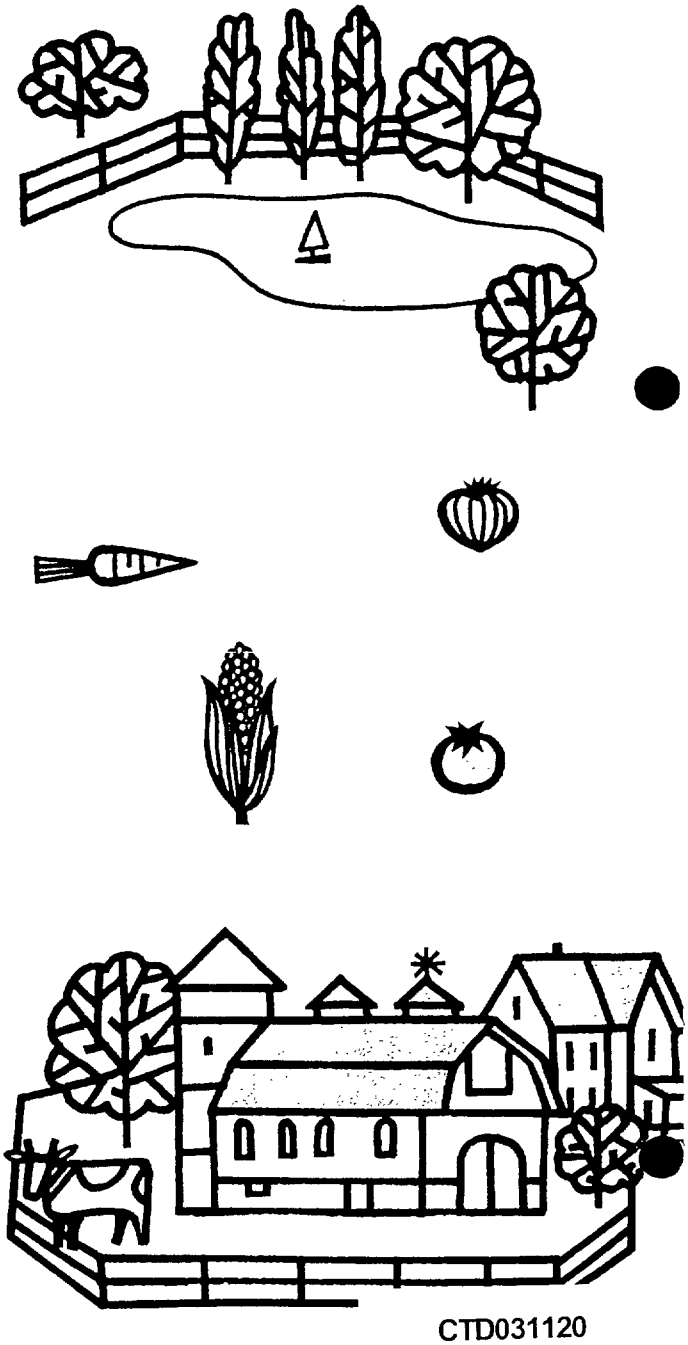
# HOW

"K&M" Asbestos-Cement Underground Irrigation Pipe can carry your water supply where you want it.

**Golf Course (9 hole)**



**Farm**



CTD031120

## Pressure Remains Constant

"K&M" Asbestos-Cement Pipe has a smooth bore, uniform from end to end. This reduces the load on your pumps and keeps the load from increasing with age. Being non-metallic "K&M" Asbestos-Cement Pipe cannot tuberculate (rust). It remains free from this enemy that chokes so many metallic water lines. Once this pipe is in the ground, you can stop worrying about electrolysis from nearby high voltage cables or ground transmission from a TV or radio station. Being non-metallic Asbestos-Cement is not affected by stray currents.

## It's easily connected to your water supply

No matter what your water source may be—pond, stream, well, or municipal main—your "K&M" asbestos-cement irrigation pipe can be readily connected using versatile FLUID-TITE fittings and couplings. Trenches, in many cases, need be dug only to a minimum depth of 24 inches to avoid damage from plows or harrows. More depth may be required to put your pipe below the frost line if draining is not possible in winter. These shallow trenches may require no other trenching equipment than what you have now.

## Complete Line of Accessories

Complementing our Asbestos-Cement Irrigation Pipe, "K&M" also stocks a complete line of PLASTIC PIPE along with all necessary Asbestos-Cement ADAPTORS and REDUCERS. A new addition to our line of accessories is the "K&M" THREADED BRASS INSERT COUPLING. This Insert Coupling can be supplied in either IRON PIPE or AWWA threads.

for "K&M" Asbestos-Cement Underground Irrigation Pipe

### LOW HEAD

| | PIPE | | | | COUPLINGS | | |
|---|---|---|---|---|---|---|---|
| 50 ft. Hd. Pipe Size | I.D. | O.D. ± .030" | C.A. +1/16" −1/32" | Wt. Lbs. Ft. | I.D. ± .030" | L ± 1/8" | Wt. Lbs. Ea. |
| 3 | 3.00 | 3.31 | 2.00 | 3.11 | 3.69 | 6.00 | 2.76 |
| 4 | 3.95 | 4.23 | 2.00 | 4.20 | 4.63 | 6.00 | 3.63 |
| 6 | 5.85 | 6.21 | 2.00 | 7.28 | 6.53 | 6.25 | 5.38 |
| 8 | 7.85 | 8.18 | 3.75 | 10.48 | 8.90 | 6.25 | 8.10 |
| 10 | 10.00 | 10.43 | 3.75 | 13.65 | 11.27 | 6.75 | 10.29 |
| 12 | 12.00 | 12.43 | 3.75 | 17.42 | 13.45 | 6.75 | 14.07 |
| 14 | 13.54 | 14.02 | 3.75 | 20.29 | 15.14 | 6.75 | 16.11 |
| 16 | 15.45 | 16.00 | 3.75 | 23.16 | 17.22 | 6.75 | 18.10 |
| 100 ft. Hd. Pipe Size | I.D. | O.D. ± .025" | C.A. ±1/16" | Wt. Lbs. Ft. | I.D. ± .025" | L +.025" −.000" | Wt. Lbs. Ea. |
| 3 | 3.00 | 3.31 | 1.75 | 3.07 | 3.81 | 6.25 | 2.67 |
| 4 | 3.95 | 4.23 | 1.75 | 4.01 | 4.81 | 6.25 | 3.53 |
| 6 | 5.85 | 6.21 | 1.75 | 5.98 | 6.87 | 6.25 | 5.28 |
| 8 | 7.85 | 8.18 | 1.75 | 8.08 | 8.99 | 6.25 | 7.10 |
| 10 | 10.00 | 10.43 | 3.75 | 13.65 | 11.27 | 6.75 | 10.29 |
| 12 | 12.00 | 12.43 | 3.75 | 17.42 | 13.45 | 6.75 | 14.07 |
| 14 | 13.54 | 14.02 | 3.75 | 20.29 | 15.14 | 6.75 | 16.11 |
| 16 | 15.45 | 16.00 | 3.75 | 23.16 | 17.22 | 6.75 | 18.10 |
| 150 ft. Hd. Pipe Size | I.D. | O.D. | C.A. ±1/16" | Wt. Lbs. Ft. | I.D. ± .025" | L +.250" −.000" | Wt. Lbs. Ea. |
| 3 | 3.00 | 3.31 | 1.75 | 3.07 | 3.81 | 6.25 | 2.67 |
| 4 | 3.95 | 4.23 | 1.75 | 4.01 | 4.81 | 6.25 | 3.53 |
| 6 | 5.85 | 6.21 | 1.75 | 5.98 | 6.87 | 6.25 | 5.28 |
| 8 | 7.85 | 8.18 | 1.75 | 8.08 | 8.99 | 6.25 | 7.10 |
| 10 | 10.00 | 10.43 | 3.75 | 13.65 | 11.27 | 6.75 | 10.29 |
| 12 | 12.00 | 12.43 | 3.75 | 17.42 | 13.45 | 6.75 | 14.07 |
| 14 | 13.54 | 14.02 | 3.75 | 20.29 | 15.14 | 6.75 | 16.11 |
| 16 | 15.45 | 16.00 | 3.75 | 23.16 | 17.22 | 6.75 | 18.10 |

### HI HEAD

| | PIPE | | | | COUPLINGS | | |
|---|---|---|---|---|---|---|---|
| 225 Ft. Hd. Pipe Size | I.D. | O.D | C.A. ± 1/16" | Wt. Lbs. Ft. | I.D. ± .025" | L +.250" −.000" | Wt. Lbs. Ft. |
| 3 | 3.00 | 3.70 | 3 1/8 | 4.48 | 3.81 | 6.25 | 4.37 |
| 4 | 3.95 | 4 70 | 3 1/8 | 5.79 | 4.81 | 6.25 | 5.53 |
| 6 | 5 85 | 6.76 | 3 1/8 | 9.80 | 6.87 | 6 25 | 7.54 |
| 8 | 7 85 | 8 88 | 3 1/8 | 14.17 | 8.99 | 6.25 | 10.19 |
| 10 | 10 00 | 11 18 | 3 1/8 | 19.83 | 11.27 | 6 75 | 16.29 |
| 12 | 12.00 | 13 36 | 3 1/8 | 25.77 | 13.45 | 6 75 | 20.07 |
| 14 | 13.54 | 15 02 | 3 1/8 | 32.66 | 15.14 | 6 75 | 28.11 |
| 16 | 15 45 | 17 10 | 3 1/8 | 42.23 | 17.22 | 6 75 | 34.10 |
| 325 Ft. Hd. Pipe Size | I D. | O D | C A ± 1/16" | wt. Lbs. Ft. | I D. ± .025" | L +.250" − 000" | Wt Lbs Ea |
| 3 | 3.00 | 3 88 | 3 1/8 | 5.43 | 3.99 | 6.25 | 4 62 |
| 4 | 3.95 | 4.85 | 3 1/8 | 6.77 | 4.96 | 6 25 | 5.81 |
| 6 | 5.85 | 6.95 | 3 1/8 | 11.56 | 7.06 | 6.25 | 9.07 |
| 8 | 7.85 | 9.15 | 3 1/8 | 17.54 | 9.26 | 6 25 | 13 36 |
| 10 | 10.00 | 11.70 | 3 1/8 | 27.24 | 11.79 | 6 75 | 23.07 |
| 12 | 12.00 | 13.96 | 3 1/8 | 36.82 | 14.05 | 6 75 | 30.44 |
| 14 | 14.00 | 16.22 | 3 1/8 | 49.62 | 16.33 | 6.75 | 40.42 |
| 16 | 16.00 | 18.46 | 3 1/8 | 63.43 | 18 57 | 6.75 | 49.26 |
| 450 Ft Hd | I.D | O D. | C.A. ± 1/16" | Wt. Lbs. Ft. | I D. ± .025" | L +.250" −.000" | Wt. Lbs. Ea. |
| 3 | 3.00 | 3.88 | 3 1/8 | 5.43 | 3.99 | 6.25 | 4.62 |
| 4 | 3.95 | 4.85 | 3 1/8 | 8.62 | 4 96 | 6.25 | 7.07 |
| 6 | 5.70 | 6.95 | 3 1/8 | 15.45 | 7 06 | 6 25 | 10.77 |
| 8 | 7.60 | 9.15 | 3 1/8 | 23.85 | 9.26 | 6.25 | 15.20 |
| 10 | 9.68 | 11.70 | 3 1/8 | 33.90 | 11.79 | 6.75 | 25.27 |
| 12 | 11.57 | 13.96 | 3 1/8 | 45.73 | 14.05 | 6.75 | 33.01 |
| 14 | 13.54 | 16.22 | 3 1/8 | 58.22 | 16.33 | 6.75 | 46.28 |
| 16 | 15.45 | 18.46 | 3 1/8 | 75.05 | 18.57 | 6.75 | 57.32 |

CTD031121

ALBANY PIPE DISTRICT
State & Eagle Streets
Manger-DeWitt Clinton Hotel
Albany 7, New York
Telephone: HEmlock 6-4796

AMBLER PIPE DISTRICT
Maple and Wissahickon Aves.
Ambler, Pennsylvania
Telephone: MItchell 6-4000

ATLANTA PIPE DISTRICT
3330 Peachtree Road, N. E.
Atlanta 5, Georgia
Telephone: 237-1542

CLEVELAND PIPE DISTRICT
1223 Superior Building
815 Superior Avenue, N. E.
Cleveland 14, Ohio
Telephone: MAin 1-4050

ST. LOUIS PIPE DISTRICT
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P. O. Box 25185
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Los Angeles 45, California
Telephone: ORegon 8-4800

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