PLAINTIFF'S EXHIBIT

CT-958

INSTRUCTIONS

CERTAINTEED

THE RIGHT WAY TO:
RECEIVE · UNLOAD · HANDLE · STORE · INSTALL
CERTAIN-TEED®
ASBESTOS-CEMENT PIPE and PIPE ACCESSORIES

These pages are written for the individuals responsible for the handling of Asbestos-Cement Pipe when it arrives at the storage area or at the job site. Remember: If there are any questions pertaining to the condition of the load, call your Certain-teed Pipe Agent or Certain-teed Territory Manager who will be glad to help you.

IMPORTANT — Before Accepting Shipment Read the Following:

INSPECT EACH SHIPMENT AS SOON AS POSSIBLE
Step 1 — Inspect the shipment for damage

Every shipment has been carefully loaded, and the load braced to insure safe arrival. However, extremely rough handling enroute can cause pipe damage. (Illustration of standard load on a flat bed truck. (Figure 1)

Begin by making an overall inspection of the load. If the bands or wooden braces are intact and the load has not shifted, no overall damage has occurred. Make sure the wooden chocks are still in place, securely fastened to each end of the stacking board. (Figure 2)

Do not remove chains or bands until truck is positioned for unloading.

If the load has shifted, straps or braces broken, inspect the load carefully. Examine each piece of pipe and accessory as it is unloaded. *Have the truck driver make an itemized notation of any damage on the Delivery Receipt, and have it signed by the receiver. On rail shipments* call the carrier's agent and note any damage on the carrier's receipt or on the inspection report supplied by the railroad and signed by the Inspector.

Chipped ends or gouges may not mean the entire length of pipe is unusable. See our Installation Guide for procedures to salvage the pipe by cutting out the damaged section.

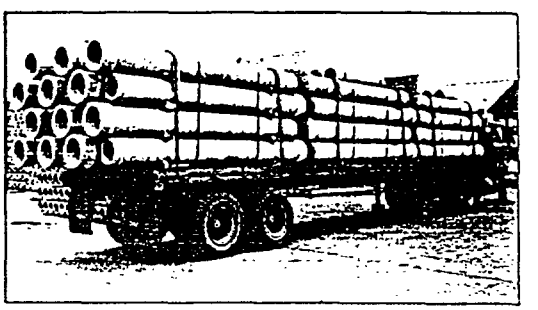

Fig. 1

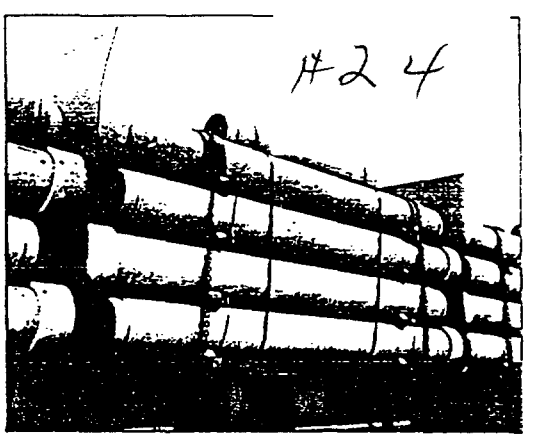

Fig. 2

Step 2 — Check the entire load and contents against the packing list

Make a thorough check to make sure every item on the packing list is received. Any shortage must be shown on signed receipt. Check the number and footage of standard, random and short lengths of pipe, the number of standard and special couplings, adaptors and fittings. The rubber rings and lubricant are packed either in a plastic bag or carton. Check the contents. Don't throw the bag or carton from the truck or car — handle carefully.

Short lengths of pipe (½ lengths 6'6" machined ends only, referred to as M. E. O.) are placed end to end in the load and may appear as a single long length before you start unloading.

Each M. E. O. section is marked to indicate the size, type (Pressure, Irrigation, Sewer, Small Diameter Sewer) Pipe, making it convenient to check a mixed load. In rail shipments the couplings are placed end to end in the center of the stack of pipe.

NOTICE

Truckload shipments of Pipe in four-foot wide units must be mechanically unloaded. Skid boards and ropes shall not be used for unloading.

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Step 3 – Unload

Centrifugal Asbestos-Cement Pipe is manufactured to withstand normal field handling, but like any pipe, it can be damaged by careless handling. (Refer to Installation Guide on repairing damaged pipe in the field.)

Before starting, make sure you have enough help and equipment on hand to properly handle the load. Handle with care; pipe is not to be dropped on ends from the fork lift. This may cause hidden damage. Truck drivers should report instances of poor handling.

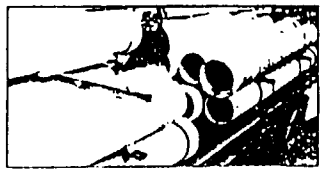

Fig 3

There are three methods of unloading asbestos-cement pipe from trailers:

1. Rope and Skid 2. Sling and Boom 3. Fork Truck (4' units or pallets only)

The chart below indicates the size, class and type of asbestos-cement pipe to be unloaded by sling and boom only. All other asbestos-cement pipe shall be unloaded by any of the above methods.

PIPE SIZE	CLASS				
	PRESSURE	IRRIGATION	BUREAU OF RECLAMATION	FLUID TRANSMISSION	
15"			20		NOTE: All sizes and classes of Sewer Pipe can be handled using any of the three above methods.
16			20	90	
18"			18 & 20	70 to 90	
20"	150	150	13 to 20	60 to 90	
21"		150	13 to 20	60 to 90	
24"	100 & 150	Types 125 100 & 150	9 to 20	40 to 90	

NORMAL PROCEDURE FOR UNLOADING A TRUCK OR FREIGHT CAR

1. Spot the truck on level ground. Place supports of ample size on level ground so that the pipe, when stacked, will be resting on the supports and not on the ground. A support should be placed about three feet from each end of the 13-foot pipe lengths.

2. Insert a stake made from a 2 x 4 in the socket on the truck bed at a point about two feet from each end of the pipe pile to be unloaded. These stakes are placed on the side opposite the one to be unloaded. (Figure 4)

3. Use two lengths of rope at least 50 feet long as slings. Tie one end of each rope to the stakes placed in the previous step. (Figure 7)

4. Run the free end of each rope under the top layer of pipes, and double the rope back across the top of the load. (Figure 7)

5. Place two sturdy skids at least 14 feet long at the edge of the pipe to be unloaded. (Figure 7). The top of the skids should be beveled.



Fig. 4

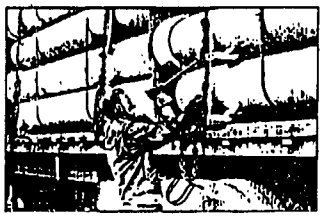

Fig. 5

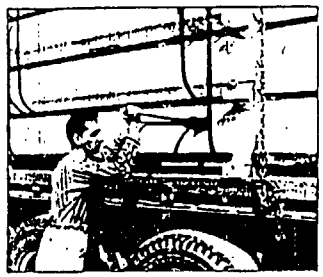

Fig. 6

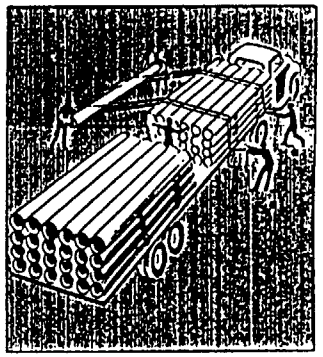

Fig. 7

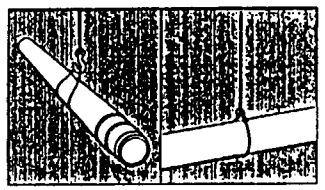

Fig. 8

Fig. 8-A

6. Cut the metal straps holding the top rows. Use a hacksaw, heavy wire cutters or snips. Do not use a cold chisel. DO NOT CUT THE STRAPS WHILE STANDING ON THE PILE. (Figure 6)

7. For 6" and 8" pipes, station a man at one end of the pile to start the pipe down the skids. Two snub lines located on the pipe as illustrated in Fig. 7 are sufficient to lower the pipe down to the ground men. DO NOT ALLOW MEN ON TOP OF LOAD AFTER THE BANDS ARE CUT.

8. After the pipe is safely down, slide the rope out from underneath both ends.

9. Remove the two wooden chocks from the separator board between the top two rows of pipe. These chocks were left in place until now to keep other lengths of pipe in the top row from rolling out.

10. Place chocks between the next two lengths of pipe in the top row, and unload the next outside length as shown. (Figure 3)

11. Continue in this manner until the truck is unloaded. Be sure to use the chocks to keep loose pipes from rolling.

12. Pass couplings, fittings, and accessories, including bag or carton down by hand.

NOTE: TRUCK DRIVERS ARE NOT RESPONSIBLE FOR UNLOADING.

Be very careful not to drop pipe, or bump the ends together

When unloading pipe using the Rope and Skid Method, a crew of five men is required: one man snubbing rope at each snubber on the opposite side of unloading (a); one man at the end starting pipe on skid (b); and two men receiving pipe on the ground (c) (Figure 7). Heavier pipe should be unloaded as described in Step 3 – Unload.

IF A CRANE OR HOIST IS AVAILABLE

If slings are used: Use a continuous length of rope, cable or chain, fastened around the center of the pipe as illustrated in Figure 8. This type of sling prevents pipe from slipping. Tight single slings (Figure 8-A) can be used for pipe sizes 10" and above.

Fork Lift Trucks

When unloading with a fork lift, remove only the number of pipe lengths which the length of the fork arms will accommodate.

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Trucking from Storage Area to Site

When a flatbed truck is used place two timbers across the floor of the truck about 10 inches from each end of the pipe. Nail stop blocks on each side of the timber to prevent movement. Pipe should not extend more than 3 ft. out the back of the truck.

If more than one tier of pipe is carried, use stacking boards between each tier. Secure the load with load binders, using two for each pile. Locate binders outboard and close to the bottom timbers. (Figure 9)

Stringing Pipe

Certain-teed Asbestos-Cement pressure pipe with FLUID TITE Couplings is light enough to handle and assemble easily. It is not necessary to distribute the pipe along the trench before the trench is opened. Most contractors prefer to string the pipe as the trench is excavated. This cuts handling time to a minimum.

When unloading pipe, be careful not to drop or hit a spigot against another pipe. Make sure you have enough men and equipment on hand. A crew of four men is needed for 4-inch and 6-inch pipe, two on the ground and two on the truck. Handle each length separately.

Be careful not to damage the machined areas of the pipe. Scratches or chipping may necessitate cutting and re-machining the pipe end.

Short lengths of pipe, fittings, lubricant and rubber gaskets should be stored at a central point where they will be protected against loss. Keep rubber gaskets away from oil and grease, sunlight, heat and ozone producing equipment. Store in their original container in a cool, dark place.

CHAIN BINDERS

When unloading and handling is not available, chain binders may be used. Padding should be placed under the chain at points where the chain binds on the pipe. Place the chain over the area where stacking boards are placed. Do not use a pipe or other extension to increase the leverage on the binder.

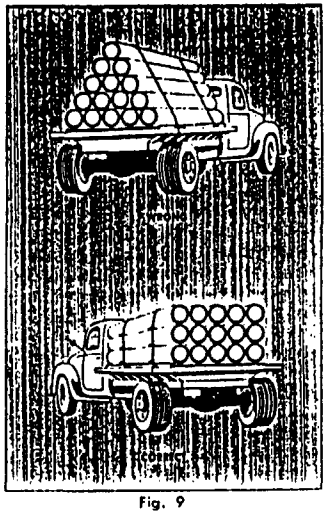

Fig. 9

ALL CERTAIN-TEED ASBESTOS-CEMENT PIPE AND COMPONENT PARTS ARE COLOR CODED AT THE FACTORY.

CAUTION

DO NOT JOIN DISSIMILAR COLORS; DO NOT STOCK IN SAME LOCATION.

MAKE SURE TO CHECK FLUID-TITE GASKETS FOR PROPER SIZE AND CLASS.

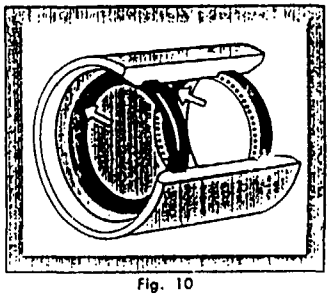

Fig. 10

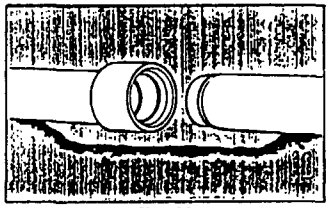

Fig. 11

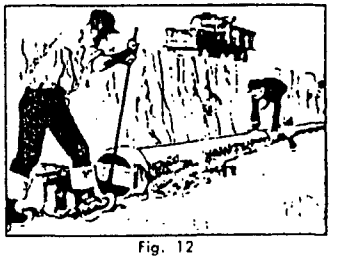

Fig. 12

Items Needed for Joining the Pipe

3" to 8" Pipe	10" to 24" Pipe
Large Crowbar	FLUID-TITE Coupling Puller (optional)
Block of Wood	Large Crowbar
	Block of Wood
Lubricant	Lubricant
2" Flat Paint Brush	2" Flat Paint Brush

CERTAIN-TEED FLUID-TITE COUPLING ASSEMBLY INSTRUCTIONS

Certain-teed FLUID TITE Couplings are easily assembled. The scientifically designed and patented rubber gaskets have tapered surfaces that allow the pipe to assemble easily - yet seal perfectly. (Figure 10)

A. BEFORE ASSEMBLY, MAKE SURE THAT THE GASKET, COUPLING GROOVES, THE COUPLING AND THE PIPE ENDS TO BE ASSEMBLED ARE CLEAN.

B. ASSEMBLY

1. Place rubber gaskets inside coupling grooves with holes facing center. After placing, snap the gasket at the four quarters of its circumference to insure that the gasket is properly seated in the groove. (Figure 10)

2. Thoroughly clean pipe ends to be assembled before lubricating. The lubricant should be applied either by a 2" flat paint brush, glove, cloth pad or by hand, to the entire machined pipe end and to the rubber ring. Keep lubricated pipe ends and coupling clean after lubricant has been applied. DO NOT LEAVE DRY SPOTS.

3. Align the ends of each pipe, then separate about two feet (for UNbelled pipe) to allow for assembly. On PREbelled pipe, align pipe end with coupled end. (Figure 11) IMPORTANT: Where applicable, make sure CERTA-SPACER band is flush against first shoulder of unbelled end of pipe.

4. Just push pipe home.

C. UNBELLED PIPE

1. For UNbelled pipe place coupling over the lubricated pipe end. Push couplings with a crowbar, use a protective wood block between bar and coupling. *Push until gaskets are against pipe shoulders* or, where applicable, until coupling is against CERTA-SPACER band. For PREbelled pipe, align the pipe end, with the coupled end and shove until the assembly is made. (Figure 12)

2. Proceed to make next joint in the same manner. Completed joint is shown in figure 13.

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PROCEDURE FOR LARGER PIPES WHEN USING PULLER

1. Guide the end of the free pipe into the coupling. Use a coupling puller to complete the joint.
2. Set base of coupling puller on top of fixed pipe, approximately 12 inches from the coupling.
3. Place puller base chain tightly around pipe. Fasten link into slot (Figure 16).
4. Fasten pull chain around free pipe about one foot from the pipe end.
5. With puller handle leaning slightly toward free pipe, tighten pull chain and fasten to pull hook.
6. Pull handle toward fixed pipe with one continuous motion until gaskets are seated against both pipe shoulders or, where applicable, coupling is seated against both CERTA SPACER rings (Figure 16).
7. Unfasten chains. Remove puller.



Fig. 13



Fig. 14

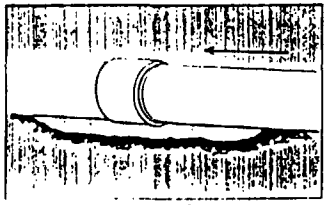


Fig. 15

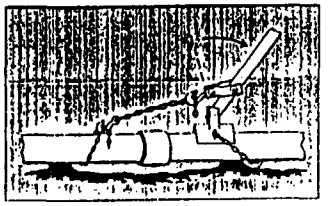


Fig. 16

CERTA SPACER
Pipe Positioning Bands

(These positioning bands are especially adapted for use in the pipe coupling system covered by U. S. Patent 3,122,964 and by Canadian Patent 699,859 issued December 15, 1964.)

CERTA SPACER is a registered trademark of Certain-teed Products Corporation, Valley Forge, Pennsylvania 19481.

FLUID-TITE[1]
Asbestos-cement Pipe and Piping System Components

(These products are especially designed and adapted for use in the pipe coupling system covered by U. S. Patent 2,871,031 and by Canadian Patent 612,654 issued January 17, 1961.)

FLUID TITE is a registered trademark of Certain-teed Products Corporation, Valley Forge, Pennsylvania 19481.

WARRANTY

Products manufactured and sold by us are warranted only to the extent that we will replace without charge products proved to have manufacturing defects within six months of the date of delivery thereof, and provided we have been given an opportunity to inspect the product alleged to be defective and the installation or use thereof. This warranty does not apply to products which have not been installed in complete compliance with Certain-teed installation instructions. Products sold by us which are manufactured by others are warranted only to the extent of and are limited to the warranty of the manufacturer. No warranty is included against any expense for removal, re-installation or other consequential damages arising from any defect. Owing to the widely varying conditions under which our products are installed and which we cannot be and are not bound, and no person is authorized to bind us, by any further warranty whatsoever. The warranties set forth above are in lieu of all other warranties express or implied including the warranties of merchantability and fitness for a particular purpose. In no event shall we be responsible for consequential or incidental damages of any kind.

For Detailed Installation Instructions Consult Our Installation Guide

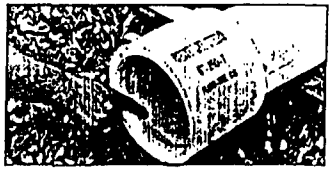
INSTALLATION INSTRUCTIONS—CERTAIN-TEED PRESSURE PIPE

Some pressure pipe sizes are available with factory-applied CERTA-SPACER® band that automatically provides positive separation of pipe ends.

Here's the time saving way to install asbestos cement Pressure Pipe.

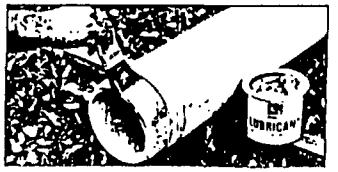
CAUTION
This page contains installation instructions for
PRESSURE PIPE ONLY
See page 8 for installation instructions of NON PRESSURE SEWER PIPE.

FOR PRE-BELLED PIPE



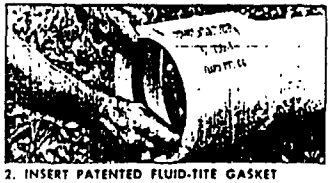
1. CLEAN GROOVE

Before inserting gasket, BE CAREFUL to remove any foreign matter from the coupling grooves. This will allow the gasket to seat properly.



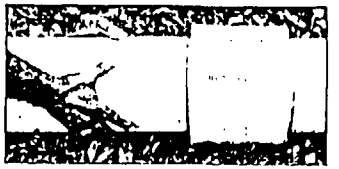
3. LUBRICATE PIPE AND GASKET

IMPORTANT: Make sure CERTA-SPACER band, where used, is flush against first shoulder of pipe. Next, apply even coating of Lubricant to machined end of pipe and FLUID TITE gasket. AVOID leaving dry spots; KEEP lubricated pipe end OUT OF DIRT.



2. INSERT PATENTED FLUID-TITE GASKET

Remove dirt from gasket surfaces. Insert gasket into grooves of coupling so gasket fits evenly and snugly. The molded flat surface with holes should face center of the coupling. Tapered for ease of installation, patented gasket forms a permanent leak-tight seal.



4. PUSH PIPE HOME

Align pipe ends and insert pipe in coupling. Push pipe until it stops. No heavy equipment needed . . . no spacing yokes required. Certain-teed Pipe installs even faster than before, yet allows positive clearance of pipe ends for expansion, contraction and deflection of pipe.

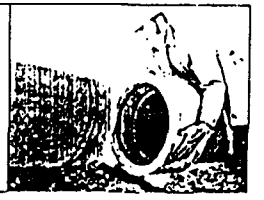
FOR UN-BELLED PIPE

(A) FOR BELLING AHEAD OF TRENCH INSTALLATIONS:
Proceed as described in Steps 1, 2 and 3 above, and assemble coupling on the pipe end with an easy push until the coupling stops. Repeat all of the above Steps when completing the connection in the Trench.

(B) FOR TRENCH INSTALLATION
Proceed as above for entire coupling. Be sure to clean both pipe ends and gasket grooves. Push easily until both pipe ends are fully inserted into the coupling.

THE TOUGHEST JOINT IN TOWN IS ABOUT TO GO DRY.

Certain-teed solves the leaker problem with joints as tough and tight as the pipe itself: the FLUID TITE coupling. Heavy-duty rubber gaskets seal against shoulders to keep joints bottle tight. Positive separation allows for expansion, contraction, deflection.



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For Detailed Installation Instructions Consult Our Installation Guide

INSTALLATION INSTRUCTIONS CERTAIN-TEED NON-PRESSURE SEWER PIPE

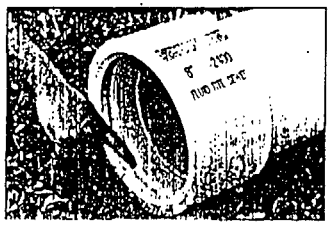
CAUTION

This page contains installation instructions for

NON-PRESSURE SEWER PIPE ONLY

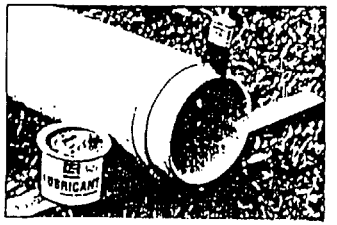
See page 7 for installation instructions of PRESSURE PIPE

FOR PRE-BELLED PIPE



1. CLEAN GROOVE

Before inserting gasket, BE CAREFUL to remove any foreign matter from the coupling grooves. This will allow the gasket to seat properly.



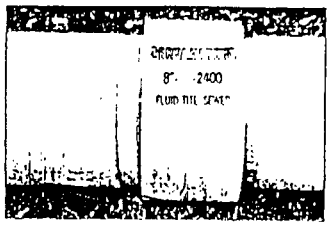
3. LUBRICATE PIPE

Apply an even coating of Certain-teed FLUID TITE lubricant to machined end of pipe. AVOID leaving dry spots. KEEP lubricated pipe end out of dirt.



2. INSERT PATENTED FLUID-TITE GASKET

Insert gasket into the grooves of the coupling so that gasket fits evenly and snugly. The molded flat surface should face the center of the coupling. Tapered for ease of installation, the patented gasket forms a permanent leak tight seal.



4. PUSH PIPE HOME

Align pipe ends and place pipe in coupling. Push pipe until it stops. No heavy equipment needed.

CERTAINTEED

Pipe & Plastics Group

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