

Ehret Magnesia Manufacturing Co.

Valley Forge, Pa.

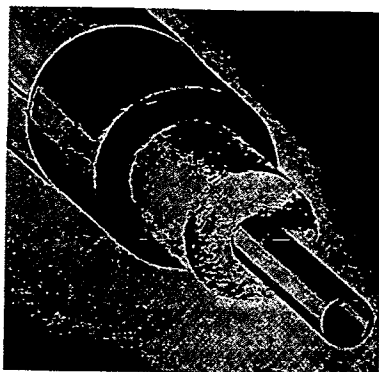
DURANT PRE-SEALED INSULATED PIPE SYSTEM

The Modern Way to Insulate and Protect Underground and Outdoor Piping. (Hot and Cold)

Explanation

Durant Pre-Sealed Insulated Pipe Systems have been in successful use in the far west for fifteen years. A great many installations have been operating under a variety of conditions which have proven beyond any doubt that the system is thoroughly reliable. The absolute protection of the pipe and insulation against moisture and soil conditions has solved the problem which has bothered engineers.

The Ehret Magnesia Mfg. Co. obtained an exclusive control of the manufacturing and sales rights. A new department was built at Valley Forge and equipped with



the most modern equipment to properly produce Durant Pre-Sealed Insulated Pipe. This department is now in active production and orders of any size can be efficiently and expeditiously handled.

The most carefully designed and constructed systems for protecting underground piping have frequently caused serious trouble due to leakages with not only great impairment to the insulation and the pipe but to loss of efficiency in the operation of the lines. The same has often been the case with outdoor pipe lines exposed to the elements. Here the old method of wrapping on roofing materials has usually been ineffective, for no matter how securely applied the action of wind and weather eventually causes cracks and

looseness with resulting damage to the covering and pipe.

The Durant Pre-Sealed Insulated Pipe system completely overcomes these difficulties in an effective and permanent manner. Not only did the Durant Pre-Sealed Insulated Pipe system overcome the engineering difficulties of protecting the pipe lines but it greatly simplified the installation as the sections of treated pipe are delivered to the job as entirely complete units, only joint and fitting connections being necessary in the field.

Description

Solid Asphalt Shell—A special grade of pure high melting point asphalt is melted and cast around the pipe, or insulation, which results in a seamless and jointless coating which will be forever a permanent resistance to the entrance of moisture or infiltrating air. Jackets accurately spaced around the pipe, or insulation, insure uniform thickness of the asphalt layer. These jackets are left in place and protect the surface from mechanical damage in shipping and handling.

Thickness of Asphalt—The layer of asphalt can be applied in any thickness. For insulated piping in underground conditions a 1-in. thick coat of the asphalt is recommended, and ordinarily supplied. For insulated piping with outdoor conditions a thickness of $\frac{1}{2}$ -in. is usually sufficient. Where uninsulated piping is to be protected from the corrosive action of the soil and from electrolysis there should be a surface seal consisting of a $\frac{1}{2}$ -in. thickness of the asphalt.

Perfectly Sealed Connections—The method of treating joint and fitting connections, as described on the next page, actually extends the asphalt shell along the entire pipe system in an absolutely seamless manner.

Any Kind, Size and Length of Pipe—There is no limit in size or length of pipe which can be given the Durant treatment and any specified type of pipe can be used. However, ordinary stock lengths will be supplied unless special lengths are ordered. Curved or bent pipe can be treated in the same manner as straight pipe.

Insulation Material—Engineers recognize the durability of 85 per cent Magnesia and that it is a yardstick of thermal efficiency because it is practical both for low temperature piping and for piping having temperatures up to 600 F. Therefore Ehret has selected 85 per cent Magnesia as the ideal product to incorporate in the Durant Pre-Sealed Insulated Pipe System. Thickness recommendations of the 85 per cent Magnesia will depend on the service and the conditions.

Discussion

The reasons for the effectiveness of the Durant Pre-Sealed Insulated Pipe method in protecting pipe and insulation are obvious. Asphalt is well known to be absolutely impervious to the passage of moisture or air through it. The dense, jointless casing of asphalt thoroughly and permanently prevents water and air from penetrating through. This not only insures against deterioration of the pipe and insulation, thus preventing losses in the line, but the perfect surface air seal actually increases the overall efficiency.

The asphalt protection will not crack from the pressure of the soil and it is sufficiently ductile to follow any possible movements of the pipe line.

There are no cemented joints or seams which might crack open and leak.

The insulation and the protective coating are applied at the factory under most favorable conditions. This is in great contrast to the difficulty experienced in

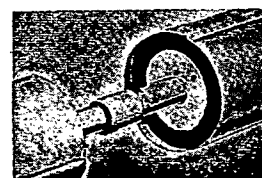
separately installing the pipe, insulation and surrounding protection in the field. This is especially true for underground installations where the work must be done at the bottoms of narrow, deep and often muddy trenches with questionable results.

Durant Pre-Sealed Insulated Pipe is delivered to the job in complete pipe lengths (approximately 20-ft. sections). The only work to be done in the field is to make the joint and fitting connections.

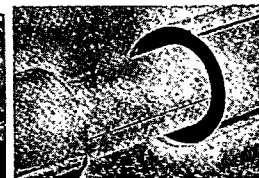
For underground work the trench can be narrower and shallower than for a conduit or tunnel for the same size pipe. The running length of the trench need only be wide enough to accommodate the treated pipe. Only at connections need any greater width be used to allow for a man to work in. The Durant Pre-Sealed Insulated Pipe rests directly on the bottom of the trench and no greater depth is necessary to allow for crushed stone and underdrain tile. The back filling can be accomplished in one operation as the soil can be settled into place by flooding with water. This eliminates the necessity of the men returning at a later time to add earth to the sunken surface.

Installation

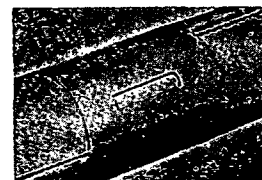
After the connections are made and tested, insulation is applied of the same type and thickness as on the adjacent pipe, after which the necessary jackets are placed in position and the melted asphalt poured in. The following illustrations indicate the simple manner in which this is done.



STEP ONE
Field joint ready for inspection.



STEP TWO
Joint covered with standard pipe insulation.



STEP THREE
Special Durant joint casing in place ready for Asphalt.



STEP FOUR
Asphalt poured in slot—a perfect seal.

