PLAINTIFF'S EXHIBIT

CAP-1291

AMERICAN NATIONAL STANDARDS INSTITUTE A40
MEETING AT NEW YORK CITY

I attended the above meeting on September 9-10, 1981 at the Doral Inn, New York City, New York. This meeting was a reorganizational meeting. The Committee membership has been reduced from 52 to only 26 members which include the most active members.

The aim of the Committee is to come up with a national plumbing code (similar to the National Electrical Code). The present regional codes (SBCC, BOCA and IAPMO) may or may not continue in existence for a period of time. At present, A/C pipe is included in the draft for water distribution pipe, sewer pipe, building sewer pipe, building storm sewer pipe, storm drain, and subsoil pipes. The draft needs to be updated as to the latest dated revisions of the various ASTM and AWWA Standards. All Standards will be updated before the final acceptance of the code.

This group should be continually monitored because the cast iron interests and the United Association of Plumbers are continually attempting to eliminate all piping materials except cast iron in the code. There is a delicate voting balance which at present prevents this from happening.

New ASME, the sponsor, procedures were adopted. Members are allowed one (1) alternate. (Temporary alternates will be allowed if submitted in writing in advance). Organizations are allowed only two missed meetings before the organization is dropped from the Committee. It would be well to appoint an alternate (J. C. Jackson) in the near future.

The next meeting of the Committee will be December 1, 2 and 3, 1981 in Los Angeles, California. At that time, it is expected that the important chapter on piping materials will be covered. The Association should have someone present at that meeting.

T. R. Gillen
Director
Technical Affairs

May 8, 1980

GUIDELINES ON THE USE OF ASBESTOS CEMENT PIPE IN AGGRESSIVE WATER CONDITIONS

It is known that highly corrosive or "aggressive" water can have a detrimental effect on most piping materials, accessories, and appurtenances used in potable water systems. Highly aggressive water may extract materials from these products thereby reducing their projected life expectancy and adding impurities to the water.

Asbestos-cement (A/C) is one of the most corrosion resistant pipe materials used to convey water. This corrosion resistance has been demonstrated in service over the past fifty years. This fact is further attested by corrosion studies conducted by the U.S. Government. These governmental studies have involved both iron pipes and A/C pipe exposed to aggressive soil conditions (U.S. Bureau of Standards), and highly aggressive waters (U.S. Bureau of Mines). In each of these studies A/C pipe has demonstrated significant superior corrosion resistant properties to cast and ductile iron pipe.

While the service stability and long term performance of A/C pipe is well documented, the Association of Asbestos Cement Pipe Producers (AACPP) strongly supports water industry standards aimed at correcting or controlling the corrosiveness of all potable water. Since corrosion control is not being practiced by all utilities, AACPP has taken a leadership position in support of standards covering the responsible use of A/C pipe in aggressive water conditions.

The American Water Works Association (AWWA) and the American Society of Testing and Materials (ASTM) publish standards which contain criteria for determining the type of A/C pipe to be used under various internal water conditions. These criteria are based on "Aggressive Index" (AI) which defines water "aggressiveness" or corrosivity in the following terms:

$$\text{Aggressive Index (AI)} = pH + \log (A \cdot H)$$

where pH = Index of acidity (or alkalinity) of the water, standard pH units

A = Total alkalinity, ppm as calcium carbonate
H = Calcium hardness, ppm as calcium carbonate

Highly Aggressive: $AI < 10.0$

Moderately Aggressive: $AI = 10.0 - 11.9$

Non-Aggressive: $AI \geq 12.0$

AACPP supports the use of the aggressive water guidelines published in AWWA and ASTM Standards for A/C pipe. There are conditions of use where the useful life of A/C pipe and many other types of pipe, particularly metallic pipe, will be affected by highly aggressive waters. It is the position of AACPP that such waters should be treated to a less aggressive condition.

Where the Aggressive Index remains less than 10.0 following stabilization treatment, the manufacturer should be contacted for recommendations to extend the useful life of A/C pipe.

CAPCO JEN 0033258

A/C Pipe
Producers Association

Further details will be forthcoming prior to the meeting.

cc: A. Kahn, Esq.
N. Rahn, Esq.

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