

Know

You Should



A Message from the American Concrete Pipe Association

Bulletin No. 112

Industry Experts Call for Stress Testing for HDPE Pipe Materials

October 26, 1997 – 32 pages

Last fall, as a service to our members, the American Concrete Pipe Association made available copies of the Fall 1996 issue of *Uni-Bell PVC Pipe News*. This issue contained important information and observations concerning cracking and buckling problems involved with some corrugated HDPE pipes. One of the most publicized installations involved a deep-fill project in Pennsylvania.

You and your customers may be interested to know that as a result of the cracking and buckling problems, AASHTO has been asked to consider a proposal which would require material stress qualification tests for all corrugated HDPE pipe materials. The attached letter was sent by the Uni-Bell PVC Pipe Association to State DOT engineers urging their support of this proposal. We have included a copy of the letter and proposal for your information. (See Addenda I and II.)

In light of the letter and proposal, here, too, is some additional food for thought:

- If the aforementioned Penn DOT study passed the load tests conducted by Professor Ernest Selig (as reported in the August 18, 1988 issue of *ENR*, see Addendum III), why did Professor Selig later report that cracks in the HDPE lengthened with time and the HDPE liner debonded from the outer HDPE corrugation in some areas? (See Addendum IV.)
- How can the manufacturer promote that its corrugated HDPE pipe performs well at fill heights of more than 100 feet (as they did in a N-12 product brochure in 1989, and again in 1994, see Addenda V and VI.), given the latest results of the Penn DOT study in 1995 and numerous reports of in-service circumferential splitting and wall buckling? (Refer to Addendum IV.)

Continued on back.

- What is the manufacturer's definition of performance? When Professor Selig was asked, "as to whether the products would have performed if buried under a hundred feet of fill and sold to a customer," he responded, "If the application had been as a drainage pipe with the embankment, no." (Page 169 of the deposition. See Addendum VII.)
- If, in fact, the Penn DOT study was "designed to fail" (as another HDPE pipe manufacturer later reported in their response to the Uni-Bell PVC Pipe Association challenges), why did the manufacturer tout the success of this deep buried project, with absolutely no mention of the trial nature of the installation? (See Addendum VIII. Also refer to Addenda V and VI.)

Another point to consider: Given the many questions raised about the long-term performance of HDPE pipe in service, would it be a prudent engineering judgment to install HDPE pipe under highways and other structures for which you could be held liable in case of product failure?

As a service to our members, the American Concrete Pipe Association will continue to keep you apprised of this situation, as new information becomes available.