



June 7, 2002

Paul Smeltzer, P.Eng.  
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Dear Mr. Smeltzer,

I just finished reading a recent issue of your publication, *Just the Facts – Concrete Pipe vs. HDPE*, and feel I must respond. The publication is a collection of misstatements designed to do nothing more than scare the design community from using HDPE pipe. I personally see little value in any industry embracing such a negative approach, and I have confidence that design engineers and specifiers will see through such tactics, and use a product based its proven performance.

While there are many, many misstatements in the publication, I draw your attention to only a few:

*OCA Misstatement:* “A general lack of pipe stiffness is the biggest contributor to deflection and deformation problems.”

*PPI Response:* Flexible pipes, such as HDPE corrugated polyethylene, rely upon their deformation of the pipe from imposed loads to mobilize the support of embedment materials on both sides of the pipe. Their primary structural function is distributing the imposed vertical loads to the surrounding soil. Hence, a pipe system’s loads can increase significantly with a corresponding increase in the stiffness of embedment materials.

*OCA Misstatement:* “The longer lengths of pipe, approximately 6m, require close control of bedding material, grade and compaction during installation...”

*PPI Response:* All piping materials require close attention to the installation techniques. HDPE corrugated pipe relies on proper compaction and bedding materials to transfer loads to the surrounding soil. Reinforced concrete pipe carries the total load by the pipe itself. When the bedding is improperly installed, over time the pipe will experience more and more of the trench load, and its capacity may be exceeded. Cracks will develop and the reinforcing steel, will be exposed to corrosive conditions, leading to pipe failure.

*OCA Misstatement:* “Smooth inside wall HDPE pipe develops ridges in the liner when installed.”

*PPI Response:* This is an exaggeration. In the vast majority of installations this does not occur. If there is any deformation, the liner remains continuous and smooth and there is little affect on hydraulic capacity. Utah State University research has proven this out.

*OCA Misstatement:* “This research has shown that the lack of stress crack resistance of the polyethylene resin used to manufacture HDPE pipe leads to this long term problem.”



*PPI Response:* It is widely known that today's HDPE resins are resistant to stress cracking resistance. Over the past decade, the industry, along with the National Cooperative Highway Research Program(NCHRP), has studied this issue extensively. As a result, today's products are highly engineered piping systems with excellent long-term performance. And, contrary to your statement "many HDPE pipe manufacturers do not choose to do so (conduct ESCR testing)", the industry developed the Notched Constant Ligament Stress (NCLS) test (ASTM F2136) to evaluate long-term performance, and the industry evaluates resins to that test.

*OCPA Misstatement:* "If HDPE pipe joints are torn during installation..."

*PPI Response:* Tearing of joints during installation is extremely unlikely. In fact, concrete pipe is probably more prone to damage during installation than is any other competing material, plastic or otherwise.

*OCPA Misstatement:* "Polyethylene, as a material component, is less familiar and more difficult to evaluate."

*PPI Response:* True – polyethylene is less familiar to the users of concrete pipe. But this does not make it more difficult to evaluate. In fact, the formulation of HDPE can be adjusted to give an end product with exactly the properties as desired. And the properties can be controlled much more closely than reinforced concrete pipe which depends on such widely varying variables as aggregate properties and curing techniques.

These are but a few of the misstatements and half-truths in your publication. In one sense, I am pleased to see the Ontario Concrete Pipe Association spend so much time and effort attacking our industry. It shows we are making real inroads into the market. The real losers in such efforts, though, are the end users, who may ultimately be confused as to the benefits of capable, and often, superior engineering products.

The PPI is committed to educating the engineering and design community in a responsible manner, and will not engage in negative attacks such as those of the Ontario Concrete Pipe Association. Our education efforts will focus on the quality of our products and the credibility of our member companies and our industry. I challenge the OCPA to do the same.

Regards,

Rich Gottwald  
Executive Director

CC: John Munro, Munro Concrete Products – Chairman of the Board, OCPA