



How to Specify a Sustainable Sewer Pipe

By Tera Arthur

How do municipalities, engineers and systems managers know which environmental claims are credible, which claims are misleading and which claims are just plain greenwashing? Here are a few guidelines to consider when specifying sustainable and environmentally-preferable sewer pipe:

Raw Materials: Raw materials should be natural, plentiful and renewable. Whatever the product, environmental claims should include the entire manufacturing process, from the initial sourcing of the raw materials to the final installation.

Manufacturing Process: No Stockholm Chemicals (a list of 31 persistent organic pollutants) should be used or produced in the manufacturing process. The original list, with only 12 chemicals listed, was developed in 2001 and included PCBs, DDT and Dioxin. Dioxins are a substantial byproduct of the manufacture of PVC. Toxic PVC constituents can leach out of PVC pipe into the environment.

Energy Usage: The consideration of energy usage should encompass the energy required to source materials, manufacture the pipe and deliver it to the job site. Some manufacturers are claiming low energy use by excluding the energy required to acquire the raw materials or transport them.

Life Cycle: Life cycle claims abound and validation of claims has become critical. One way to validate claims is to request an ISO-14000 series-compliant Life Cycle Assessment. Without the structure and discipline of the ISO, some life cycle claims have been wildly exaggerated.

Affordability: For a product to be environmentally preferable, it must make efficient use of resources in the long term. The lowest life cycle cost is the best measure of this value. Short-term savings can be misleading and misguided.

Avoid the Red Herrings: Recyclability is an admirable trait for consumer products, but inappropriate when considering sewer pipe products. At the end of service life, sewer lines are not recovered for recycling, so recyclability is irrelevant.

Available Certification Resources: Often, finding the answers to these questions requires extensive research and time that most of us can't spare, so responsible certification systems can be an important tool.

The oldest and best known of these systems is the USGBC's (US Green Building Council) LEED (Leadership in Energy and Environmental Design) program. Until recently the LEED program didn't include any consideration of infrastructure. With the introduction of the LEED-ND (Neighborhood Development) system in 2009, the USGBC has expanded its focus to include infrastructure.

The SMaRT (Sustainable Materials Rating Technology) program has been designed to directly meet the criteria of the USGBC's LEED program as well as focusing on individual products instead of the entire project. The SMaRT program requires that all products have an ISO compliant Life Cycle Assessment and prohibits use or production of toxic Stockholm Treaty chemicals. The products of the member-companies of the National Clay Pipe Institute have been SMaRT certi-

fied as sustainable to the triple bottom line and will directly contribute to LEED Points.

"For Vitrified Clay Pipe manufacturers, green is not a marketing fashion we just adopted," said Dr. Thomas M. Garrett, director of research for Mission Clay Products. "We were environmentally friendly when green was just a color. We have harnessed the fundamental geology of the planet, the cycle of uplift and erosion. It is the product with the lowest life cycle cost."

The need for an infrastructure project sustainable rating system led the American Society of Civil Engineers (ASCE), the American Consulting Engineers Council (ACEC) and the American Public Works Association (APWA) to form the Institute for Sustainable Infrastructure (ISI) as an independent, non-profit organization. It is designed to specifically address the special requirements of infrastructure design, construction and management. The first three pipeline pilot projects under this system have just been completed and reviewed through the Envision system. As this program is refined, the goal is for it to become the standard for all infrastructure projects.

Tera Arthur has worked with the National Clay Pipe Institute and its member companies for 10 years in marketing and public relations. With over 20 years of experience in marketing, Tera has spent 15 years specializing in products for architectural and engineering markets. She is president of Arthur Associates, a business development and performance improvement firm.