

# Taking Stock of the Pipe Market

*Trenchless Technology* Conducts Poll of U.S. Sewer Pipe Usage

By Sharon M. Bueno

It's hard to believe but there was a time in the United States when there were few choices when it came to choosing pipe materials. More than 100 years ago, brick was a popular choice but many cities chose a more convenient conduit, namely local rivers and streams. An old hollow log was also an option.

But that was then. Over the years, a plethora of pipe choices have given sewer owners options their predecessors two centuries ago didn't have. The method of installation has evolved as well and includes trenchless techniques such as pipe bursting, sliplining, pipe jacking and horizontal directional drilling.

As a result, today's sewers comprise a variety of pipe materials. So what are cities putting in the ground and how are they installing it or rehabbing their existing pipe?

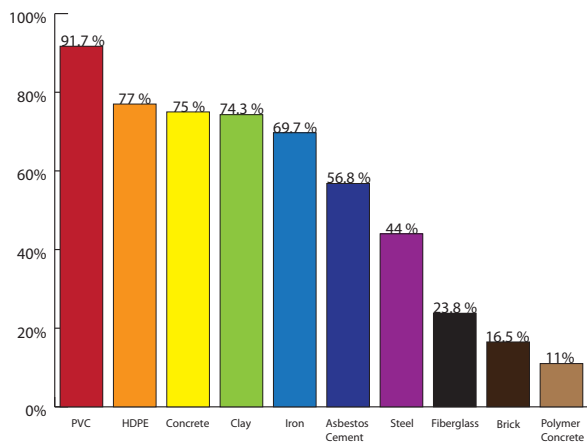
To get some perspective for what is already in the ground and what is going in the ground – as well as the criteria affecting an owner's decisions – *Trenchless Technology* informally polled sewer system operators and consulting engineers from around the United States. The results of that poll are revealed over the next three pages.

*(Editor's Note: For some questions, respondents were allowed to check more than one answer, making some of the percentages exceed 100 percent.)*

**1. Rate the importance of the following characteristics when choosing pipe material:**

Meeting standards was the most important factor in choosing pipe, with 74 percent of respondents indicating that meeting standards was “extremely important.” The second most important criterion was the longevity/design life of the pipe at 64 percent. These two areas swapped top spots in a poll we conducted in 2004. Ease of installation had the least amount of “extremely important” responses at 24 percent. Price was noted as the least important factor.

**2. What type of pipe do you have in your system?**



At 91.7 percent PVC was the most commonly used pipe material among the communities that responded, with HDPE coming in second at 77 percent.

**3. How old is the pipe in your system?**

More than 100 years old	9.66 percent
75 to 100	17.4 percent
50 to 74	22 percent
25 to 49	32.2 percent
0 to 24	29 percent

**4. Do you have requirements for design life?**

Yes: 55 percent / No: 45 percent

**5. If yes, what is the minimum design life required?**

The average design life required in this survey was 60.1 years, compared to 50.3 years in the 2004 survey. In fact, 63.8 percent of respondents indicated that they require a design life of at least 50 years. The least design life was 20 years, representing less than 1 percent of those who responded.

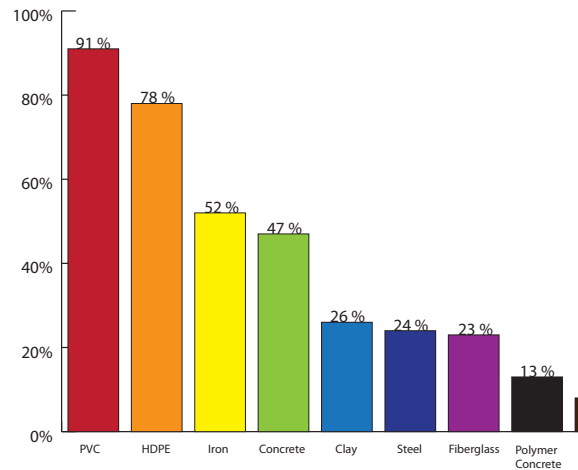
**6. Have you changed your design life requirements in the last five years?**

Yes: 13 percent / No: 87 percent

**7. Do you only accept certain pipe materials?**

Yes: 75 percent / No: 25 percent

**8. If yes, which pipe materials are accepted?**

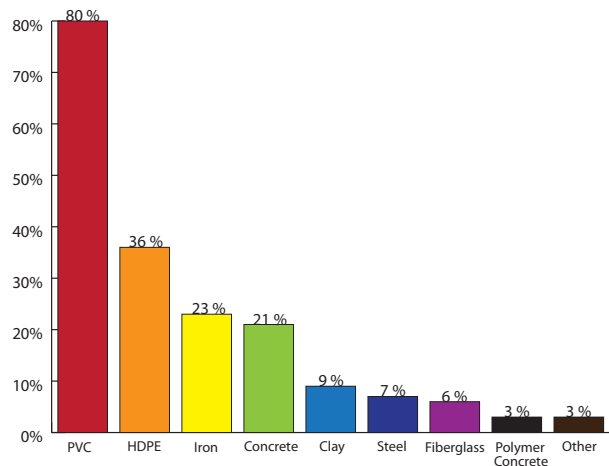


**9. In your designs, do you specify pipe material?**

Yes: 92 percent / No: 8 percent

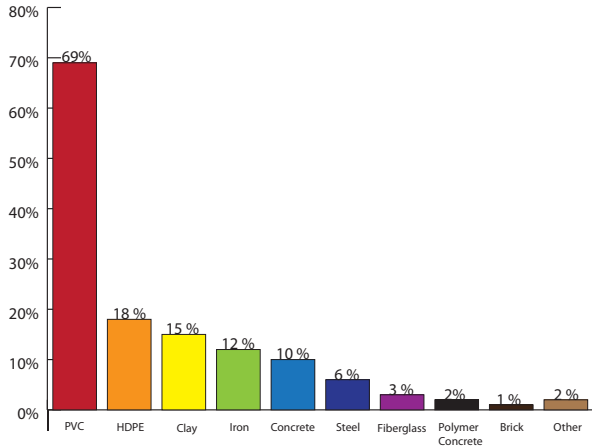
[In our 2004 survey, 97.6 percent specified pipe material in their designs, a difference of 5.6 percent.]

**10. If yes, what type of pipe material is most commonly specified?**



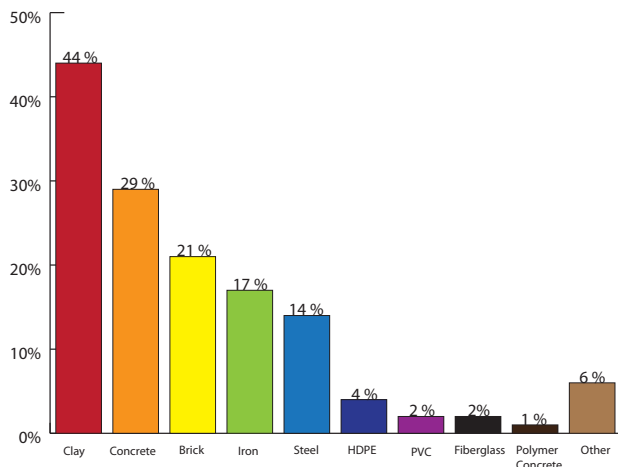
The gap between PVC and HDPE since 2004 has narrowed a bit, with 63 percent of respondents in 2004 specifying PVC and 13.6 percent specifying HDPE. The 2008 poll shows that projects are showing an increased usage of HDPE and PVC.

### 11. What type of pipe is the easiest to maintain/rehab?



[There is virtually no change in the results of this question in 2004.]

### 12. What type of pipe is the most difficult to maintain/rehab?



### 13. What type of pipe achieves the longest life cycle?

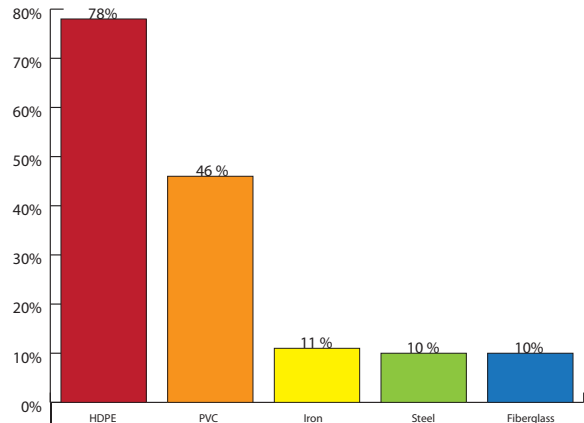
- PVC: 48 percent
- HDPE: 26 percent
- Clay: 17 percent
- Iron: 17 percent
- Concrete: 14 percent
- Polymer Concrete: 5 percent
- Fiberglass: 4 percent
- Brick: 3 percent
- Steel: 3 percent
- Other: 6 percent

### 14. When performing trenchless applications, do you specify pipe materials?

Yes: 83 percent / No: 17 percent

[This percentage dipped a bit from 2004, in which 90 percent of respondents indicated they specify pipe materials when performing trenchless applications.]

### 15. What types of pipes do you use for trenchless projects?



### 16. Rate the importance of the following characteristics – Compatibility with Existing System, Ease of Installation, Longevity/Design Life, Meets Standards and Price – when selecting pipe materials for a trenchless project.

In 2008, 70 percent of respondents indicated that meeting standards was “extremely important” to them, followed by longevity/design life at 61 percent, compatibility at 42 percent, ease of installation at 40 percent and price at 31 percent.

We also asked respondents to let us know of other characteristics that are important to them when selecting pipe material. We received a variety of responses including: availability of pipe; joint type; type of trenchless application being utilized; corrosion and abrasion resistance; contractor experience with pipe material; and the track record of the product.

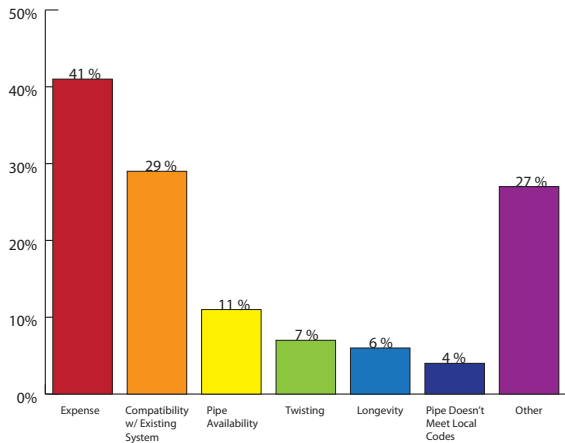
[The results in this question changed quite a bit since 2004, which 74.2 percent of respondents indicated that longevity/design life was “extremely important,” followed by ease of installation, compatibility with existing system, meeting standards and price.]

### 17. Does the type of pipe material required for a trenchless installation limit the use of trenchless techniques in your system?

Yes: 29 percent / No: 71 percent

[In this result, there is a complete about-face from 2004, in which just more than 71 percent responded Yes to this question.]

### 18. What is the biggest problem you face with pipe when completing trenchless installations?



Expense continues to be the biggest challenge that municipalities face when completing a trenchless project, as it was in 2004. Among the problems listed under Other were: pipe shrinkage, connections, contractor experience and reinstatement of services.

Overall, the 2008 survey shows some interesting thoughts about the use of pipe in trenchless projects: PVC and HDPE continues to dominant in its popularity of use and the number of pipe options available for trenchless projects, such as fusible PVC and restrained joint pipe, has expanded the trenchless market. We would like to thank those who participated in this year's survey.

Sharon M. Bueno is managing editor of *Trenchless Technology*.

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