

Executive Summary

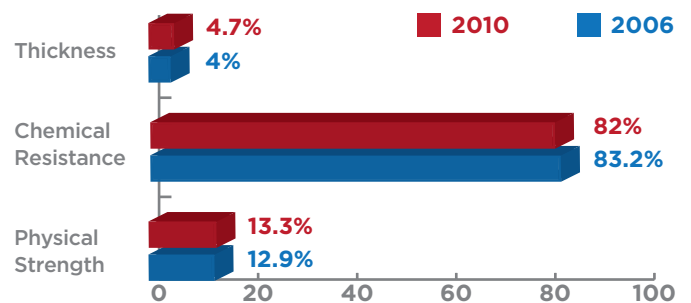
According to an independent survey of engineers, facility managers and contractors, factors such as chemical resistance and permeability are the most important attributes of protective linings used in corrosive environments. Furthermore, an established track record in preserving the infrastructure exposed to aggressive conditions is shown to be the most important consideration to justify one lining over another.

On the subject of physical properties, the survey provided insight regarding which potentially damaging stresses are of greatest likelihood to challenge the performance of coatings and linings. In short, respondents advised that each project should be considered on an individual basis, although response data suggested flexural strength to be critical in the case of underground construction.

This report summarizes the findings of the survey conducted in April 2010 by **WaterOnline**, a leading online sourcing service for the industry. **WaterOnline** focuses primarily on the wastewater treatment, drinking water purification, stormwater management and supporting equipment of the water industry. The survey was sponsored by Sauereisen, Inc. www.sauereisen.com.

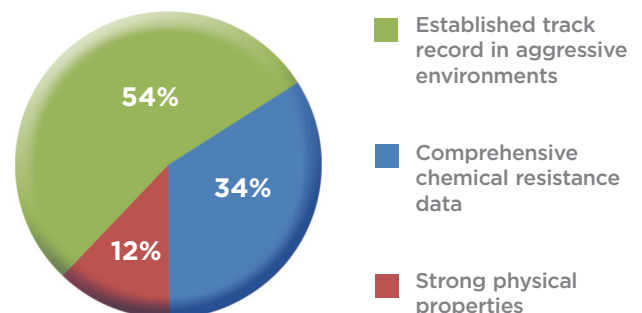
Chemical resistance is critical: Results from the 2010 survey and a previous iteration in 2006 yielded nearly identical responses on primary selection criteria. According to the participants, chemical resistance is overwhelmingly the top attribute in protective linings relative to the corrosion protection of infrastructure.

Which of the following qualities of protective linings is most important relative to the corrosion protection of infrastructure?



Experience matters: When it comes to selecting one corrosion resistant lining over another, more than half of the respondents prioritize the material's track record in similar environments. The factor of product history exceeded the combined variables of physical strength and lab-based chemical testing.

Which selection factor provides the greatest justification when specifying a given lining for corrosion protection?

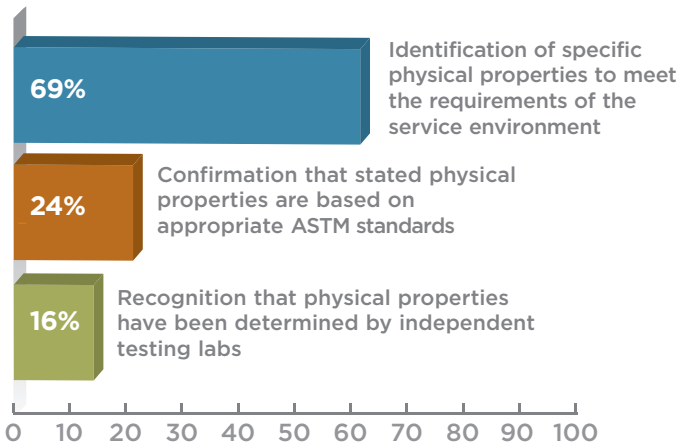


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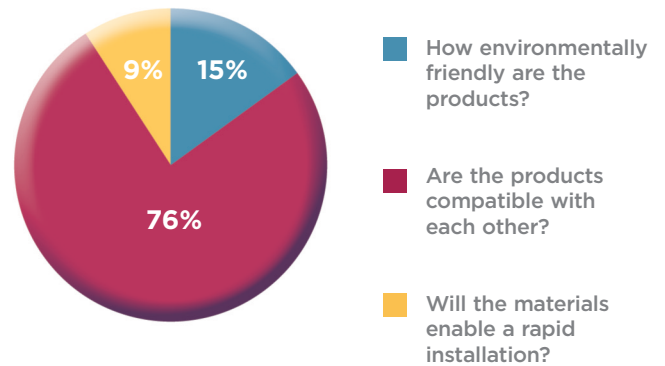
Physical property credibility: What is it that makes published physical property data credible? Respondents judged “*relevance to service conditions*” as more important than “*test method selection*” and “*independent verification.*”

What is the most important consideration when comparing the published physical properties of various materials?



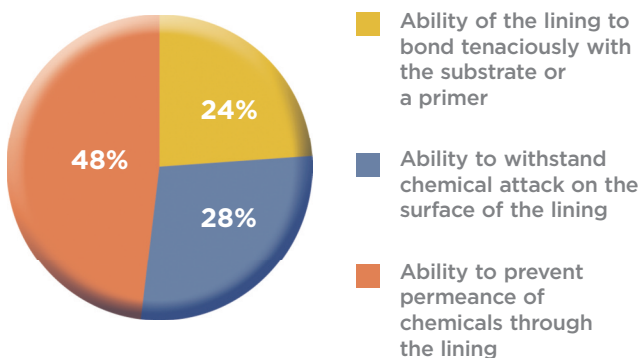
The wisdom of engineered systems: The nature of restoration projects is that multiple materials are frequently required. The participants advise that individual products be proven to work in conjunction with each other.

When identifying the best combination of materials to restore corroded infrastructure, what is the key question to ask of the products' ability to function as a "system?"



Low permeability is preferable: Corrosion resistant linings must bond tenaciously and exhibit chemical resistance upon their surfaces. According to the survey, the ability to impede permeance to the substrate is the main functional requirement of a lining.

What factor is most important when it comes to the functional chemical resistance of a protective lining?



Relevant strength varies: In planning to accommodate the dynamic stresses of underground coatings applications, respondents prioritized flexural strength over other physical properties. Although compressive data may be easily generated and frequently cited, it is not always as relevant in specific environments.

Polymer linings applied to the walls of underground infrastructure are more likely to be subjected to which of the following?

