

# Time to Call Out Plastic Pipe Industry's Misleading Advocacy



The plastic pipe industry's advocacy groups have crossed a line. Their relentless promotion of plastic piping products, while deliberately downplaying or ignoring significant limitations of plastic pipes, is a disservice to consumers and the construction industry at large.

## *Cherry-Picking Data*

One glaring example is the Polybutylene Piping Systems Association's (PBPSA) continued endorsement of polybutylene (PB) pipes. This stance flies in the face of widespread PB pipe failures documented across the years. The PBPSA has crafted a selective narrative, focusing solely on a single lawsuit (Cox vs. Shell) while conveniently overlooking numerous other legal actions against PB manufacturers. See: <https://www.pbpsa.com/cox-vs-shell-lawsuit-2>

The PBPSA's claim that U.S. litigation primarily stemmed from faulty acetal fittings rather than the PB pipes themselves is a blatant misrepresentation. This selective interpretation ignores the multitude of lawsuits filed that specifically implicate defective PB pipes, including:

- Babb vs. Shell
- Spencer et al. vs. Shell
- Hurt vs. Shell

By fixating on the Cox vs. Shell nationwide class action, the PBPSA attempts to deflect attention from the broader pattern of failures and legal challenges.

There were in fact multiple lawsuits filed against Shell regarding defective polybutylene (PB) pipes, beyond just the Cox vs. Shell case that the Polybutylene Piping Systems Association (PBPSA) tends to focus on. This selective focus by the PBPSA appears to be an attempt to downplay the extent of the issues with PB pipes. These additional lawsuits suggest that the problems with PB pipes were more widespread and not limited to just the fitting issues highlighted in the Cox case.

By focusing solely on the Cox case, the PBPSA appears to be creating a narrative that minimizes the extent of the PB pipe failures and the resulting legal actions.

The extracts below summarize the Babb vs Shell case:

The Babb case in Texas also highlighted widespread failures of the polybutylene pipe used in the hot water systems, where attack occurred not only from chlorine in the water but also from dissolved oxygen. The interior of pipes showed an extensive network of deep cracks, both radial and longitudinal, on the inner bores. Whether or not the acetal fittings or pipe failed first depended very much on local conditions in each household, such as exact temperatures used, as well as the state of individual components and the elapsed time since installation. The size of the settlement of several million dollars reflected not only the damage caused by sudden flooding, but also the need to replace intact systems before flooding occurred. But at least one positive outcome of the case was that house owners were warned of a possible if not probable problem. Clearly, there would be a spread of failures, the first being experienced on the earliest installations, which went back to the late 1970s.

With so many variables, the role of the expert witness was crucial, and Alexander Chudnovsky was the key expert who reported to the court.

He described numerous failed pipes and fittings that he had examined showing severe internal degradation such as whitening of the polybutene bore from its original grey colour caused by exposure to chlorinated water. He talked about the deep cracks which developed into the pipe wall, most of the bore being covered by such brittle cracks. He had also examined documents provided by Shell in disclosure, which from the early 1980s had described the problems of the acetal fittings in graphic terms as the 'acetal albatross'. Since the fittings generally failed first, Shell blamed them for the complaints they were receiving rather than the polybutene pipe they were supplying. Chudnovsky also thought that the fittings failed in about half the time of the pipe.

This selective presentation of information raises questions about the objectivity of the PBPSA's advocacy for PB pipes.

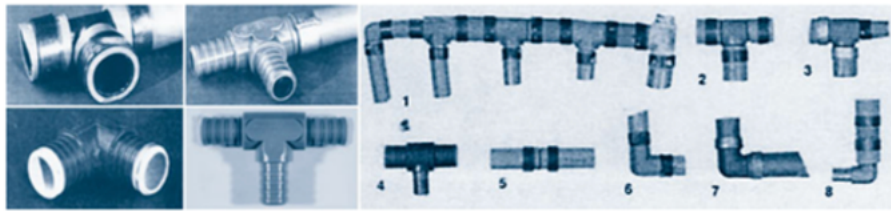
The existence of multiple lawsuits beyond the Cox case indicates that the issues with PB pipes were likely more systemic and widespread than the PBPSA's narrative suggests. This selective focus on a single case while ignoring others appears to be a deliberate attempt to shape public perception of PB pipe reliability in a more favourable light.

#### *Peddling of False Information*

The PBPSA website contains categorically false information such as: '*Acetal is not suitable for use in the transportation of hot water with a high chlorine concentration, however PB-1 performs well under similar conditions*' (see extract from website below)

*note:* underline and bold added for emphasis

- Acetal is not suitable for use in the transportation of hot water with a high chlorine concentration, however PB-1 performs well under similar conditions.



Numerous peer-reviewed studies have found PB pipes have very poor resistance to chlorinated water even at the typical chlorine concentrations found in drinking water (Bigg 2005, Lundback 2006, Niu 2004, Fujii 2017).

For instance, Niu and Zhou (2004) have reported on stress cracking of poly(1-butene) pipe leading to visible microcracks at just a 1 ppm chlorine concentration after approximately 1 year.

A study by Lundback et al., (2006) has found that chlorinated water caused early depletion of the antioxidant system in PB pipes and that leads to polymer degradation at the pipe inner wall resulting in early pipe failure. The PB pipes exposed to free chlorine failed approximately 10 times faster than those exposed to pure water, even at low chlorine concentrations.

The reduction in the antioxidant concentration was essentially independent of the chlorine concentration in the range 0.5 - 1.5 ppm Cl. The lifetime shortening in the PB pipes exposed to chlorinated water as low as 0.5 ppm accelerated by a factor of 10 with respect to that obtained in pure water (Lundback, 2006). PB pipes exposed to water with the lowest chlorine content (0.5 ppm) had a significantly shorter lifetime than the pipes exposed to pure water (Lundback, 2006).

### *The Cost of Misinformation*

This biased advocacy has real-world consequences. Contractors, homeowners, and municipalities relying on industry-provided information may make decisions based on an incomplete picture, potentially leading to costly failures and repairs down the line.

### *A Call for Transparency*

It's time for plastic pipe industry groups to embrace transparency and acknowledge both the strengths and weaknesses of their products. Only through honest, balanced assessments can we ensure the safe and appropriate use of plastic piping systems. The construction and plumbing industries deserve better than cherry-picked data and half-truths. It's time to demand accountability and objective information from those who claim to represent the plastic pipe sector.

### *References*

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