

## Compatibility with environment & pumped liquid

There are two primary dangers with incompatibility of pumped liquid or environment.

1. That liquid will escape: *(See the PulseGuard safety difference below)*
  - a). Seals and membranes can degrade before the first planned service date.
  - b). The velocity of the leak can cause physical injury or death.
  - c). The leakage could be of a toxic substance, or dangerous to the environment.
2. Vessel failure:  
Corrosion can cause a violent burst, or over time corrosion stress cracking.

Commonly overlooked examples:

It can be safe to use 316/316L stainless steel for pipes carrying salt water and brine. This is because at flow velocities above 2 meters per second, the surface is "passivated".

- On the other hand -

Inside a filter or damper, the velocity is lower, stainless can become like Swiss cheese, this is a danger with titanium modified stainless also. Cupro-nickel is a better choice. Where a **PipeHugger**, Liquid inside the bladder type of damper is provided, the small end plug or "liquid contact part" could have been made from MONEL. There is a general belief that PTFE, Dupont TEFLON, & **LDi Flexflon**, resist everything. Exceptions: -Ex / EG Nitric acid, Bromine -ides -ics, Chloros & Fluoros -ides -ics

So when installing a 316L or DuPont Teflon damper, you still need to double check.

Where substances are toxic, carcinogens, or are pyroforic, check the damper has 2nd-ary containment sealing and double layer membrane with leak detection from between them.

**ALTERNATE DAMPER TYPES ARE SHOWN ON THE INSTALLATION BY PUMP TYPE PAGE.**

### *The PulseGuard Safety Difference*

Damper with secondary containment sealing, and leak detection port, for hazardous service.

