

Manufacturing and Instrument Longevity**May 21, 2021**

Subject: McLane Statement on Materials used in Frames, Fixtures, and Housings

Summary: McLane utilizes various metals and engineering plastics in the fabrication of our instruments. While these materials are usually suitable for long-term oceanographic deployments, it is the customer's responsibility to determine material suitability for a specific operating environment.

Technical Details on Frames, Fixtures, Housings and Anodes:

- Frames and fixtures are made from 316/316L stainless steel or Grade 2 titanium. Fasteners are also 316 SS and/or Grade 2 titanium. All fasteners are electrically isolated using plastic shoulder washers.
- Stainless steel frames are supplied with sacrificial anodes. No anodes are supplied with titanium frames.
- Aluminum housings are made from 6061-T6 Aluminum and Hard Coat Anodized per MIL-A-8625 Type III Class I, Duplex Seal. Hard Coat Anodizing creates a durable and corrosion-resistant product suitable for most oceanographic environments. McLane uses 316 stainless steel fasteners to secure end-caps. Bulkhead connectors are Subconn MCBH with 316 stainless steel bodies.
- Aluminum housings are supplied with sacrificial anodes that can be replaced periodically.
- Titanium housings are made from Grade 5 titanium. McLane most commonly uses 316 stainless steel fasteners to secure end-caps. These different materials are used to help prevent galling. While the material difference does accelerate corrosion of the stainless steel, it is usually very slight. Hardware condition should be monitored and replaced when necessary. McLane can supply titanium fasteners on request.
- Titanium housings use titanium bulkhead connectors.
- Titanium housings do not have sacrificial anodes.

We are happy to discuss other available material options for samplers and profilers. Contact mclane@mclanelabs.com for more information and pricing.