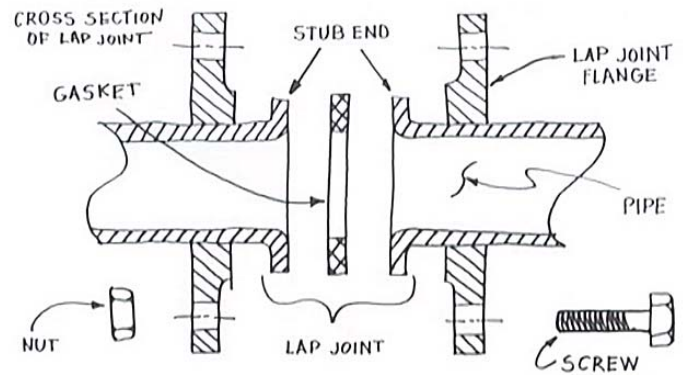


Cruise Ship Case Study

Scenario

You work for a leading supplier to the industrial distribution market for valves, fittings, flanges, and pipe. Your company is one of the largest master valve manufacturers and distributors of stainless pipe, fittings, flanges, and tubing.



Research Questions

1. In your work, you often need to use an ASTM standard that addresses the pipe material and wall thickness applicable to lap joint flange pipe ends manufactured by a mechanical forming process.
 - Search the standards database to identify the ASTM standard you should be using in this scenario. Download that document.
 - Identify three International Organization for Standardization (ISO) standards that are referenced in that ASTM standard.
2. You are using titanium to produce a lap joint end.
 - Identify two ASTM material specifications that are applicable.
 - What is the special caveat for titanium in regard to this?
3. Explain what is meant by a “convoluted flange.”
4. What are the dimensional limitations for a tube composed of titanium with a 5 inch diameter?
5. In Table 1 of the ASTM standard for lap joint flange pipe end applications several materials are listed. In the scenario, you chose to use titanium. Explain why titanium is preferable over the other options (e.g. stainless steel) in this application.