

Application Considerations

The balance between material from which a part is made and the process by which it is manufactured will determine its performance characteristics. Some materials are more corrosion resistant than others depending on the environment in which they are used. The process by which a part is manufactured may determine strength and load bearing characteristics, which may be critical if safety is a primary requirement.

Various materials behave differently when subjected to tensile, shear and shock loads, and when used in contact with or in proximity of other materials. Use of dissimilar metals on the same assembly or vessel can result in galvanic corrosion, causing severe failure to parts within a very short time.

Many different alloys and grades of metals are used in marine applications to take maximum advantage of properties. Primary considerations which determine alloy selection include corrosion resistance and strength. Stainless Steel parts utilize two grades, 316 for casting and 304 for machining and forming.