

## Transportation - Marine

Although stainless steel is very rarely considered as a candidate for ships' hulls, its uses throughout the ship and boat-building industry are many and varied, as you will see from this section.

Chemical tankers represent the largest tonnage applications, as the primary need is for a material that is strong, easily fabricated, extremely durable and capable of being thoroughly cleaned when a change of cargo is involved. Duplex stainless steels are frequently chosen for tanker linings, not only for their superior corrosion-resistance but also for their high yield strength, a vital consideration for structures such as bulkheads where the consequences of mechanical failure can be catastrophic. A high yield strength can also provide weight savings due to thinner sections which, in turn, helps to optimise cargo loads.

Where resistance to sea water corrosion is the dominant requirement, for example for ships' deck and cabin fittings and for offshore oil and gas platforms, the more highly-alloyed, molybdenum-containing types of stainless steel come into their own. Shore-based structures such as harbour railings and gratings, provide similar examples since the salt-laden atmosphere can be almost as damaging ashore as it is at sea. Depending upon the severity of the application, the choice can be made from a wide range of austenitic, super-austenitic, super-ferritic or super-duplex stainless steels.