

The goal of WOOD GROUP INTEGRITY MANAGEMENT (WGIM) is to provide our clients with the best in class Materials Engineering expertise so that Lowest Life Cycle Costs for Assets are accomplished. Our capabilities in Metallic and Non-metallic Materials cover all stages of the Asset Life Cycle as shown below.



During Life Cycle Costing, Selection and Specification of Metallic Materials for a particular application, there is a vast range of materials to consider. The volume of information available makes the selection of the correct engineering material extremely difficult and time-consuming. Very often, a lack of appreciation of the characteristics of a particular material for the intended environment results in the incorrect application of that material and premature failure.

Materials Selection in the Concept and Front-End Engineering Design stage of projects is the most important period when materials considerations influence Life Cycle Costs. This is the period when Projects, Asset Owners and Operators can benefit most from IONIK's materials expertise since compromises taken at this stage can have a significant negative impact on long term Operating Expenditure for Assets.

WGIM's engineers have wide industrial experience in the application of Metallic Materials covering Mechanical, Process and Civil engineering disciplines. We are able to target candidate materials quickly and effectively, and so select the most cost-effective material for the application under consideration.

WGIM's Metallic Materials expertise covers the following with respect to Materials Selection, Fabrication Processes and Performance in service:

Metallic Materials Experience:

- Carbon and Carbon Manganese steels.
- High Strength Low Alloy Steels (e.g. Normalised, Normalised & Tempered and Quench & Tempered Thermo-mechanically Treated Steels employed in structures, pressure vessels and pipelines).
- Creep Resistant Steels (e.g. Cr-Mo and Cr-Mo-V steels).
- Copper and Copper Alloys used in the electrical, marine and offshore industries.
- Stainless Steels (e.g. Ferritic, Austenitic, Martensitic, Super Austenitic, Duplex and Super Duplex).
- Nickel Base Alloys (e.g. Hastalloys, Inconels, Incolloys and Monels for aggressive and high temperature corrosion applications).
- Cast Irons and Alloys.
- Aluminium and Aluminium Alloys.
- Metallic Coatings including Thermal Spraying.
- Wear-resistant Alloys for mining, minerals processing and agriculture.
- Di-casting.
- Clad Alloys.



Life Cycle Engineering Experience:

- Life Cycle Costing Analysis.
- Failure Modes, Effects and Criticality Analysis.
- Damage Mode and Condition Monitoring Analysis.
- Engineering, Maintenance and Operating Risk Assessment.
- Fitness for Purpose Assessment.