

Whether it is the construction of an Oil & Gas platform or the fabrication of a simple pressure vessel, the practical considerations required in order to produce a satisfactory product are the same.



Welding is a complex process that involves both metallurgy and engineering. Once the design and materials selection is completed the product has to be built.

There are a considerable number of tasks to perform and problems to overcome – some simple and some more challenging.

WOOD GROUP INTEGRITY MANAGEMENT (WGIM) possess the expertise and experience to provide guidance and advice in these keys areas.

Welding Engineering

- Welding process selection.
- Welding consumable selection.
- Welding procedure specification and qualification preparation, review and approval.
- Welder training and qualification.
- Non-destructive testing procedures.
- Assembly for distortion control.
- Weld joint design.



Welding Metallurgy

In addition to the engineering controls required there are the metallurgical considerations such as:

- Hydrogen-induced cold cracking.
- Lamellar tearing.
- Distortion.
- Fatigue.
- Low temperature properties.
- Strain age embrittlement.
- Fracture toughness in weld and HAZ.
- Destructive tests.
- Welding of clad materials.

Weld Defects

Elimination of defects such as:

- Porosity.
- Cracking.
- Lack of fusion.
- Lack of penetration.
- Tungsten inclusions.
- Slag inclusions.



Codes and Standards

WGIM personnel are experienced in the application of all the relevant material, welding and construction codes involved, such as:

Pipelines: API 5L, API 1104, ANSI B31.4, ANSI B31.8, AS 2885, BS 4515, CSA Z669.2 and DnV OS-F101.

Pressure Vessels: AS 1210, AS 3992, AS 4037, AS 4458, ASME BPV, BS 5500, TEMA.

Process Pipe: ANSI B31.3, AS 4041 and ASTM's.

Storage Tanks: API 650.

Jackets / Topsides / Drill Rigs / FPSO's: AS 1554, AWS D1.1 and MODU.