The Marine welding Library 21.05.19

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Recommended Welding Process, Welding Consumable and Procedures

Metal.	**Go to T.E Andersen Consulting Welding Library for recommended pdf file: Welding Process, Welding Consumable and Procedure.**
Metal Identification.	• Methods of identifying metals & Recommendation for welding.
Steel, Low alloy Steel, Cast Steel, High tensile. Low temperature steel (cryogenic steel), Weathering steel, High temperature steel/ Heat resistant steel, Hardox steel, Manganese steel, Problem steel.	• Steels used onboard ships & How to Perform Maintenance welding. • The need for pre-heating when welding. • Heat input and interpass temperature during welding. • Sea Fastening Welding. • Way do welds crack? • The no.1 maintenance welding electrode.
Hard Surfacing of steel.	• Hard surfacing.
Cast iron.	• Welding of Cast Iron.
Stainless steel, Austenitic. Super Austenitic Stainless steel (254SMO) Stainless steel, Martensitic. Stainless steel, Ferritic. Stainless steel, Duplex.	• How to Weld & Maintain Stainless Steel.
Aluminium and Aluminium Alloys.	• Maintenance Welding of Aluminium.
Brass, Navy. Bronze, alu. (90% Cu- 9% Al) Bronze, phosphor (90% Cu- 10%Sn) Bronze, silicon (96%- 3%Si)	• Arc welding of Copper Alloys. • What you should know about Brazing. • TIG &MIG Brazing
Copper (deoxidized)	• What you should know about Brazing. • TIG & MIG Brazing
Copper nickel (70%Cu-30%Ni) Copper nickel (90%Cu-10%Ni)	• Repair Welding of Seawater Pipes.
Yorcalbro.	• Repair Welding of Seawater Pipes.
Nickel and Nickel alloys Inconel (76%Ni- 16%Cr-8%Fe) Monel (67%Ni-30%Cu)	• Welding of Nickel & Nickel Alloys.
Lead.	• *Toxic fumes. Possible to Gas weld but require special technic. Wear respirator.*
Magnesium.	• *Not weldable.*
Tin.	• What you should know about brazing.
Titanium.	• *Require special welding equipment/vacuum chamber.*
Zink.	• *Toxic fumes. Possible to TIG and Gas weld but require special technic. Wear respirator.*

NB. If the job require that an old weld needs to be removed or that a crack needs to be gouged out before welding, check out the pdf file in the welding library:

- Methods for Removal of Welds and Opening of Cracks.

Other welding articles for Maintenance Welding Onboard to be found in the Marine Welding Library:

Electric Arc Welding:

- Underwater Cutting & Welding.
- Welding Machines for Shipboard use.
- Understanding Current Issues.
- Tungsten Electrodes.
- Plasma Cutting & Gouging.
- Low Voltage Grinders.

Gas Welding, Brazing & Cutting

- Acetylene versus Propane.
- Adiabatic Compression.
- Flashback, Danger to Crew & Vessel.
- Gas welding hoses and connections, the Weak Link.
- Gas Distribution System.
- Injector torches versus equal pressure torches.

Polymer

- Cold Curing Polymer to the rescue.

Safety

- Welding Fumes.
- Welding Safety Inspection.
- Required Welding Skills onboard vessels.

Miscellaneous

- Teach Yourself How to Weld.
- The Marine Welding Library