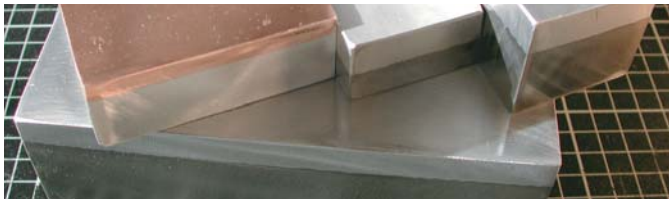


EXPLOSION WELDING SOLUTIONS | MARINE CORROSION PROBLEMS

DMC Clad Metal Div. manufactures Detacouple® explosion welded bimetallic transition joints and Detaclad® explosion welded clad plate. For over 30 years, these materials have provided unique solutions for marine structural, corrosion and wear problems. Virtually any combination of metals and alloys can be welded using Detaclad® technology. The result is a high strength, crevice free weld between dissimilar metals.

RELIABILITY IN QUALITY AND DELIVERY

DETACOUPLE - BIMETAL WELDING TRANSITION JOINTS



- Standard Thicknesses- 0.75" and 1.375'
- Width- 0.75" to 36"
- Length- up to 144" typical
- Aluminum 5456 or 5086 to Carbon Steel or 316L CRES
- Specifications: MIL-J-24445A, ABS, Lloyds

SPECIAL USE PRODUCTS: TITANIUM - ALUMINUM STUD



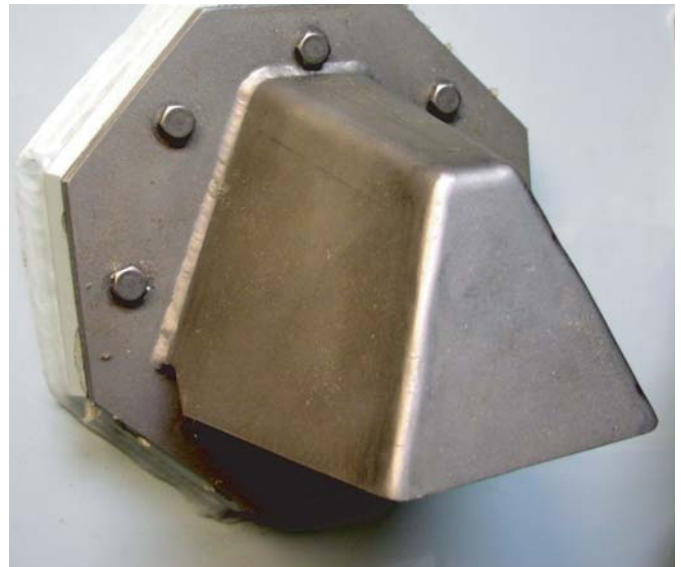
Titanium studs are welded to aluminum hulls and decks.

PRODUCT ASSEMBLIES: TITANIUM - STEEL FLANGE



Titanium bimetal electric box flange for welding titanium electric boxes, lights, etc. to steel, aluminum, or CRES bulkheads.

PRODUCT ASSEMBLIES: TITANIUM LIGHT ASSEMBLY

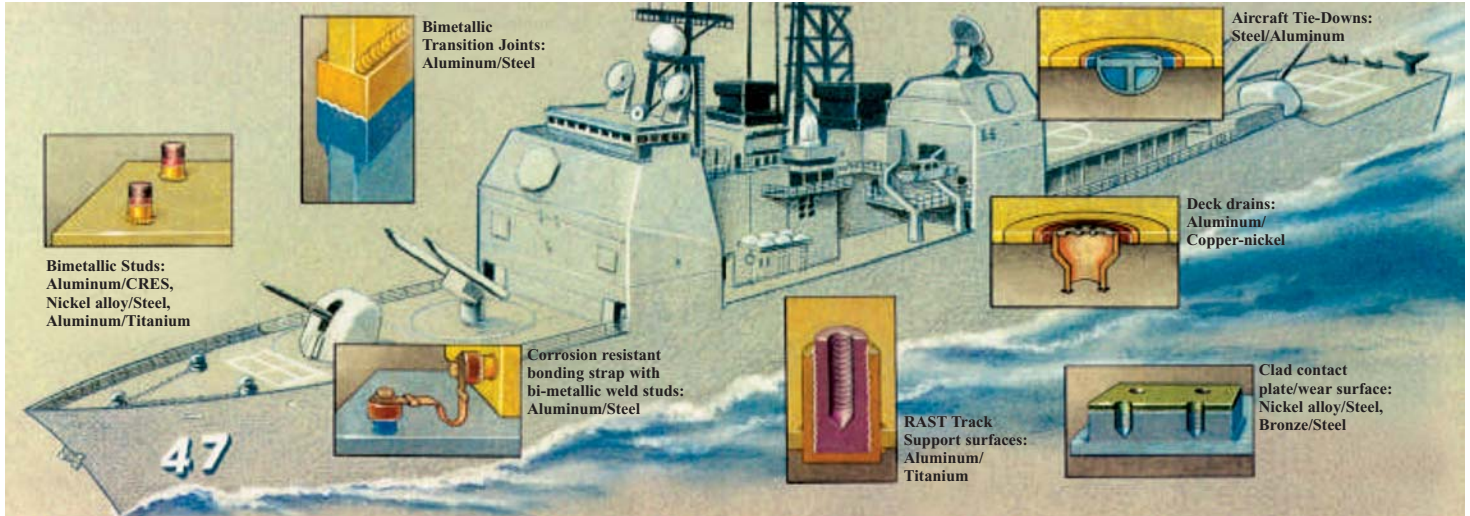


Titanium Light Assembly mounted to steel deck with titanium - steel bimetal flange.

Examples of the marine products available from DMC Clad Metal.



FROM STEM TO STERN | RELIABLE SOLUTIONS FOR MARINE CORROSION PROBLEMS



THE PROBLEM

Today's ship designer faces complex materials selection problems; he must simultaneously provide a reliable structure, minimize topside weight, and protect against marine corrosion - all within a reasonable budget. Unfortunately, no single structural material can satisfy all of these requirements. Materials that satisfy corrosion requirements rarely meet strength, weight or cost criteria. The usual solution to this problem is to employ a variety of metals throughout the structure, each selected for appropriate properties for the specific component. Dissimilar metal combinations cannot be welded by traditional methods and are commonly joined mechanically by bolting or riveting. The combination of a crevice at this mechanical joint and galvanic potential differences between metals frequently results in accelerated corrosion in topside environments.

THE SOLUTION

Explosion welding solves the problem of crevice corrosion by eliminating the mechanical joints. It produces a crevice-free metallurgical weld between metals that are not otherwise weldable. Explosion welded transition joints and engineered subassemblies can be permanently arc welded to other components using traditional welding methods. For joints that must be disconnected frequently, the selective use of a galvanically higher metal at the contact surfaces can provide superior corrosion control. Inconel or Copper-Nickel contact surfaces on Steel base material are typical examples. The explosion welded products increase design options and improve service life, thus saving money. DMC's explosion welded products are marketed under the tradenames Detacouple® and Detaclad®. Off-the-Shelf Products: DMC Clad Metal maintains many Detacouple® and Detaclad® shipboard products in stock. Delivery time is typically under two weeks.

THE DETACLAD® EXPLOSION WELDING PROCESS

DMC's Detaclad® explosion welding process uses the energy of detonating explosives to produce an integral weld between dissimilar metals. One of the metals is accelerated by explosive detonation at a very high rate over a short distance resulting in a progressive collision of the materials. The metals are forced together under several million pounds per square inch of pressure creating a weld that is typically stronger than the weaker of the parent metals. There is no significant bulk heating of the material, consequently metals that cannot be welded by normal fusion welding, such as aluminum and steel, can be easily and reliably joined.

