

SKIN COOLERS ON A U.S. NAVY SUB SEALED WITH BELZONA

ID: 17



PROBLEM

Coolant leaks through inner walls of skin coolers.

APPLICATION SITUATION

Skin coolers are heat exchangers for component cooling water that operate by passing the coolant fluid against the cold steel of the submarine hull. Coolant fluid is contained in a space between a thin steel plate set just inside the inner surface of the pressure hull, and the hull itself.

APPLICATION METHOD

Application was carried out in accordance with a modified version of Belzona Know-How Leaflet SOS-5.

BELZONA FACTS

Pressure testing was carried out. Each time leaks were sealed, the compressed air test was able to be conducted at higher pressures, enabling smaller holes to be located and sealed.

INDUSTRY

Marine

LOCATION

US Navy Deep-Diving Research Submarine

APPLICATION DATE

October 1996

PRODUCTS

Belzona 1111 (Super Metal)

SUBSTRATE

Steel

PHOTOS

1. Shipyard applicators learning how to use the material.
2. A sealed section of plate between two of the structural ribs of the submarine.
3. The submarine with skin coolers sealed just prior to launch from the drydock.

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