Ships Door Locking Latches (Dogs)

Addressing the issue of acquiring parts while away from logistical bases.

Value Summary

The ability to produce parts at the point of need enables ships to maintain peak operational effectiveness whilst deployed at sea.

Production Method	Production Time
Manufacturing (Casting or Machining)	6-8 weeks
SPEE3D CSAM NAB	21 hours

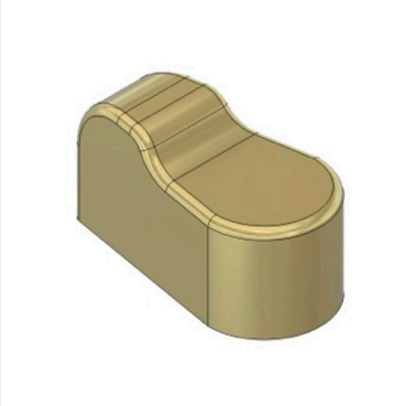
Background
Door dogs are a locking mechanism that are used on Naval vessels internationally. The procedure for sealing doors is referred to as “dogging”. During operations the ability to seal off a compartment could be the difference between a ship’s survival and total disaster.

The Challenge
A ship’s inventory can be limited by the storage capacity of the vessel, meaning lower priority parts are superseded by parts for more vital onboard systems. Logistical supply chains count on parts being flown to the vessel or waiting for the vessel to be docked to deliver spare parts. These methods add long delays to the repair of damaged or broken components.

The Solution
SPEE3D’s CSAM (Cold Spray Additive Manufacturing) technology can 3D print marine specific metal replacement parts at the point of need from design to deployment in less than 21 hours or 1 day.

The Value
Keeping equipment running is essential in critical enviorments for any industry. Whether it’s a ship at sea, a piece of mining equipment in a remote area, or a valve on an oil rig in the ocean, without the correct spare parts equipment can sit idle and unable to be used. Often the cost of the replacement parts is not the issue, it’s the time it takes to receive them. With CSAM technology customers can reduce the wait time for critical spare parts from weeks to less than a day.

Design to deployment in less than a day, 19.5 hours

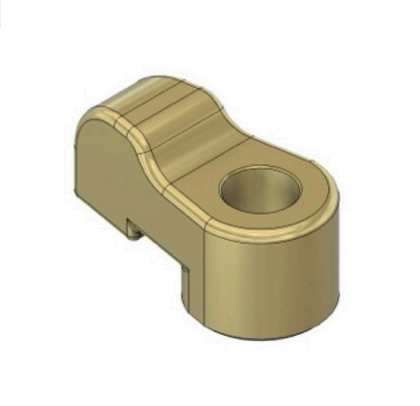


Print: 12 minutes

Nickel Aluminum Bronze,
1.2kg of material

Cook: 19.5 hours

Heat treated in a standard
air furnace



Cut: 1 hours

Critical surfaces machined
on CNC

About The Equipment

Ships carry out dogging to ensure that doors and hatches are securely sealed during normal operations and emergencies. By engaging the dogging mechanisms (called “dogs”), the doors become watertight or airtight, which is critical for maintaining the ship’s compartmental integrity. This helps prevent the spread of water, smoke, or fire between sections of the ship, especially in the event of flooding or damage. Dogging is a key part of shipboard safety, helping to protect both the vessel and the crew.

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