Capabilities

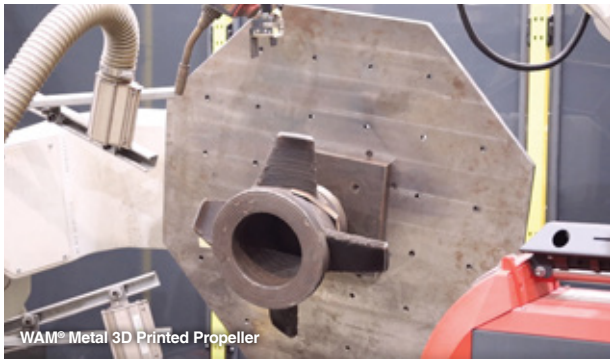
- OEM of ARCEMY®, a range of custom metal 3D printers for large scale (> 0.4m^3) components
- ARCEMY® prints using a patented Wire-arc Additive Manufacturing (WAM®) process, integrating robotic welding and proprietary software WAMSoft® and AMLSoft™
- Supporting sovereign capability with local part manufacture and material sourcing
- Restorative repair and maintenance of worn tooling and metal parts
- Meets low and high volume manufacturing requirements and reduces lead time, without tooling costs
- Print multiple parts into one to reduce weight and minimise assembly and machining time
- Metal alloys include Aluminium, Nickel Aluminium Bronze, high strength Steel, Carbon Steel, Stainless Steel, Invar, Titanium and Inconel

Discriminators

- Manufacturing aluminium products up to 2 x stronger[1] than designed working load
- Up to 30% stronger[2] than traditionally cast or forged steel parts
- Nickel Aluminum Bronze products present 2 x ductility[3] compared to wrought equivalents
- 50% more resistant[4] fatigue resistance
- Manufacture with a proven, certified[5] additive manufacturing process
- Manufacture up to 75% faster[6] than forging or casting without tooling investments
- Up to 95% material waste saving[7] when compared to billet machining
- As-deposited (welded) finish does not require post heat treatment
- Locally sourced wire feedstock and ARCEMY® print systems allow for on site manufacture, removing reliance on overseas supply chain

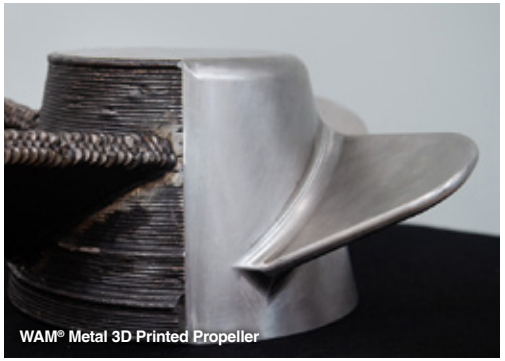
Standards Used and Memberships

Customers and Partners

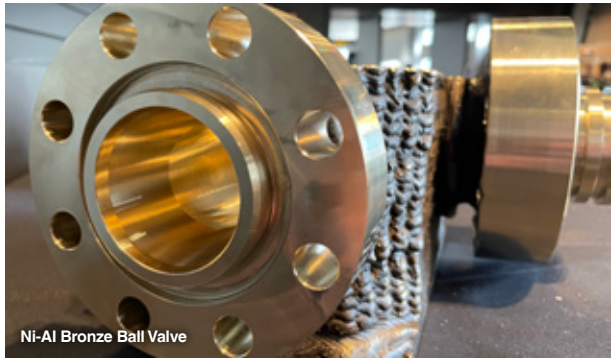

WAM® Metal 3D Printed Propeller


Ni-Al Bronze Propeller Printed with WAM®

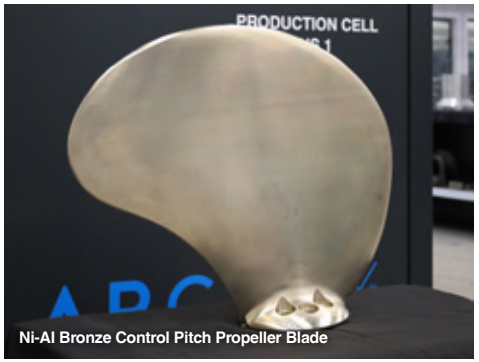

Austal Technology Project Manager, Jeffrey Poon, DNV Representative Jude Stanislaus, AML3D CTO Andy Sales with a sample DNV Verified Davit Lifting Device. Image: Austal Australia


WAM® Metal 3D Printed Propeller


Ni-Al Bronze Ball Valve


Ni-Al Bronze Ball Valve


Panama Chock



Ni-Al Bronze Control Pitch Propeller Blade

Image: Austal Davit Arm used with permission from Austal. Panama Chock Demonstration Piece produced for AML3D display. [1]Product received verification from key industry body. Learn more: https://bit.ly/3EIEaiK [2]Intertek a National Association of Testing Lab: Learn more: https://bit.ly/3jiOAVn [3]Independent testing via NATA accredited lab Intertek, material comparisons available www.azom.com [4]AML3D internal study. [5]Certified through Lloyd's Register, with ISO9001:2015 QMS, AWS D.20 compliance. [6]Demonstrator WAM® Pipe Spool Learn more: https://bit.ly/3Gyhqw0 [7]Demonstrator WAM® Propeller Project Learn more: https://bit.ly/3HmLJrS

Founded in 2014, AML3D, the OEM of ARCEMY®, is a technology company focused on improving manufacturing supply chains by using a proprietary WAM® Process.

AML3D uses new technologies to pioneer and lead metal additive manufacturing globally, enabling our customers to become globally competitive.

We achieve this by combining our patented Wire Additive Manufacturing (WAM®) process with Industry 4.0 capability that is driven by the Industrial Internet of Things (IIoT).

> **The 3D printing of the Panama Chock shows that large components can be made available with shorter lead times and with equal standards of quality and performance.**
>
> *– Aziz Merchant, Keppel Marine & Deepwater Technology*

> **Wire Arc Additive Manufacturing, or WAAM, has the potential to enable a productivity step change in shipbuilding, able to 3D print marine grade metal structures at a scale well beyond other commercially available metal 3D printing technologies.**
>
> *– Andrew Malcolm, Austal*

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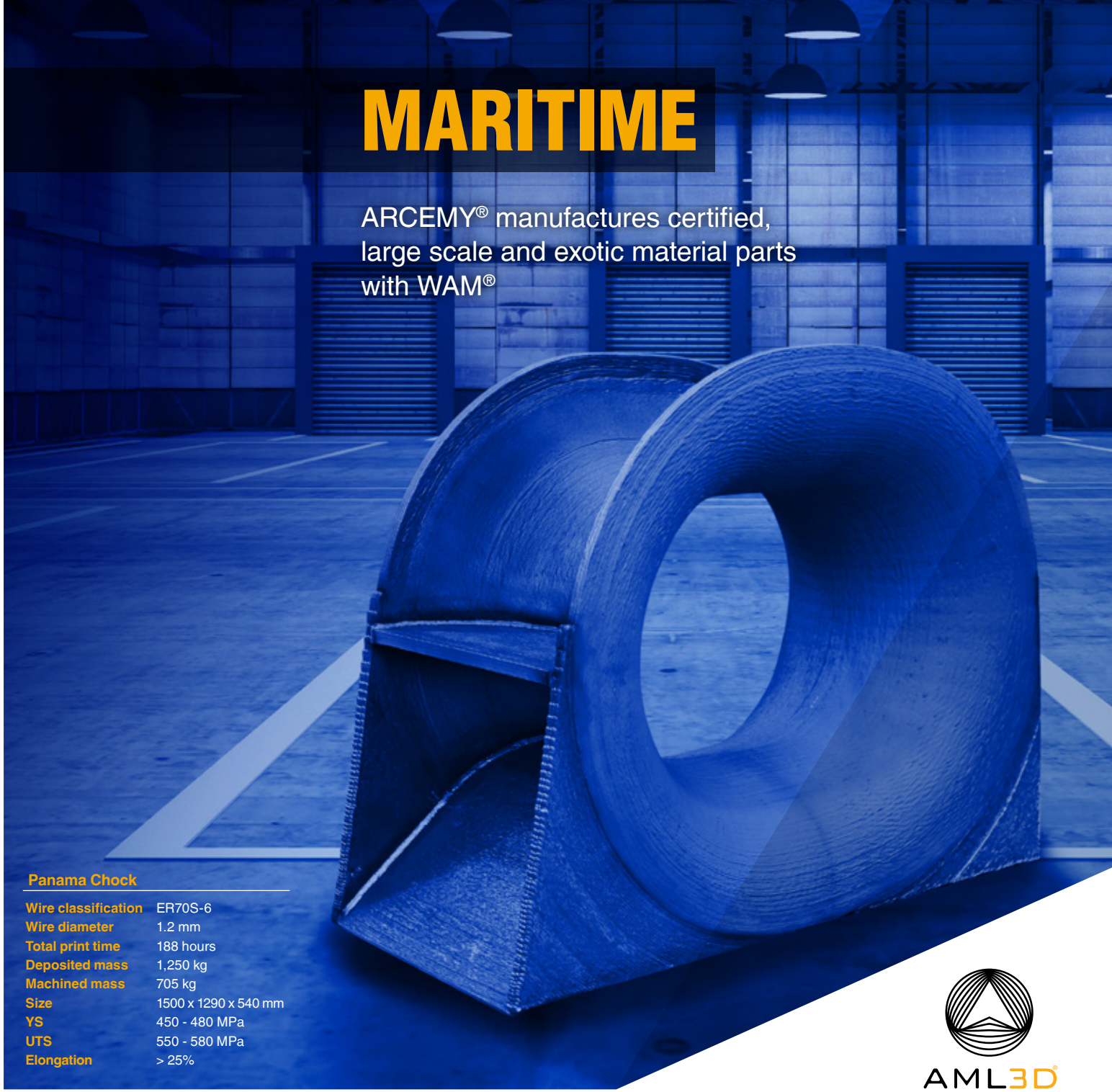
MARITIME

ARCEMY® manufactures certified, large scale and exotic material parts with WAM®



Panama Chock

Wire classification	ER70S-6
Wire diameter	1.2 mm
Total print time	188 hours
Deposited mass	1,250 kg
Machined mass	705 kg
Size	1500 x 1290 x 540 mm
YS	450 - 480 MPa
UTS	550 - 580 MPa
Elongation	> 25%

AML3D

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