

# Press Release

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## 3D Systems Announces First to Market CuNi (CuNi30) Alloy for Laser Powder Bed Fusion

- 3D Systems & HII co-developed CuNi30 to enable production of traditionally cast parts, potentially reducing lead time by up to 75%
- Direct metal printing of copper-nickel (CuNi30) results in average relative density of 99.88% - a significant improvement compared to casting
- Material to be commercially available to address existing need for CuNi casting alternatives in marine, offshore oil & gas, and chemical & nuclear industries

**ROCK HILL, South Carolina, September 6, 2022** – Today, [3D Systems](https://www.3dsystems.com) (NYSE:DDD) is pleased to announce CuNi30, a corrosion-resistant, copper-nickel alloy for use with its DMP Flex 350 metal 3D printer. This material resulted from the company's collaboration with HII's Newport News Shipbuilding division to develop materials and process parameters for laser powder bed fusion additive manufacturing. The companies' deep domain expertise facilitated the development of CuNi30 and is allowing Newport News Shipbuilding to use additive manufacturing in place of its traditional casting technologies. Direct metal printing parts using CuNi30 to meet Newport News Shipbuilding's low-volume, high-mix hardware needs can improve supply chain efficiency – with an anticipated 75% reduction in lead times as well as lowered inventory costs.

Copper-nickel alloys are used extensively in salt water, petroleum, and acidic environments due to the material's excellent corrosion resistance, and its anti-microbial and anti-algae properties that enable resistance to algae growth during extended exposure to water. CuNi30 is often used to manufacture pipe fittings and valves for the marine (e.g., shipbuilding and repair), offshore oil

and gas, and chemical and nuclear industries. These alloys also possess stable mechanical, physical, and thermal properties (from 400°C down to -270°C) which make them suitable for cryogenic applications. CuNi alloys are historically difficult to cast, which often adds costly cycles of rework and reinspection to meet quality standards. This leads to very long lead times and a limited number of capable and willing suppliers who can support production of quality hardware. HII recognized the potential to realize significant benefits if the DMP hardware, material, and process could be qualified for their production components, and partnered with 3D Systems to make this a reality.

“3D Systems has earned a reputation as a trusted partner for advanced R&D and commercialization of novel additive manufacturing materials and applications,” said Dr. Michael Shepard, vice president, aerospace & defense segment, 3D Systems. “We’ve had a decades-long relationship with the U.S. Navy which has helped drive innovation for a variety of applications including aircraft parts and submersible components. Our latest project with Newport News Shipbuilding yielded a copper-nickel alloy specifically designed for AM that results in better part density and mechanical properties as compared to traditional casting. We look forward to seeing how direct metal printing and CuNi30 will be able to accelerate Newport News Shipbuilding’s production workflows and its innovation pipeline.”

“We’re excited to announce the completion of a significant milestone in the development of a CuNi alloy with 3D Systems,” said Dave Bolcar, vice president of engineering and design for Newport News Shipbuilding, a division of HII. “Earlier this year we completed a multi-year effort with 3D Systems related to the research and development of a Corrosion Performance Design Guide for Direct Metal Printing of a nickel-based alloy. We’re looking forward to continuing to expand our parameter development efforts with 3D Systems into other alloys of interest to our industry. These developments allow us to further expand the use of additive manufacturing into our platforms in ways that provide positive quality, schedule, and performance benefits to the customer.”

3D Systems intends to add CuNi30 to its industry-leading materials portfolio to enable the direct metal printing of corrosion-resistant parts for additional industries. The material is anticipated for general availability in the fourth quarter of 2022.

**Forward-Looking Statements**

Certain statements made in this release that are not statements of historical or current facts are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the company to be materially different from historical results or from any future results or projections expressed or implied by such forward-looking statements. In many cases, forward-looking statements can be identified by terms such as "believes," "belief," "expects," "may," "will," "estimates," "intends," "anticipates" or "plans" or the negative of these terms or other comparable terminology.

Forward-looking statements are based upon management's beliefs, assumptions, and current expectations and may include comments as to the company's beliefs and expectations as to future events and trends affecting its business and are necessarily subject to uncertainties, many of which are outside the control of the company. The factors described under the headings "Forward-Looking Statements" and "Risk Factors" in the company's periodic filings with the Securities and Exchange Commission, as well as other factors, could cause actual results to differ materially from those reflected or predicted in forward-looking statements. Although management believes that the expectations reflected in the forward-looking statements are reasonable, forward-looking statements are not, and should not be relied upon as a guarantee of future performance or results, nor will they necessarily prove to be accurate indications of the times at which such performance or results will be achieved. The forward-looking statements included are made only as of the date of the statement. 3D Systems undertakes no obligation to update or revise any forward-looking statements made by management or on its behalf, whether as a result of future developments, subsequent events or circumstances or otherwise, except as required by law.

**About 3D Systems**

More than 30 years ago, 3D Systems brought the innovation of 3D printing to the manufacturing industry. Today, as the leading additive manufacturing solutions partner, we bring innovation, performance, and reliability to every interaction - empowering our customers to create products and business models never before possible. Thanks to our unique offering of hardware, software, materials, and services, each application-specific solution is powered by the expertise of our application engineers who collaborate with customers to transform how they deliver their products and services. 3D Systems' solutions address a variety of advanced applications in healthcare and industrial markets such as medical and dental, aerospace & defense, automotive, and durable goods. More information on the company is available at [www.3dsystems.com](http://www.3dsystems.com).

**About HII**

HII is an all-domain defense and technologies partner, recognized worldwide as America's largest shipbuilder. With a 135-year history of trusted partnerships in advancing U.S. national security, HII delivers critical capabilities ranging from the most powerful and survivable naval ships ever built, to unmanned systems, ISR and AI/ML analytics. HII leads the industry in mission-driven solutions that support and enable an all-domain force. Headquartered in Virginia, HII's skilled workforce is 44,000 strong. [www.hii.com](http://www.hii.com)

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