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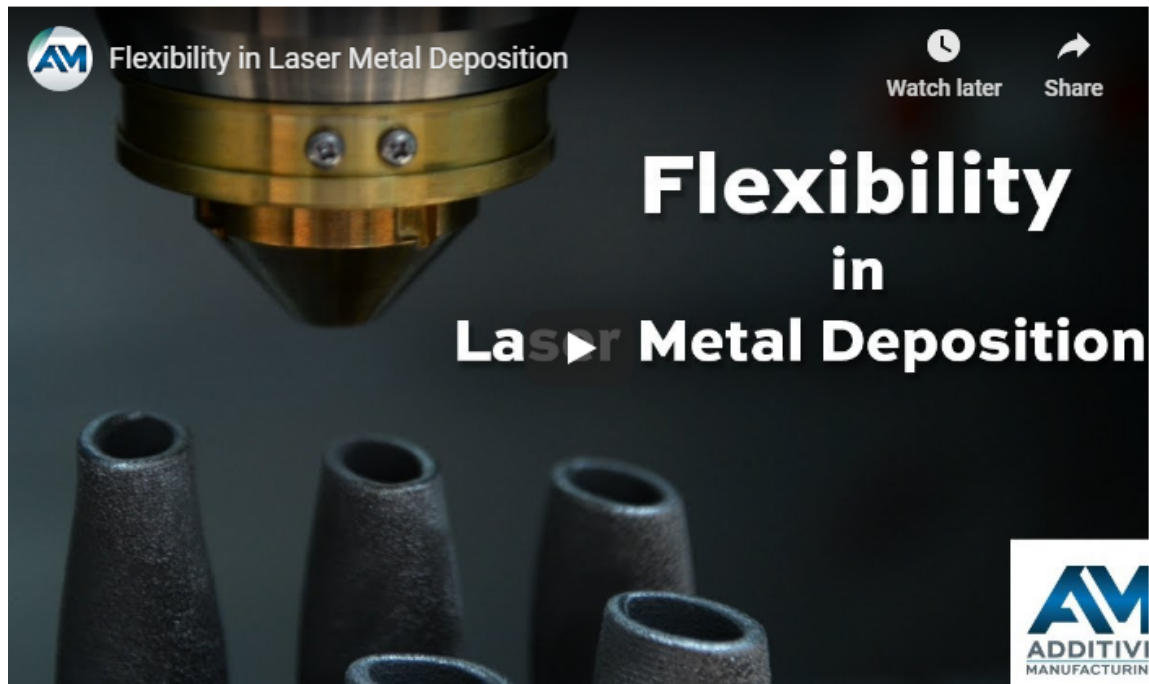
## [Interview:- Formalloy Finds Flexibility in Laser Metal Deposition](#)

Melanie Lang, founder and managing director of Formalloy, talks with Senior Editor Stephanie Hendrixson about laser metal deposition (LMD) for multiple materials and applications.

Direct Energy Deposition (DED) is one of the older forms of metal 3D printing, and tends to be associated with repair applications and large parts not requiring high levels of detail. But Formalloy, a California-based startup, sees things a little differently. The company has developed its own DED head and systems, and is demonstrating that the technology can be used for fine detail, cladding, material gradients and more—including those traditional repairs and large-part applications.

Hendrixson sat down with Melanie Lang, co-founder and managing director of the company, to learn about the opportunities that Formalloy sees for this flexible additive manufacturing process.

[To see the full interview watch below video.](#)





MULTI-MATERIAL COMPONENTS  
IN718 / IN625 / STellite 6 (LEFT)  
IN625 / COPPER (RIGHT)



LASER CLADDING TECHNOLOGY  
COPPER COMPONENT + INCONEL 625 CLAD  
PROVIDES MECHANICAL STRENGTH TO A CONDUCTIVE COPPER PART

FormAlloy's technologies can **ENHANCE** existing products by adding dimensional features, depositing bi-metallic and gradient material systems, and laser cladding for superior performance.

With the capability to add features and multiple materials, FormAlloy systems provide the ability to improve legacy and new products with geometric and alternative material additions. The additional features can provide a wide range of benefits from improved mechanical properties to higher temperature capabilities for improved performance and extended life.

For additive enhancements, structures can be added onto work pieces just like depositing on a flat plate. Reinforcing structures such as ribs, grids, and plates can be strategically placed on components. Functionally graded material (FGM) systems can also be built in a single-step additive process to transition materials from one to another while reducing the residual stress during the build. The FGM system then delivers the beneficial properties of specific alloys at localized parts of the components.

In addition to additive enhancements, FormAlloy's cladding capability can be used to create wear and corrosion-resistant coatings that are 100% dense and bonded metallurgically. DED provides very low dilution between the coating and substrate and allows for fine microstructures, precise control of the coating thickness and reduced distortion into the base part.