



MOBILITY

## voestalpine RACING SOLUTIONS EXHAUST SYSTEM

### ONE-STOP SHOP FOR NICKEL ALLOY EXHAUST PARTS

Advances in fluid flow optimization software have transformed performance exhaust design from an art to a science. Yet, just because a complex network of passages can be designed does not guarantee it can be made from materials that will withstand the heat and pressures generated by high performance engines.

Nickel alloys, with their high strength, and excellent thermal stability and corrosion resistance, are widely regarded as a great choice for demanding exhaust applications. Those desirable properties are offset by the alloys being difficult to machine, heavy and expensive. They also are nearly impossible to form into the shapes designed by the latest optimization software. Additive manufacturing can be a perfect solution, a way to reliably manufacture each exhaust component while minimizing the amount of material and machining required.

There is an art to AM exhaust design and manufacture, and part of it is in tying together all the downstream elements: material selection; design for manufacturability; powder supplier; printed part supplier; heat treating and final machining. That's where voestalpine High Performance Metals can help. We are a one-stop shop with:

- » Industry-leading materials and design-for-AM expertise
- » AM powders of globally recognized materials like BÖHLER L625 (Alloy 625) and L718 (Alloy 718) made in a state-of-the-art atomization plant for highest purity and optimized particle size distribution
- » Integrated, certified 3D printing, heat treating and machining capabilities

Let us help you get the performance (and sound) you need by bringing your optimized exhaust design to life.



## ADDITIVE MANUFACTURING POWDERS – Properties With Appropriate Heat Treatment

Property	L625 AMPO	L718 AMPO
Designation (EN   UNS)	2.4856   N06625	2.4668   N07718
Max. Operating Temperature	1000 C   1832 F	750 C   1,382 F
Tensile Strength (Rm) (MPa   ksi)	800 – 900   117 - 131	1,350 – 1,450   196-211
Yield Strength (RP0.2) (MPa   ksi)	520 – 580   76 – 85	1,130 – 1,230   164 - 179
Elongation (%)	35 – 45	15 - 21
Hardness (HRC)	18 - 28	43 - 49

### LEARN MORE ABOUT OUR POWDERS HERE:

#### BÖHLER L625 AMPO



#### BÖHLER L718 AMPO

