

## We Develop New Thermal Spray Markets Delivering HVAF to the Industry

**Fuel:** Propane, Propylene, Propane-Butane (LPG), Natural gas. Pressure: 7-11.5 bar (100-165 PSIG).  
**Oxidant and coolant:** Compressed Air; Pressure range: 8-11.5 bar (115-165 PSIG).

We have designed our Specialized Thermal Spray Equipment to spray functional metals and alloys in the most effective way. We develop High Velocity Spray Systems optimized for the deposition of particular coatings.

- ✓ Combustion temperature: variable, 1,500 - 1,950°C
- ✓ Fine-tuned combustion and powder path combinations to fit your application
- ✓ 1 - 10 to 53 - 155  $\mu\text{m}$  powder sizes
- ✓ Particle velocity: variable, 400 to over 1,000 m/s
- ✓ Particle temperature in the jet: 900 - 1,600°C



**Kermetico SL** – specialized system to deposit low melting point materials:

- ✓ Protection against feedstock oxidation
- ✓ No material evaporation in the process
- ✓ No nozzle clogging
- ✓ Uniform, dense, high-bond aluminum, tin, and copper coatings
- ✓ High spray rate
  - 6 kg/hour (13 lbs./hour) for Al coating
  - 10 kg/hour (22 lbs./hour) for Cu coating
  - 10 kg/hour (22 lbs./hour) for Sn coating



**Kermetico SP** – a specialized system to deposit gold or silver precious metal plating coatings with the highest deposit efficiency:

- ✓ Highly technologically efficient process
- ✓ Precise powder usage measurement
- ✓ No material evaporation in the spray-process
- ✓ High-bond, non-oxidized, highly uniform coatings
- ✓ Variable powder sizes



**Kermetico STi** – the gun is designed to deposit titanium and its alloys:

- ✓ High-velocity Ti spraying in an inert gas atmosphere
- ✓ Low level of oxidation, silver-like coating appearance
- ✓ Dense coating
- ✓ For corrosion resistant coatings and for material build-up

Ti Coating by: [AK7](#) – Left, [STi](#) – Right

The Kermetico HVAF process is extremely stable due to the utilization of micro-flame combustion technology enhanced with the catalytic insert. A variety of fuel gases and the possibility of multiple additional gas injections make the process even more versatile and efficient.

## The Kermetico Specialized Systems

Developing Kermetico HVAF equipment, we constantly kept to one principle: heat slow, spray fast. A big combustion chamber and comparatively low gas combustion temperature allowed us to deliver powder materials axially, directly to the combustion zone, where it is heated gradually and evenly. Having a large diameter, flow optimized nozzle and narrow powder jet allowed us to minimize nozzle wall influence on particle velocity. The multiple gun setup option let us spray materials with different melting points without overheating them.

Due to the high-velocity impact of the spray particles, Kermetico HVAF coatings provide high bond strength to metallic substrates and exhibit excellent cohesion strength. Some Kermetico HVAF metallic coatings can withstand impacts by a hammer or welding through the coating without cracking or delamination.

## Kermetico Control Console and Powder Feeder

### C02: Wide-Screen Panel & Industrial Operator Tablet



### Powder Feeder with a Cart and Scales Options



### Some Features of the Kermetico Systems:

- ✓ Industrial IP67-rated Tablet
- ✓ Unlimited number of stored programs
- ✓ Air and Fuel control: electronic pressure valves
- ✓ Carrier gas (nitrogen) control: mass-flow controller
- ✓ Combustion chamber pressure monitoring
- ✓ Adjustable settings for gun ignition, adjustable settings for warning alarms and safety shut-off alarms
- ✓ Complete remote control of the powder feeder with adjustable settings for powder startup
- ✓ Powder feeders with different options: canister volume from 3 to 9.5 liters, built-in scales, cart
- ✓ Custom-made systems by request

We have been developing our HVAF process and equipment since 2006. Years of research let us create equipment which produces the best quality coatings and the highest technological efficiency possible. More than 60 Kermetico HVAF systems are at work worldwide. All of our equipment is designed and made in California, USA.

Visit our [website](#) or our job shop to learn more about our coating quality and equipment.

Watch our [videos](#) on YouTube.