



**NEVADA THERMAL
SPRAY TECHNOLOGIES**

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**Product/Service
Information**

**Anti-Corrosion
Coatings**

**Coating Design
and
Manufacturing**

Our Mission

Nevada Thermal Spray Technologies centers on a core competency of superior customer service. The highly technical nature of ceramic and metal coatings often places our customers in unfamiliar territory, and it is our mission to guide the client through the process of defining the problem, identifying a range of solutions, and ultimately manufacturing a world class custom coating. Our dedication to combining materials engineering with an economical focus sets us apart from the competition. We take the time to listen to customers' needs in order to develop unique coating solutions that lower ultimate lifecycle costs at the most diminished lead times in the industry.



Thermal Spray Overview

Thermal spray is a generic term for a versatile group of processes for depositing metallic and nonmetallic coatings. These processes include flame and HVOF (combustion), plasma, electric arc, and nozzle aspirated. Probably the most outstanding feature of thermal spray coatings is their diverse applicability, due to an almost unlimited materials selection that can be applied to practically any substrate. Coating materials include all types and combinations of ceramics, carbides, metals, composites, and plastics available in powder, wire, or rod form.



Thermal spray coatings are used to improve the overall performance characteristics and extend the service life of industrial components, and also help meet design requirements for original equipment manufacturers. The number of applications for the thermal spray processes is rapidly increasing, and the coatings are widely used in over 46 industries including the aircraft, aerospace, chemical, electronics, and transportation industries for many, varied applications.

Anti-Corrosion Coatings

Thermal spray coatings (i.e. TSCs) are used for the protection of iron and steel in a wide range of corrosive environments. The long term effectiveness (20-40 years) in rural, industrial, and marine environments is well documented in corrosion tests performed by the American Welding Society.

The selection of a TSC depends on the service environment, desired service life, operating duty cycle, and the maintenance and repair support provided during the coating lifetime. There is a history of corrosion protection by aluminum and zinc thermally sprayed coatings for structural steel work including bridges, towers, tanks, rebar, masts, gantry structures, cranes, and railings. In marine applications, ship structural areas and components are preserved with aluminum and zinc coatings.

TSCs can replace paint and chrome platings with no environmental concerns such as emission of volatile organic compounds. This is due to the attributes of TSCs: predictable service life, increased effectiveness over the competition, and the lower life cycle costs.

NTST fabricates coatings to mitigate corrosion that increase component life. These coatings are fabricated economically providing extended life depending on the coating thickness and environment. Corrosion resistant coatings such as zinc, aluminum, inconel, hastelloy, nickel, stainless steel are routinely fabricated. These coatings can be field applied at the customers site or at NTST's location.

The coatings possess high bond strengths for even complex geometries. Zinc and aluminum coatings find widespread applications in the automotive, transportation, aerospace, and aircraft industries; and, the material systems are commonly used for anti-corrosion applications in the infrastructural industry.



Rainbow Bridge coated with zinc using thermal spray process



Zinc coated bolts for DOT



Twin Wire Electric Arc spray process

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