



Severe Operating Environments

Monitor provides a wide range of coatings and surface engineering disciplines to combat various chemical, physical and mechanical environments which include:

- Wear Resistant,
- Corrosion Resistant,
- Rub Tolerant,
- Thermal Barrier and Abradable coatings.
- Abrasion Resistant Coatings
- Ceramic Coatings
- Corrosion Resistant Coatings
- Flame Spray Coatings
- Industrial Coatings
- Metal Spray Coatings
- Thermal Spray Coatings
- Wear Resistant Coatings
- Wire Spray Coatings
- HVOF Coatings
- Plasma Coatings
- Low Pressure Plasma Spraying (LPPS)
- Slurry Coatings

There are literally thousands of coatings capable of being deposited using a thermal spray technique. There are a number of considerations to be made when selecting the most appropriate coating:

Types of Coatings & Applications

Function or Purpose of Coating

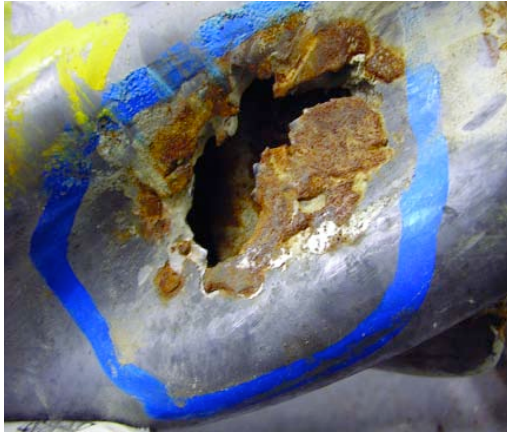
- Wear and or corrosion resistance
- Thermal insulation or conduction
- Electrical insulation or conduction
- Electronic function
- Magnetic properties
- Optical properties
- Dimensional restoration

Part & Substrate Constraints

- Size and shape of the part
- Risk of distortion of thin or delicate parts through heat or residual stresses
- Need for masking
- Effect of coating on component performance (reduced fatigue resistance or galvanic coupling)
- Effect of part on coating performance (mechanical support during impact or wear loads) due to mechanical or thermal loading.

Environmental Considerations (service environment & production)

- Ambient air
- High temperature or gasses
- Other fluids
- Fresh or salt water
- Other Chemicals



Corrosion Resistant Coatings

Monitor applies a full range of corrosion resistant coatings from sacrificial alloys through to pure metal alloys such as nickel and chrome. Cermet and ceramic coatings containing oxides and carbides are also applied. The use of slurry sealants further enhances the corrosion resistant properties. These sealed or composite coatings are particularly suited where corrosion and wear occur simultaneously.



Wear Resistant Coatings

Tungsten and Chrome bearing cermets, predominantly applied using HVOF are particularly suited to wear applications. Sliding, abrasive, fatigue enhanced and frictional wear can all be addressed using the correct surface engineering selection applied using the thermal spray process.



Solid Particle Erosion

Erosive wear, particularly involving solid particles moving at high velocity are a real concern for industrial operations. Chromium carbides are particularly well suited in solving these problems. The use of ceramic sealants in combination with HVOF coatings provides optimum component surface conditions substantially extending the life of industrial components.

Surface Engineering in extreme environments