

THE TWIN WIRE ARC METAL SPRAY PROCESS

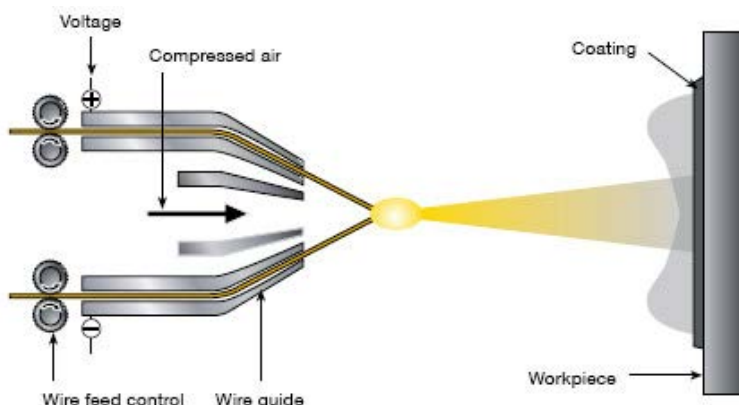
Western Machine Works, Inc. utilizes the twin wire arc metal spray process for bearing fit restoration. The material deposited is 420 SS. This system feeds two wires to the gun. The wires are charged with opposite polarities. When the wires are brought together at the contact point, the opposing charges on the wires create enough heat to continuously melt the tips of the wires. Compressed air is used to atomize the now molten material and accelerate it to the workpiece surface where it is embedded to form the coating.

The bearing fit has previously been machined to the proper pre-buildup size and has been carefully masked and prepared with appropriate grit blasting.

BENEFITS

- Speed – bearing fit restorations using this method can be done in a fraction of the time it takes to brush plate the same fit.
- Environmental – No hazardous waste products are generated using this process.
- Flexibility – This process can be used to restore a part requiring as much as .050" per side on a 4" diameter journal. Brush plating is limited to about .010" per side without adding copper as a base material.
- Proven Serviceability – Thousands of bearing fits have been restored using this process.
- Proven Reliability – Western Machine has never had a restored fit fail when using this process.

SCHEMATICS OF THE SYSTEM IN USE



TECHNICAL SPECIFICATIONS

- Material Composition: 13% Cr, .5% Si, .5% Ni, .5% Mn, .35% C, Balance Fe.
- Wire manufacturer product description: High chrome stainless steel, excellent wearing qualities, fair corrosion resistance, best all-purpose material for machine element work.
- Hardness: Rc 40-43
- Bond Strength: Approaching 10,000 PSI
- Density: 85 – 95 % Wrought material
- Thickness Limitation: .100"