



SoloCoat™

One-Step Self-Bonding Thermal Spray Alloy Powders

Description:

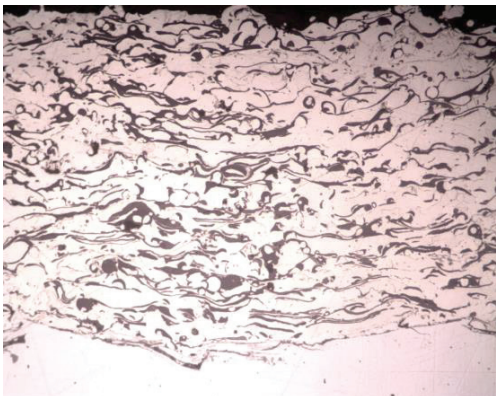
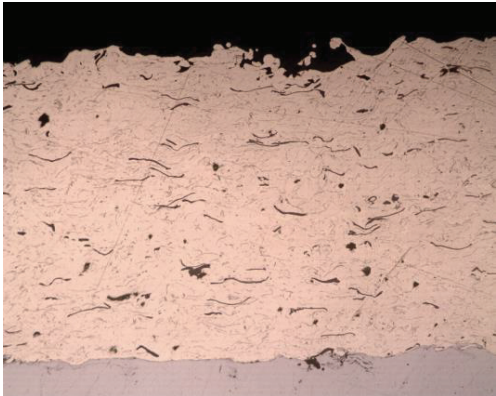
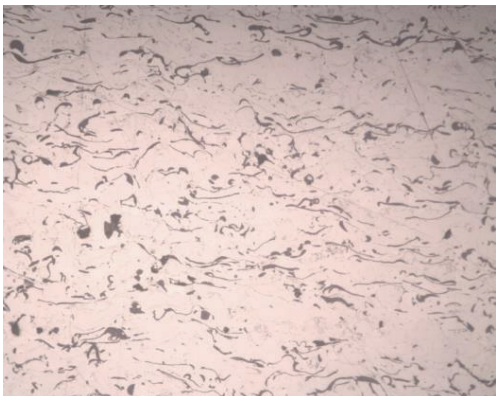
Introducing New Pre-Alloyed SoloCoat™ Alloys

SoloCoat™ alloys are one-step self-bonding metallizing powders. SoloCoat™ alloys can be sprayed onto parts directly, without the need of an initial bond coat. The new pre-alloyed SoloCoat™ materials offer more uniform properties, more consistent hardness and more predictable performance than the original formulation.

Unlike most other one-step products, SoloCoat™ component powders are prealloyed. Prealloying produces a homogenous mix that does not separate during shipping or spraying; the result is a uniform coating. Since no glues or resins are used in the formulation, less smoke and oxides are produced during spraying. SoloCoat™ alloys are controlled to strict specification; are free flowing; and provide for uniform application and excellent results using many popular Thermal Spray processes and powder delivery systems, including the Spraywelder™ Model J-3 System.

Typical Application Results Using the Spraywelder™ Model J-3 System

SoloCoat™ Alloy	Spray Rate (lbs/hr)	Deposition Efficiency	Coating Hardness
840	11	90%	Rb 95
850	13	90%	Rb 60
870	10	90%	Rb 85

Alloy	Nominal Composition - % by Weight	Typical Properties	Coating Microstructures
<p>SoloCoat™ 840</p> <p>A general-purpose, stainless-type coating with good wear and corrosion resistance at high temperatures. Excellent for metal-to-metal sliding friction and erosive applications, and build-ups on low-carbon, low-alloy steels, and stainless steels. For pump parts and water turbine blades. Can be machined with carbide tools or ground to a smooth finish.</p>	<p>Al: 9.0 Cr: 9.0 Fe: 7.0 Mo: 5.0 Ni: Bal</p>	<p>Coating hardness: Rb 95</p> <p>Operating temperature: 871°C (1600°F)</p> <p>Bond Strength: >4,000 psi</p>	 <p><i>Original magnification 200x</i></p>
<p>SoloCoat™ 850</p> <p>An aluminum-bronze alloy, for restoring dimensions to lubricated shaft bearing areas. Can be machined smooth using carbide tools. Excellent for heavy buildup on mismatched or worn down copper alloy and low-carbon steel components. For pump seals, valve parts, and marine parts.</p>	<p>Al: 10.0 Fe: 1.0 Cu: Bal</p>	<p>Coating hardness: Rb 60</p> <p>Operating temperature: 371°C (700°F)</p> <p>Bond Strength: >3,000 psi</p>	 <p><i>Original magnification 100x</i></p>
<p>SoloCoat™ 870</p> <p>A nickel-aluminum-molybdenum alloy for general purpose and bond coat use. It yields good wear resistance on hard bearing applications where particle erosion and fretting wear is encountered. Thick buildups without cracks are possible, due to very high interparticle bonding strength. Recommended for rebuilding machine bedways, wear rings, and press-fit parts. Can be carbide-tool machined or ground, and feather-edged.</p>	<p>Al: 5.5 Mo: 5.5 Ni: Bal</p>	<p>Coating hardness: Rb 85</p> <p>Operating temperature: 649°C (1200°F)</p> <p>Bond Strength: >5,000 psi</p>	 <p><i>Original magnification 200x</i></p>

Safety:

When handling powders do so in such a way to avoid creating a dust cloud; avoid inhalation or contact with skin or eyes. Conduct coating operations in a properly ventilated area. For more information, consult 11.8 (Ventilation), AWS Thermal Spraying: Practice, Theory, and Application available from American Welding Society, OSHA Safety and Health Standards available from U.S. Government Printing Office, and the manufacturer's Material Safety Data Sheet (MSDS).

Warning: Thermal spray torches and heating torches used for application of this product utilize compressed gases including oxygen and a flammable fuel gas. Follow your employers safety procedures when using and handling these gases and equipment. Infrared and ultraviolet radiation (light) emitted from flame and hot metal can injure eyes and burn skin. Use appropriate personal protective equipment.

Storage Requirements:

Keep thermal spray powders in a closed container and protect against moisture pick-up. The containers should be tumbled before using the powder. If moisture is absorbed from the atmosphere, it can be removed and flowability can be restored by drying the powder, with the seal removed and lid loosened, at 66-93°C (150-200°F) for two hours prior to use.

The information provided herein is given as a guideline to follow. It is the responsibility of the end user to establish the process information most suitable for their specific application(s). Wall Colmonoy Corporation (USA) assumes no responsibility for failure due to misuse or improper application of this product, or for any incidental damages arising out of the use of this material.

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