

COMPANY PROFILE

Curtiss-Wright Surface Technologies (CWST) is a single source solution for all your surface treatments. We can reduce your turnaround times and costs through our network of 65 worldwide facilities.

Our proven surface treatments meet industry demands for lighter materials, improved performance and life extension in key markets such as Aerospace, Automotive, Energy, Military and Industrial. We can prevent premature failures due to fatigue, corrosion, wear, galling and fretting.



Surface Technologies is a Division of Curtiss-Wright (NYSE:CW) a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing reliable solutions through trusted customer relationships.

Shot Peening & Thermal Spray Coatings: Complementary Surface Treatments

Shot Peening introduces a residual compressive stress which makes the surface more resistant to crack initiation and propagation. Thermal Spray Coatings protect components from exposure to high temperatures, wear, corrosion and oxidation and can also restore the damaged or worn surface of a component's to its original dimensions. While both treatments individually enhance surface properties, certain components when treated by both see a higher benefit. [Learn more >>](#)

Two Facilities, Two Surface Treatments, Working Together Seamlessly

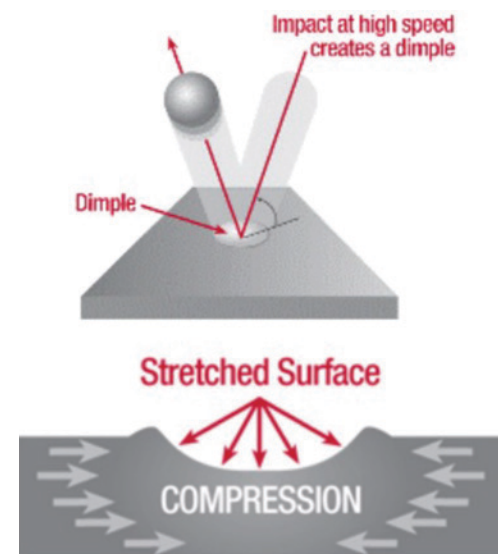
Industry leaders, Pearland Thermal Spray and Houston Shot Peening facilities, working together as one to bring the best services to our customers. This means ONE Point of Contact, ONE Purchase Order and ONE invoice for your surface treatment needs. CWST will manage all the logistics between the two closely located facilities and provide you with fast, reliable turn-around times.

CONTROLLED SHOT PEENING

Why does controlled shot peening extend part life?

Component failure can often be traced back to residual tensile stresses that are introduced during the manufacturing process. Processes such as welding, laser cutting and electric discharge as well as machining and grinding can produce residual tensile stresses which will reduce fatigue strength and shorten a component's life.

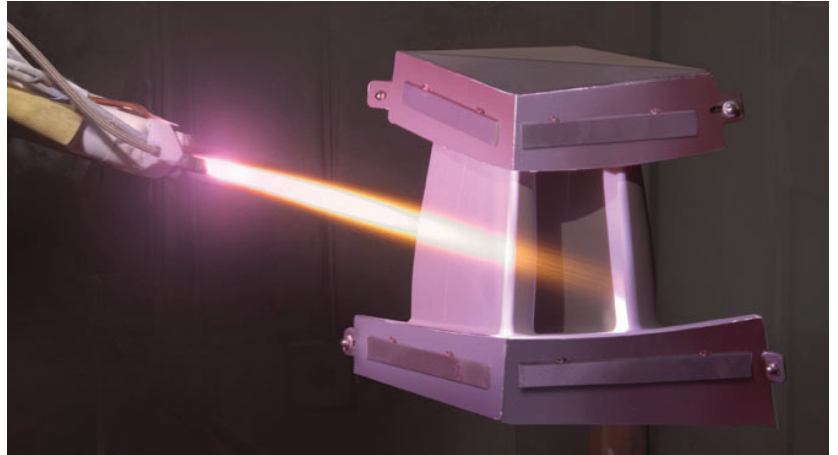
Shot peening is a cost-effective treatment which can be performed on components of any shape and size. With the application of controlled shot peening residual tensile stress is converted to compressive stress which are proven to prevent failure modes such as fatigue, stress corrosion cracking & fretting fatigue.



THERMAL SPRAY

Thermal spray coating technology is an effective solution for thermal protection and enhanced performance of critical components operating across a broad range of industries including aerospace, automotive, power generation and energy.

Essentially, the technology heats and accelerates a powder or wire feedstock onto a component's substrate to produce coatings with specifically optimized properties. The resulting coating protects components from exposure to high temperatures, wear, corrosion and oxidation. It can also restore the damaged/worn surfaces to its original dimensions.



Combination of shot peening and thermal spray coatings.

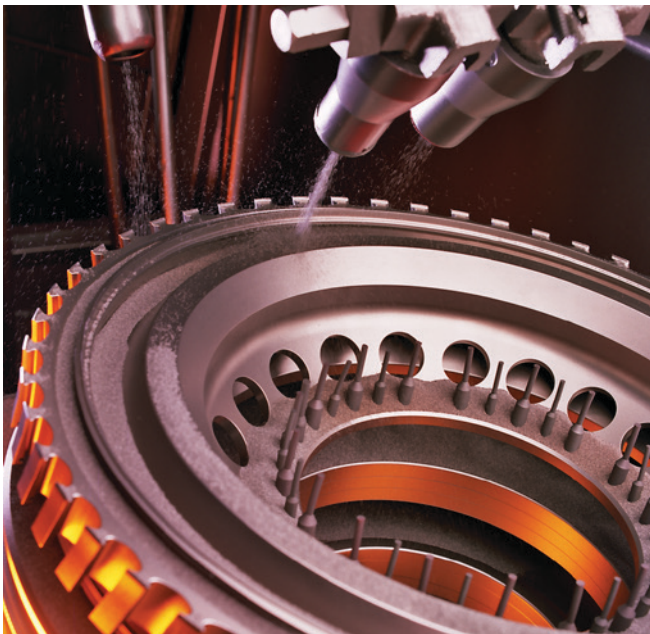
Certain high-performance components require the benefits of both shot peening and thermal spray coatings. The difference is mainly the sequence of both surface treatments.

When is shot peening performed before thermal coating?

Shot peening applied as a first step provides a layer of residual compressive stress in the base material that opposes surface cracking initiated in the final thermal spray layer. During thermal coating either the component or gun is in motion such that the dwell time is short. This minimizes relaxation of shot peening compressive stress and corresponding benefits.

When is shot peening performed after thermal coating?

This is a unique solution for certain coating materials (commonly self fluxing coatings) that can improve surface finish and improved porosity. In these cases, shot peening induces compressive stress to the coating, which improves the fatigue properties and crack resistance. Please reach out to us to figure out if this process is suitable for your coating selection.



Shot Peening Facility

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Thermal Spray Facility

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CWST has 40 Shot Peening facilities and 6 Thermal Spray facilities worldwide

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