

Advanced Metal Treatment Technologies

Shot Peening bombards a metal surface with small metal or ceramic balls called “shot.” Each piece of shot striking the material acts as a tiny peening hammer, compressing and stretching the metal’s surface. The process greatly enhances the durability of the metal and extends the service life of critical components in aerospace, automotive and industrial applications. Shot peen forming takes the process one step further, enabling the metal stretching to precisely shape aerodynamic curvatures in aluminum aircraft wing skins.

Laser Peening impacts a metal surface with 4 times deeper benefit than shot peening, providing unprecedented resistance to fatigue and stress corrosion failure. Developed in partnership with Lawrence Livermore National Laboratories, potential applications have emerged for turbine engines, civil and military aircraft structures, nuclear power generation and waste disposal, petroleum drilling, and medical implants. We operate laser peening facilities in the United States and United Kingdom and will introduce our mobile laser in 2005 to provide this unique technology to customers on site.

Specialty Coatings provide lubrication, corrosion and oxidation resistance for metal components, which enhances their operating performance and longevity. Curtiss-Wright formulates proprietary coatings and applies them to steel, titanium and aluminum components utilized in automotive, aerospace and other industrial applications.

Heat Treating relieves internal stresses and improves the overall strength, ductility and hardness of fabricated metal parts. Curtiss-Wright specializes in the thermal processing of aluminum, titanium and alloy steel components used in aerospace, automotive and general industrial markets. Our facilities have heat treating capabilities and quality approvals specific to their local customer base.

90%

**of Metal Treatment’s
processes
are performed on
OEM parts.**

These cost-effective and efficient processes enable critical components to achieve optimal performance.

21%

**organic sales
growth in 2004.**

Results yielded from improvements in the global commercial aerospace market, capture of new business in automotive markets and a competitive U.S. dollar environment.





New Mobile Laser Peening System

Completely self-contained, environmentally controlled system brings the technology to the customer:

- Transportable by tractor trailer or cargo aircraft
- Ability to treat large, stationary parts

Laser Peening

of turbine engine airfoils increases their resistance to fatigue and damage.



Specialty Coatings

applied by robotic machines provide corrosion protection and lubrication for ball studs used in the automotive industry.



Shot Peen Forming

strengthens and shapes the complex curvatures of the Airbus A380 wing skins.