Shot Peening: Enhancing Durability and Performance

Product Overview

Shot peening is a highly effective cold-working process that improves the fatigue life and strength of metal components by introducing compressive residual stresses on their surfaces. Through the high-velocity impact of small spherical media (shot), shot peening enhances resistance to fatigue, stress corrosion cracking, and wear, making it indispensable in industries where reliability and longevity are critical.

Key Applications

Shot peening is widely used across multiple high-performance industries:

- **Aerospace:** Strengthens turbine blades, landing gear, and structural components to withstand extreme stress and cyclic loading.
- **Automotive:** Improves the durability of gears, springs, and drivetrain parts, ensuring safety and performance.
- **Medical Devices:** Enhances the fatigue resistance of surgical tools and implants for long-term reliability.
- **Energy & Heavy Machinery:** Protects oil & gas equipment, wind turbine components, and industrial machinery from wear and fatigue failure.
- **Defense & Marine:** Extends the service life of military vehicle parts, ship propellers, and submarine components.

Advanced Technology & Innovation

Our shot peening solutions incorporate cutting-edge advancements for superior results:

- **Precision Control:** Automated systems with real-time monitoring ensure consistent peening intensity and coverage.
- **Customized Media Selection:** Optimal shot materials (steel, ceramic, or glass) and sizes are tailored to each application.
- **Robotic Automation:** High-accuracy robotic peening for complex geometries, including additive-manufactured (3D-printed) parts.
- **Eco-Friendly Processes:** Dry and wet peening technologies minimize waste and environmental impact.