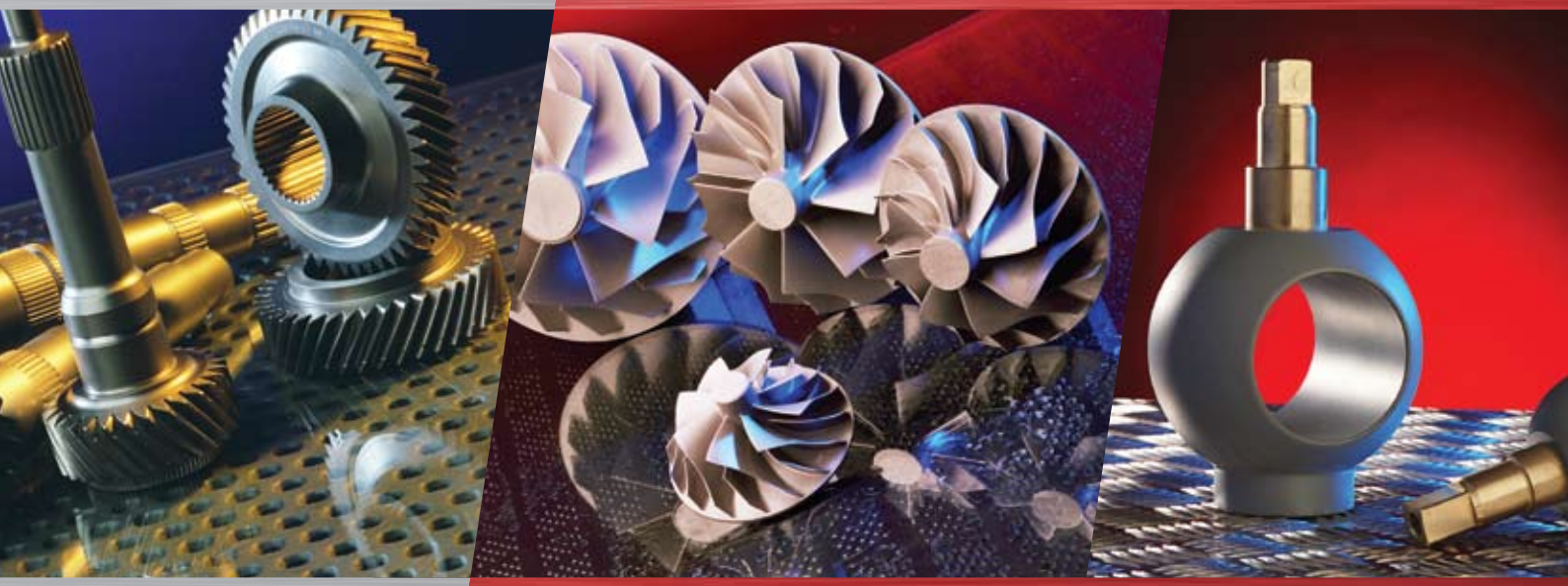
INNOVATORS IN TECHNOLOGY

Metal Improvement Company

Subsidiary of Curtiss-Wright Corporation

Are your components . . .

- suffering from fatigue?
- cracking under pressure?
- looking worse for wear?



MIC provides quality controlled and cost effective surface treatments that enhance performance and provide protection from premature metal and material failures, enabling critical components to achieve their maximum potential

Enhancing the performance of metals and materials

www.metalimprovement.co.uk

CURTISS WRIGHT

Critical protection from metal and material failures

Metal Improvement Company (MIC) is a global organisation specialising in metal and material surface treatments which enhance performance and extend the life of critical components, enabling component designs to achieve their maximum potential.

Established in 1945, MIC has over 60 operating divisions in Europe, USA, Canada and Asia with on-site processing worldwide. We offer a quality controlled and cost effective service, working in partnership to meet our customer's needs.

MIC division approvals, where appropriate, include: FAA, AS9100, NADCAP, ISO 9001:2000, ISO 9001:2008 plus other specific OEM, company and industry approvals as required.

Metal Improvement Company is a subsidiary of the Curtiss-Wright Corporation, a diversified international provider of highly engineered products and services to the Motion Control, Flow Control and Materials Treatment industries.

www.curtisswright.com

CURTISS WRIGHT

Our surface treatments have undergone rigorous laboratory and field testing to ensure reliability in extreme conditions to deal with the following material failure modes:

FATIGUE

The initiation and propagation of cracks can be prevented or controlled by the tailored application of sustainable residual compressive stresses.

GALLING

The adhesion of opposing surfaces when in contact can be minimised by a coating protection and/or changes in material properties in the near surface area.

FRETTING

Fretting damage can lead to fretting fatigue which can be minimised by the protection of the base material through coatings and/or alteration of the mating surface contact points and deep residual compressive stresses.

STRESS CORROSION CRACKING

The removal of surface tensile stresses or reduction below threshold levels can eliminate stress corrosion cracking.

CORROSION

Surfaces can be protected against corrosion by the application of specialist coatings and, where appropriate, the induction of residual compressive stresses.

INTERGRANULAR CORROSION

Shot peening disrupts the grain boundary network at the metal surface, thus removing the pathway for the corrodant to travel, avoiding any intergranular attack.

WEAR

Wear can be reduced by improving friction characteristics and increasing mating hardness.

AREAS IN WHICH WE OPERATE

AEROSPACE:

Airframe - wing skins, ribs, spars, stringers, brackets and fasteners.

Aero-engine - turbine and compressor blades, blisks, blums, shafts, gears.

Undercarriage - steering and actuator systems.

General - gaskets and seals.

MRO processing - on-site worldwide.

ARCHITECTURAL

Stainless steel street furniture, internal fittings, hand rails, countertops, internal and external cladding, curtain walling, metal and glass decoration, sculptures, monuments, signage, nameplates and general construction.

AUTOMOTIVE (including competitive racing):

Transmission - gears, shafts and circlips.

Engine - crankshafts, connecting rods, valves, pistons, piston rings, fasteners, cam shafts, cylinder heads and blocks.

Suspension - compression, tension and leaf springs and uprights.

General - wheels, nuts and gaskets.

CHEMICAL & FOOD PROCESSING

Storage tanks, pressure vessels, pumps and valves, welded assemblies and structures.

GENERAL & STRUCTURAL ENGINEERING

Gears, machined parts, stamping dies, presses, pumps and valves, bridges and other welded assemblies and fabricated structures.

MARINE

Turbine components, gears, shafts, welded assemblies and structures.

MEDICAL

Prosthetics, stents and similar implanted products requiring biostability, perfect sealing of metal/material against the human body and fatigue prevention.

MILITARY

Gears, springs, pins, shafts, engine and transmission components, welded assemblies and structures.

OFF-ROAD & EARTH MOVING EQUIPMENT

Transmissions, buckets, pins and welded assemblies.

OIL, GAS & PETROCHEMICAL:

Drilling equipment - drill collars, stabilizers, drill bits, measurement while drilling (MWD) equipment, storage vessels, pipes, welded assemblies and structures, generator sets, heat exchangers, pumps and valves, surface preparation and christmas trees.

POWER GENERATION

Blades, shafts, heat exchangers, pipes, buckets, welded assemblies and structures.

RAILWAYS

Axle and wheel sets, gears, shafts, pressure vessels, welded assemblies and structures.

OUR SERVICES INCLUDE

Controlled shot peening

Prevents fatigue, stress corrosion cracking, fretting and galling by inducing beneficial residual compressive stresses in all metallic materials.

Shot peen forming

Induces beneficial compressive stresses to create curvature and profile from machined or welded structures, similarly it will correct distortion from machined and heat treatment components.

Laser peening

Induces residual compressive stresses 5 to 10 times deeper than controlled shot peening with minimal surface disruption.

Engineered coatings

Pioneering the development and use of dry film lubricants, wet polymer coatings as well as bespoke and standard coatings (including licenced products) to protect against corrosion and wear, improve part life and reduce maintenance costs for metals and polymers.

C.A.S.E. (isotropic finishing)

Reduces friction, heat and improves resistance to micro and macro-pitting.

On-site processing

Skilled operatives with precision made robust site equipment can be mobilised quickly to attend on-site, anywhere in the UK or worldwide.

Peentex (architectural finishing)

Creates a decorative textured finish applied by controlled shot peening which enhances surfaces in architectural applications both aesthetically and to resist stress corrosion.

Surface texturing

Provides a textured engineered finish to improve the wear and anti-slip properties of metallic tools and components.

Peenflex mouldings

Protects tooling and component parts from handling damage.

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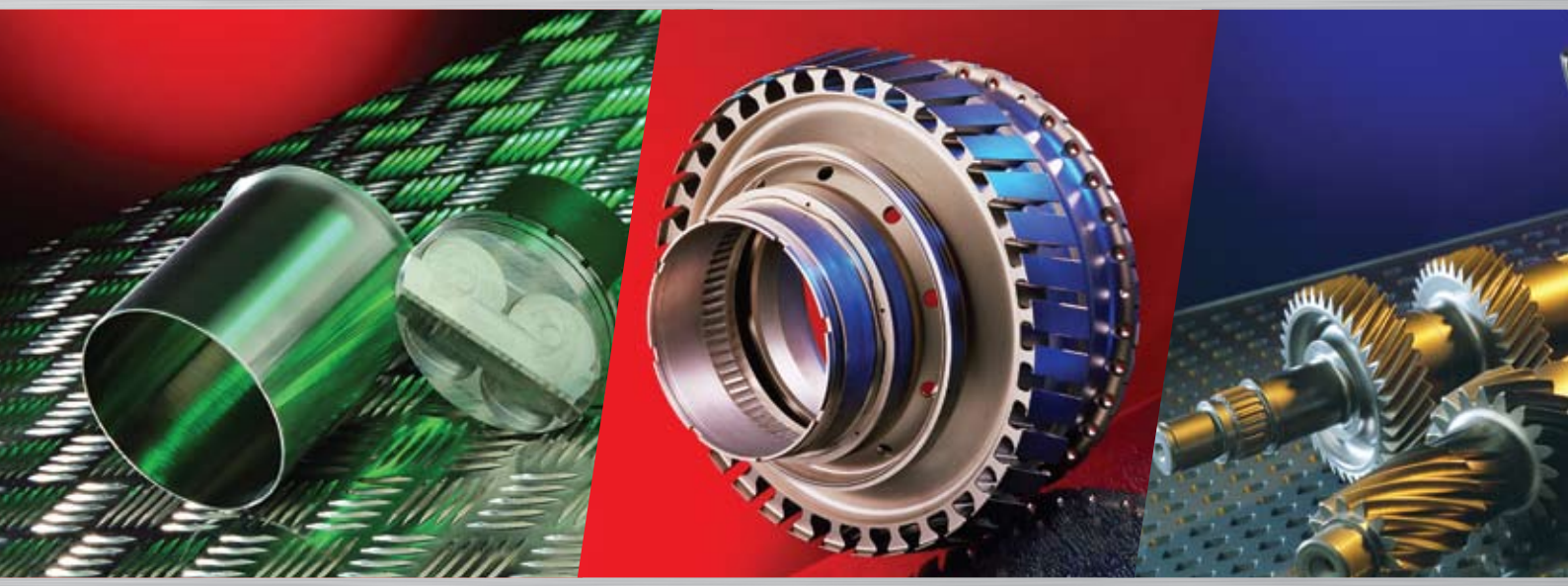

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