



# About Powerkote

## Overview

Powerkote (Pty) Ltd is a leading distributor and applicator of microfilm high temperature ceramic coatings.

Established in 1999, Powerkote has the exclusive distribution and application rights for Tech Line Coatings, USA's range of renowned ceramic coatings which were originally designed to handle re-entry temperatures for space vehicles in the aerospace industry. Today these ceramic coatings are regarded as the most advanced thermal protection options currently available globally.

Powerkote's range of ceramic coatings is well established in the automotive industry throughout South Africa and has become the coating of choice on automotive components, particularly in the demanding motor sports arena. More recently, Powerkote expanded into diverse markets, including construction, food processing, harbours, maritime, job shops, paper and pulp, sugar, manufacturing, machine shops, mining, petrochemicals, tool and die, transportation and welding.

## Product Range

Powerkote ceramic coatings are designed for use on any ferrous or non-ferrous metal and include a comprehensive range to suit different applications, varying from thermal barrier coatings, thermal dispersant coatings, dry film lubricant coatings, and corrosion resistant coatings.

Powerkote's ceramic coatings are capable of handling extreme conditions, as well as provide excellent chemical and corrosion resistance. Thermal shock tests show that these coatings can endure a thermal shock between - 300° C to + 2 000° C and to date are the only coating of its kind that can withstand the temperatures of an internal combustion engine. The ovens at Powerkote's plant accommodate any machine part up to 4m x 2m x 2m.

## Services

Powerkote provides a range of services, which include:

- inspection of the product on site or at Powerkote's premises
- consultation on which ceramic coating suits your specific application
- comprehensive test and report back on product testing
- development of specific coatings to suit your unique application
- cleaning and preparation of your product/component, which is critical to the success of the coating application
- sandblasting of products/components ensure that the ceramic coating adheres effectively to the surface
- coating is applied by spraying the product/component with a gravity feed gun by authorised applicators in a "clean" spray booth
- baking in a custom-designed oven under time-controlled temperatures
- polishing using a vibratory polisher and/or buffed by hand, depending on the application and requirements

## Benefits

Differentiators of Powerkote ceramic coatings compared to other products include good flexibility due to microfilm coverage; highest rate of adhesion to withstand extreme thermal shock; high impact resistance and ease of application. Powerkote has a large range of products and will advise you on the right coating for the application.



AUTHORISED APPLICATIONS



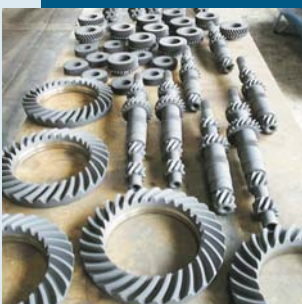
CERAMIC COATED TURBO



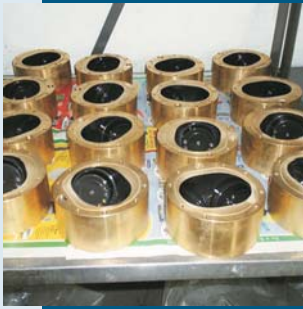
CERAMIC COATED CYLINDER HEAD



CERAMIC COATED EXHAUST



CERAMIC COATED GEARS



CERAMIC COATED VALVES



CERAMIC COATED SMELTER POTS



CORROSION RESISTANT COATINGS



COATED BEARINGS



INDUSTRIAL APPLICATIONS

## Automotive Applications

Powerkote's range of ceramic coatings is well established in the automotive industry throughout South Africa and has become the coating of choice on automotive components, particularly in the demanding motor sports arena.

Automotive parts include bearings, brakes, catalytic converters, crankshafts, cylinder heads, exhausts, fasteners, gears, manifolds, oil pans, pipe lines, pistons, radiators, springs, turbo housings and valves, etc

## Industrial Applications

The applications for Powerkote's range of ceramic coatings has expanded to incorporate a broad range of industries. A range of examples include: actuators; bearings; blowers; calipers; cables; catalytic converters; connecting rods; crankshafts; cylinders; elements; exhausts; fasteners; furnaces; gears; heat exchangers; high pressure moulds; machine parts; manifolds; oil pans; pipe lines; pistons; radiators; reactor tanks; releasants; slides; turbo housing; valves; water tanks; windage trays etc.

Industries include applications in: aerospace; construction; defence; food processing; harbours; logging; lumber; machine shops; milling; mining; medical; motorsports; oil and petrochemicals; paper; printing; shipping; sporting goods; stamping; tool and die; transportation and welding.

## National Facilities

Powerkote, with its original offices and plant in Johannesburg, Gauteng, South Africa, expanded into the Cape and KwaZulu Natal regions during 2004 with the opening of Powerkote Cape in Cape Town and Powerkote KwaZulu Natal in Durban to meet the demand for this patented range of high tech industrial ceramic coatings.

Both regional companies have fully fledged offices and plants similar to the Gauteng operation in order to extend a full application service to these areas. Powerkote has an extensive advisory service locally to solve application problems, as well as direct and quick access to engineers at Tech Line Coatings USA.



PISTON COATING SURVIVING 2000°C



LARGE PARTS FOR COATING



INDUSTRIAL SANDBLASTING

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