GTV PTWA COATING

The technical standard in automotive industry has been new defined.
The PTWA (Plasma Transferred Wire Arc) spray technology is used in industrial applications for economical replacement of cast iron liners, which are pressed or casted as cylinder sleeve into aluminum cast engine blocks.

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Characteristics of PTWA coatings for engine blocks:

- Weight reduction
- Improved efficiency of engines due to defined porosity coatings that provide an additional retention oil volume, especially in the highly loaded areas of top and bottom dead centers
- Reduced friction power
- Improved heat transfer from the cylinder wall into the cooling water circuit, cylinder surface temperature is reduced by up to 30°C
- Accordingly higher compression ratios can be realized without occurrence of glow ignition
Using high frequency ignition an electric arc is ignited generating 60 to 150 Amps. The wire is molten by the arc as well as by the argon / hydrogen plasma. The molten wire tip is atomized and droplets are accelerated towards the substrate (bore hole wall) by compressed air. This leads to solidification of the particles on the prepared surface (mechanical roughened) and formation of lamellar coatings with defined porosity.

Users of PTWA Systems / Coatings
- Nissan
- Caterpillar
- Autocraft for Ford
- Martinrea Honsel for Ford
- Volkswagen
- KS Kolbenschmidt for Porsche
- PSA

Also the remanufacturing industry of engine blocks spray repairs worn cylinder bores as another application for the PTWA technology. A non automotive application is the internal coating of rotary symmetric parts e.g. tubes. Suitable inner diameters range between min. 65 and max. 120 mm.
Ever since the company was established in 1982, the name GTV has stood for top quality and a high level of delivery reliability for all types of thermal spray products.

GTV provides its customers with many years of experience in all aspects of the high-technology field of thermal spray technology, enabling them to make use of the effective and efficient GTV system solutions in order to gain a substantial competitive advantage in the market.