



Cost effective solutions for Valve train components

For automotive valve applications

Maintaining excessive safety margin, to ensure application demands are met, is a costly exercise. Precision engineering optimises application demands and cost efficiently.

Parts exposed to wear at high temperatures are traditionally surface coated with cobalt based alloys. This ensures excellent functionality at an attractive price.

Choose

Iron base powder for cost effective wear at high temperatures in engines applications.

Productivity

A key feature in order to reduce cost is to operate the coating equipment as efficiently as possible. As a powder supplier with experience not only from handling of powder but also from extensive use of different PTA equipments Höganäs can actively support in optimising the manufacturing process.

For more information, please contact your local sales representative.

Main product benefits:

- Heat resistance to withstand hot abrasive wear
- Complies with application demands for medium to small engines
- Crack generation resistant
- Corrosion resistance to withstand engine environment

Applications

PTA (Plasma Transferred Arc) is ideal for high unit volume automated applications as seen with automotive valves and valve seats.

Outer edges must withstand wear at engine temperatures. These sensitive areas are protected so the main goods volume can be manufactured from steel. The table exemplifies cost effective consumables for engine applications.



Good wear resistance is achieved with Cr, Ni, and Mo carbides distributed in the ferritic matrix. Particle size range shown dominates for this equipment and application. Recommended for deposition on valve steels and low carbon steel parts.

Development of new materials

Höganäs is able to support the development of wear-resistant materials for valve train components exposed to higher pressure, speeds and temperatures.

Material	Alloy base	Hardness HRC*	Particle Size (µm)
3533	FeCrNiMo	33	50-150
3733	FeCrNiMo	33	63-210
3733-10	FeCrNiMo	40	50-150
2537	CoCrW	41	50-150
2540	CoCrNiW	42	50-150
HB400	CoCrMo	53	50-150

*Indicative alloy hardness/ typical when PTA coated
Packaging, 5 kg plastic bottle

Temperature °C	Hot Hardness* HV
20	HV ₃₀ 320 (33 HRC)
250	HV ₅ 280
500	HV ₅ 260
700	HV ₅ 230

*3533 / 3733 "as welded" hot hardness after PTA deposition.