

Curtiss-Wright Surface Technologies - CWST offers innovative solution for turbochargers by utilizing thermal sprayed abradable coatings to create tight clearance control between compressor cover and wheel. Significant increase in turbo efficiency can be achieved at an affordable cost.

Technology & Service Information

CWST Abradable Overview

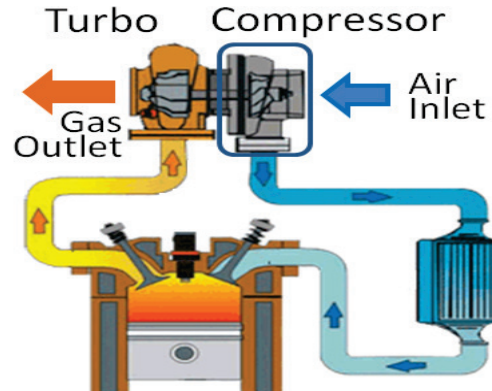
Curtiss-Wright Surface Technologies (CWST) has many years of industrial service experiences providing abradable coatings for turbo engines including coatings for both compressor and turbine sections achieved primarily by the use of thermal spray technologies. Significant improvement in engine efficiency and part life extension can be realized with abradable coatings.

Innovation for Turbochargers

It is critical to minimize and control the clearance between blade tips and casing in turbocharger compressors. To prevent severe wear from airfoil tips contacting the casing, CWST has developed abradable coatings with innovative materials and coating microstructure designs to tailor and finely tune abradable properties to minimize the gap and maximize part lifetime. The abradable coatings are approved by key turbocharger OEMs to have significant improvement in efficiency, corrosion, wear resistance and extended durability.

Benefits

- New abradable technology enables us to realize better sealing and increased engine efficiency
- To eliminate wear damage to rotating blade tips for life extension and durable sealing
- To improve corrosion resistance for long durability
- To gain economic, environmentally friendly, reliability



Schematic of turbocharger including an air compressor in an internal combustion engine

Application

- Turbochargers for automobiles, such as a passenger car, diesel truck or off-road vehicle
- Turbochargers for high altitude applications
- Turbochargers for other industrial sectors such as power generation, marine and aero
- Other turbomachineries with seal requirements



Innovative abradable coating on the aluminum compressor case applied by CWST proprietary material, microstructural design and process

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