

POLYMER SPRAYER

- Coatings



COATING DETAILS	
Substrate	Steel, aluminum, non-ferrous metal, sintered parts
Max. Component Diameter	250 mm
Possible Coating Thickness	10- 70µm
Max.Process Temperature	Max. 100 °C

Mounting Case

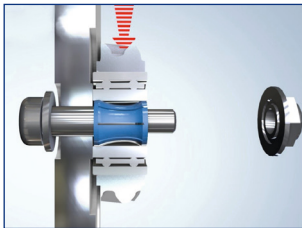
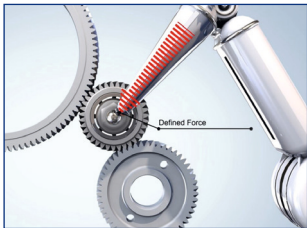
- Classic

- Movable System

Assembly Case

- Plug&Play

- Reduced center distance
- Contact pressure due to spring



SPACECOAT®
Noise reduction and simplified assembly.

COATING OFFER

Technology independent



Development partner for your high-performance coatings



Advanced concepts for automation and industrialization of the coating process



Mid- and high volume production



Full customer service including packaging, logistics and transport



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Innovation in Motion



SPACECOAT®

Noise reduction through gear backlash optimization



TECHNOLOGIES FOR A CLEANER PLANET

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Application

SPACECOAT® can be used as an adjustment layer in a wide variety of applications, such as e-axle, auxiliary system, ebike applications .

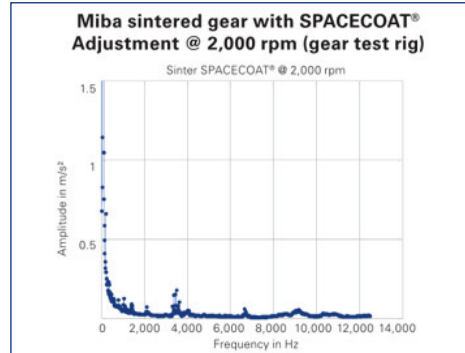
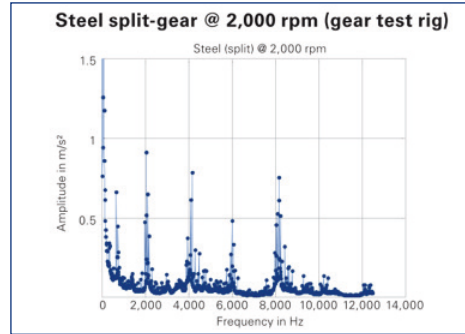
Gears often cause audible noise such as whining (gear mesh, poly- gon effect) and rattling (backlash).

SPACECOAT® creates a precise gearwheel backlash during assembly, which improves gear drive acoustics. The polymer coating offers an easy, fast, precise and economical option for assembly and allows backlash values to be set to the tightest tolerances. Weight, costs and friction can be reduced compared to split gear systems.

SPACECOAT® in detail

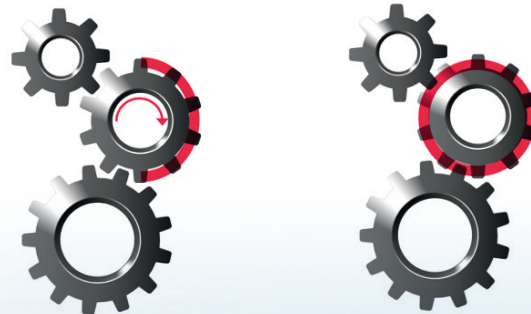
The special additive polymer layer is automatically applied to the components in a multi-stage process. The coating thickness later determines the backlash between the gears. The thickness of the layer is typically between 15 and 60 µm. In the assembly process, the gear coated with SPACECOAT® is mounted and adjusted with zero backlash to one or more mating gears. During the engine cold test, the coating dissolves into superfine particles and the optimized backlash is obtained. A basic requirement is that one of these characteristics must be met:

- Moving system (mass balancing system, oil pumps, etc.)
- Moving gear, typically idler gears



Design variants

To meet our customers' different requirements, Miba offers two different options:



Partial coating:
Gear rotated 180° to measure the backlash

360° coating:
Assembly markings are not necessary and assembly deviations are avoided



NVH REDUCTION

Defined backlash and eliminating center distance tolerances greatly improves engine acoustics. In tests comparing SPACECOAT® to traditional methods of adjusting the gears, noise is reduced by up to 5 dB (total external engine noise).



PROFITABILITY

The simple and precise method minimizes assembly times on the assembly line, which leads to real cost advantages. The design of the layer will be flexibly adapted to meet specific requirements and integrated processes.



PERFORMANCE

Compared to split gear systems, the use of SPACECOAT® allows precise adjustment of backlash, effectively reducing wear and friction and less moved mass. It results in up to 20 percent less friction.



LIGHTWEIGHT CONSTRUCTION

The elimination of more complex split gear systems also affects the weight. The resulting weight savings also lowers fuel consumption and carbon emissions.