

CASE STUDY - High VOC Solvent replacement with AEROGREEN® 4150 for BF Goodrich Turbine Engine Division

Project Profile

BF Goodrich specializes in the design, development and manufacture of gas turbine fuel injection components and offers a variety of production services to best meet customer needs. For new systems, Engine Components will handle each stage of development from the preliminary concept design to servicing the product. Enhancing current designs or simply manufacturing products from existing designs is an extension of our production services.

Since 1937, BF Goodrich has led the industry in establishing guidelines and performance standards. This solid aerospace foundation has allowed Engine Components to be a consistent leader in the development of environmentally friendly aircraft components. From regional and commercial jets to today's most advanced military engines, Engine Components is on it.

Aerospace Product Mix :

- Simplex Injectors
- Dual Orifice Injectors
- Piloted Airblast Injectors
- Airblast Injectors
- Vaporizers

Additional Gas Turbine Components :

- Valves
- Afterburner Spraybars
- Fuel Manifolds
- Combustor Dome Swirlers
- Oil Nozzles/Valves
- Blades

Problem

The blades used in the gas turbine engine manufacturing facility were being cleaned as part of the manufacturing process in Stoddard Solvents and in an effort to replace high VOC solvents and to comply with environmental regulations BF Goodrich mandates that where possible all solvents are to be eliminated from plant operations and replaced with environmentally safer alternative products.



Process to Use Aero-Green

BF Goodrich replaced the vapor degreaser with heated Adjulift immersion tanks using AEROGREEN® 4150 at a dilution of 10%. Once the blades are immersed into the heated solution the shelf that the baskets sit on are slightly raised and lowered so that the solutions is forced through all the air holes. The blades remain in the AEROGREEN® Solution from 3-5 minutes. There are two units, one with the AEROGREEN® 4150 Parts Washer Degreaser and the second unit is the heated fresh water tank for rinsing. Once the blades are removed from the rinse tank they are allowed to sit for a few minutes so that the moisture can evaporate off and the blades are dry.

Benefits

The photo to the left shows the blades prior to cleaning. The photo to the right shows the blades after cleaning, and this blade has been cut open to show how effective the Adjulift cleaning process is in being able to clean both inside and outside of the blades.

Conclusion

AEROGREEN® 4150 Parts Washer Degreaser has been successfully used at BF Goodrich as a direct replacement for solvents in cleaning the turbine engine blades.



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