National Research Council (NRC) Canada Finds Atmospheric Plasma Coating Removal Effective in Aircraft Depainting Study

Recent studies determine that the new Atmospheric Plasma coating removal process does not affect metallic substrates used in military aircraft...

PlasmaBlast Coating Removal System

CARY, NC, USA, November 28, 2017 /EINPresswire.com/ -- Atmospheric Plasma Solutions™ (APS) today announced that recent studies conducted by the National Research Council (NRC) Canada concluded that the novel Atmospheric Plasma Coating Removal (APCR) system may provide a safe and effective alternative to current paint removal methods such as chemical stripping and abrasive media blasting.

A presentation entitled Atmospheric Plasma Depainting – an Alternative Paint Stripping Process for Military Applications was given by the NRC in the NATO Science & Technology Organization Applied Vehicle Technology (AVT-302) research workshop on Paint Removal Technologies for Military Vehicles in October 2017 in Utrecht, The Netherlands. The results presented indicated that APCR had no negative ramifications on detecting fatigue cracks in the substrates, and did not alter the heat treatment or fatigue life properties after 5 (five) simulated paint and strip cycles of the aerospace alloys studied. The study concluded that the APCR process offers an alternative to the current, potentially more hazardous and less environmentally friendly paint removal methods.

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> *Peter Yancey, Chief Technology Officer at Atmospheric Plasma Solutions*

The materials used in the investigation were 3003-H14 aluminum and SAE 1008 steel, as well as large panels of heat-treatable aerospace aluminum alloys 2024-T3 and 7075-T6. They were prepared with coatings of paint and primer according to aerospace painting protocols. Each coupon was coated with yellow epoxy-polyamide (MIL-PRF-23377) primer with a thickness range of 45 - 80 µm and a grey polyurethane coating (MIL-PRF-85285D) topcoat with a thickness range of 30 - 50 µm. For the large panels of 2024-T3 and 7075-T6, fatigue cracks were introduced to investigate the effects of the

paint removal process on crack detectability by LPI.

APS is launching the first commercially available APCR system named PlasmaBlast, which quickly and safely removes hard-to-remove protective coatings and sealants. Using an air plasma beam, the PlasmaBlast precision coating removal system can reliably remove coatings from virtually any substrate material. The PlasmaBlast system vaporizes most paint and coatings into harmless gases and leaves behind a small amount of dust that is safely collected with a vacuum. Unlike traditional coating removal methods, PlasmaBlast doesn't use abrasive media or chemicals, reducing the need for containment and the disposal of waste by-products. The system can significantly reduce the cost of the coating removal process, while increasing the productivity and safety for workers.

"The results of the NRC studies are encouraging for the Atmospheric Plasma coating removal process and support further development for the technology's emergence into industrial applications," said Peter Yancey, Chief Technology Officer at Atmospheric Plasma Solutions.

A portable PlasmaBlast prototype system has been demonstrated in operational environments and is ready for production with a target availability in 2018. APS is seeking partners to help set final product requirements, develop use scenarios and perform operational tests and evaluations using the system under operational mission conditions. To participate in the program, contact Glenn Astolfi at gastolfi@apsplasma.com.

About Atmospheric Plasma Solutions

Atmospheric Plasma Solutions (APS) is developing the next generation of coating removal solutions for hard-to-remove coatings found in marine, aviation, defense and commercial applications. For the past 10 years, APS has perfected the delivery of plasma at atmospheric pressures using only compressed air and electricity. The atmospheric plasma coating removal (APCR) process converts most protective coatings and sealants into harmless gases that are safely vacuumed away. The company's flagship PlasmaBlast™ precision coating removal system reduces job costs, provides a safer work environment and is more environmentally friendly than traditional chemical stripping, media blasting or water jetting methods. For more information, visit https://www.apsplasma.com.

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