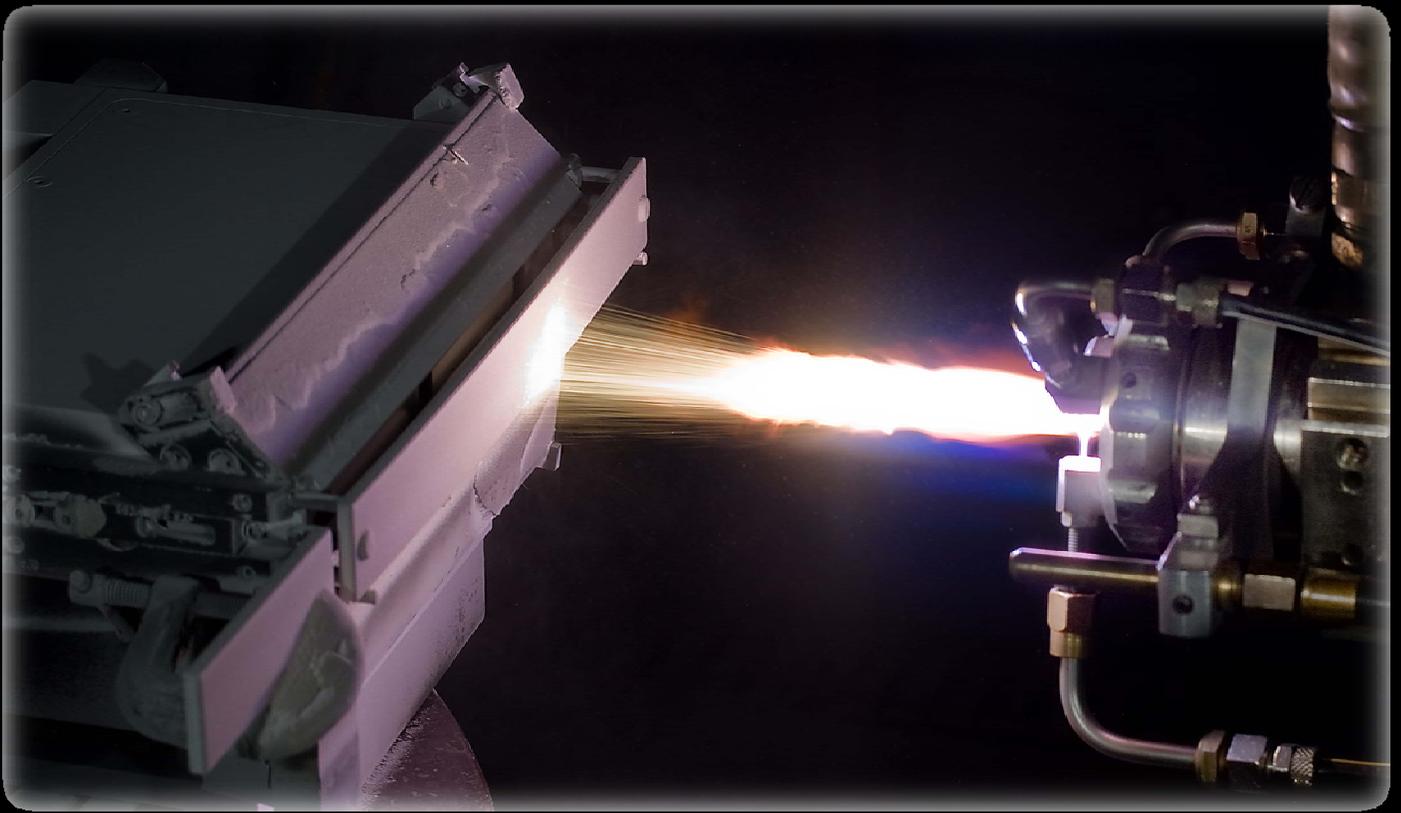


In-Situ Coating Property Sensor

*The Most Advanced Tool for
Real-Time Monitoring of
Thermal Spray Processes*

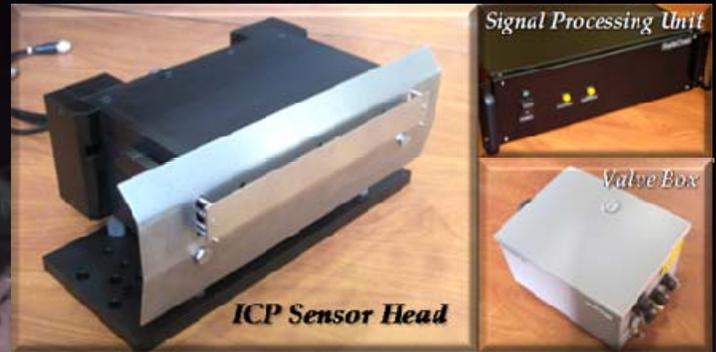


ICP is a product of...



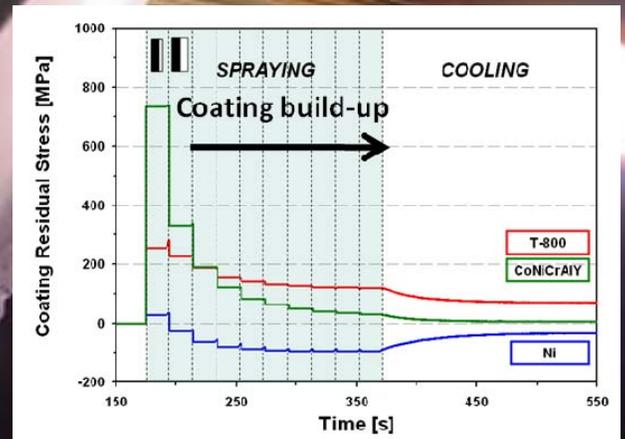
What does the ICP sensor do?

The ICP sensor uses advanced thermo-elastic beam curvature measurements during coating deposition for real time extraction of residual stress evolution and the onset of cracking. The sensor distinguishes residual states of stress and process conditions for various material systems. The user can assess deposit integrity through the extraction of coating residual stress and elastic modulus. These design relevant properties correlate to processing and performance in both R&D and manufacturing.



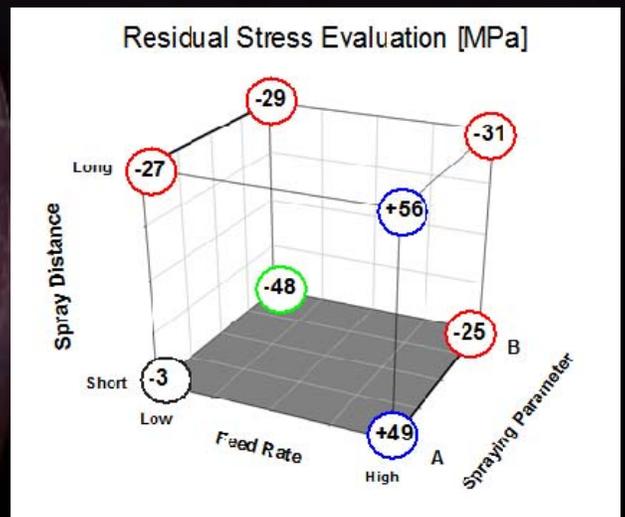
What makes the ICP sensor unique?

ReliaCoat Technologies has developed a rugged and robust sensor system capable of withstanding harsh thermal spray environments. The ICP sensor has been tested across multiple thermal spray processes, including cold spray, with various material systems. The sensor provides real-time coating stress evolution and deposition dynamics. ICP is the only sensor in the market that provides a direct linkage between process and design relevant coating properties.



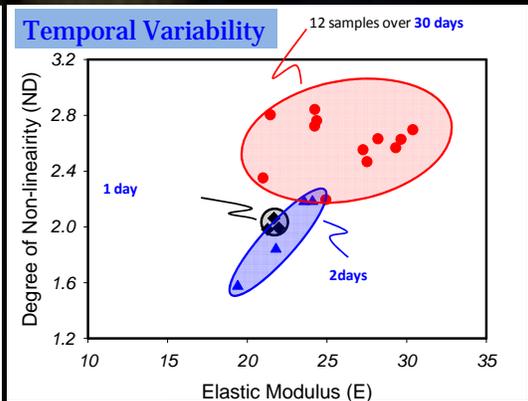
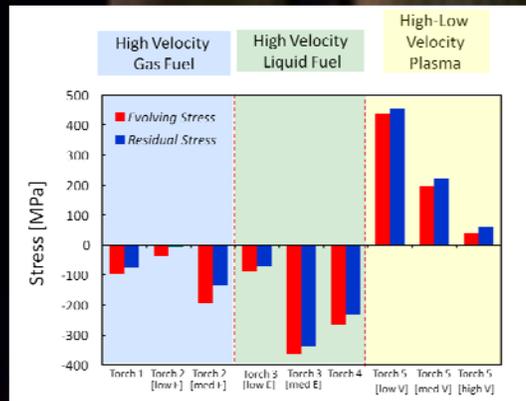
How the ICP sensor helps you discern new variables?

The ICP sensor will allow rapid optimization of coating properties within the spray booth. It allows the exploration of both in-flight particle state (temperature and velocity) as well as non-particle state parameters (substrate temperature, spray distance, and deposition rate) enabling a comprehensive correlation with process conditions.

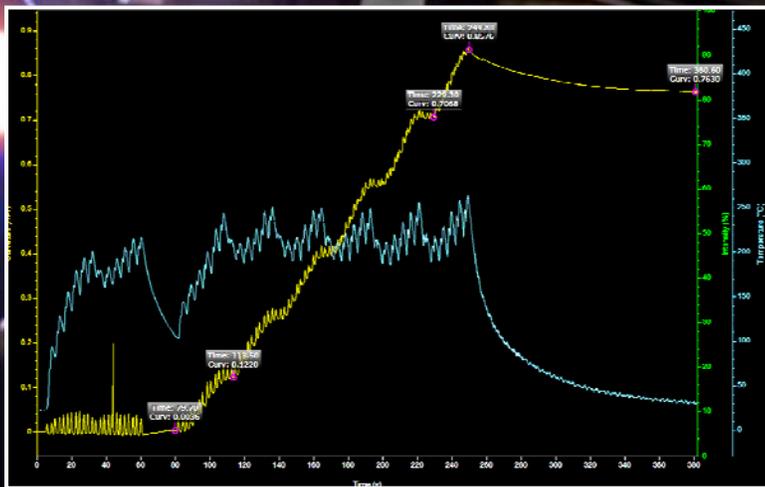


Monitoring process & coating reliability

Depositing a reproducible and reliable coating is critical to ensure proper coating performance. The ICP sensor monitors process and coating deposition reliability via in-situ stress measurement that will facilitate process troubleshooting procedures.



ICP Application 1.2

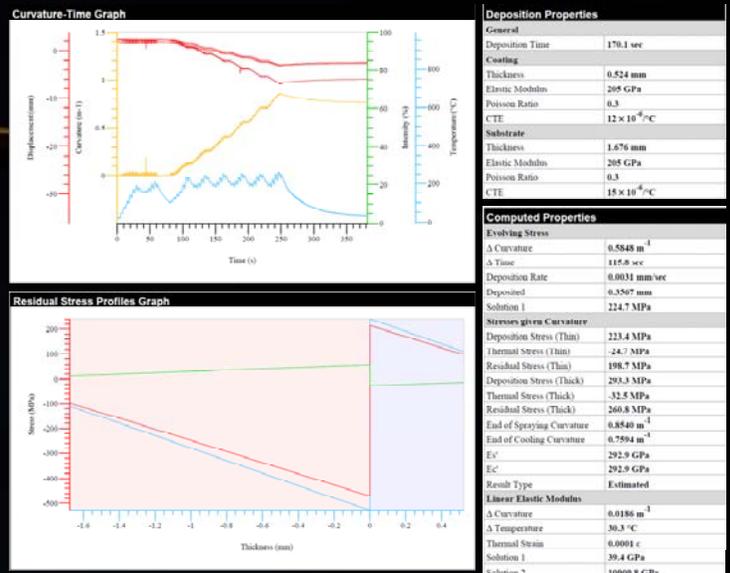


User-Friendly Interface

ReliaCoat Technologies has incorporated sophisticated mathematical analysis into a simple user friendly software package. The application allows visualization of the deposit formation dynamics, process instabilities, and coating properties. In addition, the software will assist in monitoring repeatability of production processes and reproducibility of coatings; thus minimizing downtime and improving efficiency and reliability.

PDF Data Output

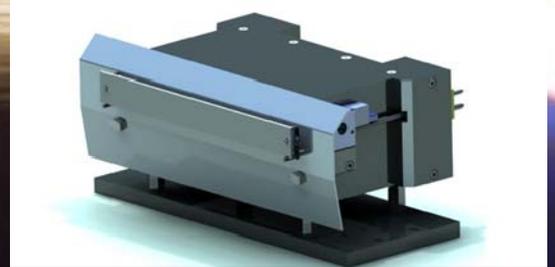
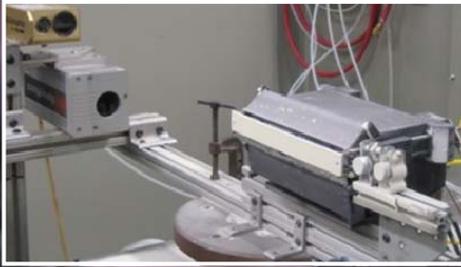
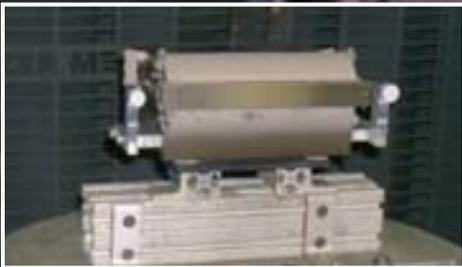
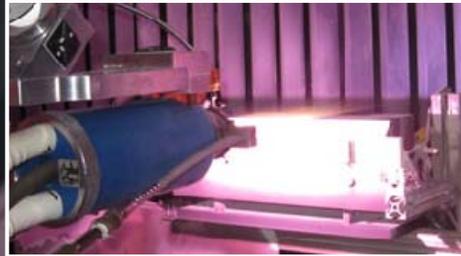
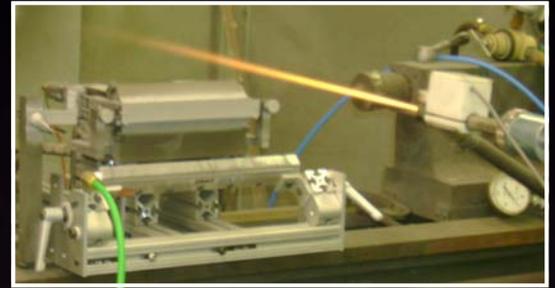
The ICP Application is capable of creating a concise PDF (Portable Document Format) output file which summarizes the deposition metrics and analysis results. This output will assist in maintaining a spray history as well as building a comprehensive database for each material system.



ICP-8 SYSTEM

Successfully Tested on Various Thermal Spray Processes including:

APS, HVOF, Arc Spray, Flame Spray, Cold Spray, and Solution Precursor Spray



"ICP reduced our process optimization time from 3 months to 3 days..." Dave Hawley, Sulzer Metco



FOR MORE INFORMATION:

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