

**Thermal Spray Research and Applications,
Proceedings of the Third National Thermal Spray Conference**
Long Beach, CA, USA, 20-25 May 1990

**VACUUM PLASMA SPRAY FORMING NARloy-Z AND INCONEL 718
COMPONENTS FOR LIQUID ROCKET ENGINES**

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New Vacuum Plasma Spray (VPS) techniques are being developed for use in near net fabrication of aerospace hardware. As part of this development, the metallurgy and material properties of VPS deposited metals are being determined. This current work reports the results obtained with two alloys important in aerospace applications: NARloy-Z, a high conductivity copper based alloy used as the liner in the Space Shuttle Main Engines (SSME) Main Combustion Chamber (MCC), and Inconel 718, a high strength nickel-based superalloy used in the SSME MCC support jacket and other SSME components. Material properties better than those of critical grade cast material are being found and are reported herein