

SBIR 06.2 PHASE I - AWARD DETAILS**ORGANIZATION**

ARDEC

TOPIC NUMBER

A06-046

CONTRACT NUMBER**YEAR OF AWARD****AWARD START DATE****AWARD COMPLETION DATE****PROPOSAL NUMBER**

A062-046-1358

TITLE

Plasma Stabilization and Control of Titanium Welding

PROJECT MANAGER

Nabil Elkouh
(603) 632-4156
nabil.elkouh@erigotech.com

COMPANY

Erigo Technologies LLC
P.O. Box 899
Enfield NH 03748-0899

Minority Owned: No
Woman Owned: No
Veteran Owned: No
Number of Employees: 5

KEYWORDS

titanium, welding, GMAW

ABSTRACT

The welding of titanium is of rapidly increasing importance to the Army, and this trend will accelerate as low-cost titanium becomes available. To facilitate the use of titanium in a growing set of applications, a rapid, reliable, and inexpensive joining process must be established. Gas metal arc welding is a highly desirable joining method because of high production rates and relatively low costs. However, the use of the gas metal arc welding process for the welding of titanium alloys has been principally limited by arc instability. Pulsed gas metal arc welding offers the possibility of successfully addressing arc instability, but much development work remains to optimize this process for widespread use. On this project, we will develop an innovative control system to stabilize and control the plasma in pulsed gas metal arc welding of titanium.

BENEFITS

Our approach embodies simplicity and universal adaptability. A system that is adaptive will enable the growth in use of low cost titanium as it comes to market while supporting current uses in both the government and private sectors.