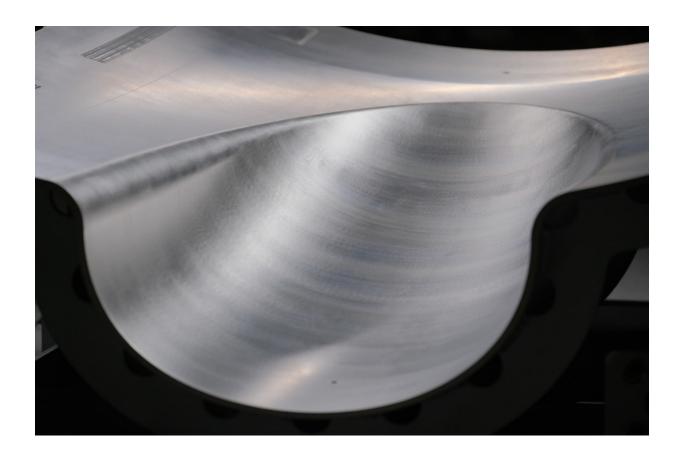
LINCOLN ELECTRIC ADDITIVE SOLUTIONS

INVAR36



KEY FEATURES

Invar 36 is known for its extremely low coefficient of thermal expansion (CTE). Its moderately high-strength, good ductility and toughness, along with excellent fatigue and mechanical properties at cryogenic temperatures makes Invar 36 ideal for applications such as: tooling and dies for aerospace composite part fabrication, liquified gas storage and transportation, cryogenic components and more.

Typical Applications »

Tooling and Dies for Aerospace Composite Part Fabrication

Liquified Gas Storage and Transportation

Cryogenic Components



NOMINAL MECHANICAL PROPERTIES

GMAAM ⁽¹⁾	Heat Treatment ⁽³⁾	Room Temperature Strength			Toughness	Rockwell	CTE ⁽²⁾
Wire Feedstock		YS @ 0.2% Off (ksi)	UTS (ksi)	Elong (%)	ft-lbs @ 70 °F	Rockwell B	in / (in °F)
Invar 36	Full anneal (@ 1350 °F)	50	70	25	30	90	2.2 * 10 ⁻⁶ max

- (1) Gas Metal Arc Additive Manufacturing (GMAAM)
- (2) Corresponds to the following temperature range: 77 $^{\circ}F-400$ $^{\circ}F$
- (3) Post-weld heat treatment: At temperature for 2 hours, furnace cool

Test Results

Test results for mechanical properties were obtained from GMAAM deposits produced and tested according to prescribed standards. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any GMAAM component before use in the intended application. This data is for illustrative purposes only. Actual results may vary.

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