

Abstract

An electric arc welding apparatus for depositing molten metal from an advancing welding wire into a weld puddle in an open root between two juxtapositioned plates where the root extends in a welding path and is formed by converging walls terminating in generally parallel walls spaced to define a gap, which apparatus comprises a contact holder with a wire outlet, a switching power supply directing welding current to the wire as the wire passes from the outlet toward the open root, with the advancing wire defining an electrode stick out between the contact holder and the weld puddle, a circuit for sensing the length of the stick out, and control means for adjusting the welding current as a function of the sensed stick out length.

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