

Abstract

In an electric arc welder for creating an arc welding process between a consumable electrode advancing through a contact tip and a workpiece, the welder including a power supply to create an arc current and arc voltage and having a first lead connected to the contact tip and a second lead connected to the workpiece, the improvement comprising dividing the contact tip into an upper tip section and a lower tip section with an insulator electrically isolating the sections, a first switch selectively shiftable to a conductive state connecting one of the power supply leads to said upper tip section, a second switch selectively shiftable to a conductive state connecting the one lead to the lower tip section and a switch operating network creating a first switch signal to shift the first switch to its conductive state and/or a second switch signal to shift the second switch to its conductive state to control the effective CTWD of the arc welding process.

This Sheet Has Been Replaced

