

Recommended Practices for Gas Tungsten Arc Welding of Titanium Piping and Tubing



American Welding Society



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Recommended Practices for Gas Tungsten Arc Welding of Titanium Piping and Tubing

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Prepared by
AWS D10 Committee on Piping and Tubing

Under the Direction of
AWS Technical Activities Committee

Approved by
AWS Board of Directors

Abstract

This standard summarizes information on the welding of titanium. It explains the special precautions necessary to shield the molten and hot metal from atmospheric contamination. Various methods of checking weld quality are also presented.



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Foreword

(This Foreword is not a part of AWS D10.6/D10.6M:2000, *Recommended Practices for Gas Tungsten Arc Welding of Titanium Piping and Tubing*, but is included for information purposes only.)

Welding of titanium piping is done primarily with the Gas Tungsten Arc Welding process, though other welding methods are used to join other titanium product forms and components. Since this standard deals only with titanium piping and tubing, this document is confined to a discussion of gas tungsten arc welding.

The first version of D10.6 was published in 1959 as a Committee Report—*Gas Tungsten Arc Welding of Titanium Piping and Tubing*. This document was revised and updated in 1973 under the same title.

In 1985, the standard was rewritten as ANSI/AWS D10.6-85, *Recommended Practices for Gas Tungsten Arc Welding of Titanium Pipe and Tubing*. This version contained a large amount of added information on weld shielding and testing for weld quality.

In 1991 a revision was issued that included the newer alloys and filler metals and to “fine tune” much of the information previously presented.

The present document incorporates results of work done on the affects of atmospheric exposure during welding. Recommended maximum exposure temperature has been lowered and the affects of high temperature exposure was revised. Editorial revisions were made throughout.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, Piping and Tubing Committee, American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

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