



AWS C7.2M Interpretation

Subject: Use of a Laser for limited penetration, or a partial depth cut used for surface marking of materials
Code Edition: C7.2M:2010
Code Provision: Subclause 9.2.1 (1) and (9)
AWS Log: C7.2-10-I01

Inquiry:

- (1) Can “Blind” or partial cut identification numbers and or, the marking of an outline for locating a component be considered as equivalent to “decorative patterns” in some materials?
- (2) If so, is it then considered as acceptable to use it for precision computerized layout and marking of component locations for fabrication purposes?
- (3) Because LBC is considered a Low-heat input process, wouldn’t the limited depth, or partial depth cut ultimately be considered as an even further reduced heat input condition making the HAZ a non issue?

Response:

- (1) These questions are not covered by the scope of this document. Nothing in this document supersedes the end-user or customer supplied specification.

Take from the foreword in C7.2:

“It should be noted that the operating and processing parameters given in the Standard may not be the only parameter combinations that can be employed for successfully processing the materials and thicknesses shown. Changes in material chemistry, dimensional tolerances, laser beam characteristics, machine calibration, and other factors can produce different results. Therefore, the procedures presented here are simply meant to provide a set-up and design guide to help users to organize and learn the process of developing and refining a particular application.”

AWS standards are prepared by AWS technical committees. Because many AWS standards are written in the form of codes or specification, they cannot present background material or discuss the committee’s intent.

The nature of inquiries directed to the American Welding Society and their technical committees have indicated that there are some requirements in AWS standards that are either difficult to understand or not sufficiently specific.

It should be recognized that the fundamental premise of AWS standards are to provide general stipulations applicable to any situation and to leave sufficient latitude for the exercise of engineering judgment. Another point to be recognized is that AWS standards represent the collective experience of AWS technical committees; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.