American Welding Society

550 NW LeJeune Road *Miami, Florida 33126*

AWS D1.1 Interpretation

Subject: Reentrant Corners
Code Edition: D1.1-82
Code Provision: Subsection 3.2.4
AWS Log: D1-84-016

Inquiry: (1) What is the definition of reentrant corners as used in 3.2.4 or AWS D1.1?
(2) Is it readily deducible by a user of D1.1 that 3.2.4 applies in general to welded joints at intersections between members?
(3) In the specific case illustrated in the attached sketch, does D1.1 automatically require a ¾ in. or any certain radius at intersections between the flanges, as are shown in the sketch?
(4) If the designer requires a specified minimum radius at intersections between members, should it be detailed clearly in design drawings or specifications?

Response: (1) Reentrant corners are defined in *Webster's New Collegiate Dictionary* and in *Webster's Third International Dictionary*. (See also *AISC manual of Steel Construction*, 8th Edition, Page 4-167.)
(2) No.
(3) No. (Sketch does not illustrate a "reentrant corner.")
(4) Yes.

Attachment to D1-84-016

Typical Girder/Beam

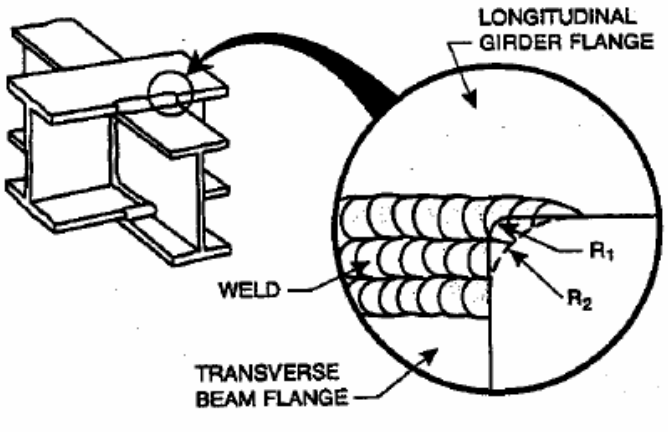
Flange-to-flange welds are complete penetration, all others are fillets.

Girder flanges are 1 in. thick, beam flanges are 1 in. or 1/2 in.

Typical Flange Intersection Detail in Plan View

True Scale

F_1 = Unspecified normal good workmanship radius governed by the radius of the grinding wheels used.
R_2 = 3/4 in. radius directed by our customer.



AWS D1.1, Structural Welding Code—Steel, is prepared by the AWS Structural Welding Committee. Because the Code is written in the form of a specification, it cannot present background material or discuss the committee's intent.

Since the publication of the first edition of the Code, the nature of inquiries directed to the American Welding Society and the Structural Welding Committee has indicated that there are some requirements in the Code that are either difficult to understand or not sufficiently specific, and other that appear to be overly conservative.

It should be recognized that the fundamental premise of the Code is 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 the Code represents the collective experience of the committee; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.