



AEROSPACE RECOMMENDED PRACTICE

ARP4266™

REV. A

Issued 1997-11
Reaffirmed 2014-10
Cancelled 2019-03

Superseding AS4266

Hole Contour, Fluid Passage, Tube Fitting

RATIONALE

ARP4266 is an integral part of ARP4296, which has been specified on several SAE Aerospace Standard (AS) drawings. It was intended to be a requirements document, but, since it was published as an ARP document, the contents were not mandatory, only recommended. Because of this, ARP4266 will be cancelled. All of its contents are incorporated into AS4266. Supersession by an SAE Aerospace Standard (AS4266) will make the specified contents mandatory.

CANCELLATION NOTICE

This Technical Report has been declared "CANCELLED" as of March 2019, and has been superseded by AS4266. By this action, this document will remain listed in the respective index, if applicable. Cancelled Technical Reports are available from SAE.

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1. SCOPE:

This document is intended to provide recommended contours and limits of size of the surfaces of the internal fluid passages of tube fittings for the portions that are not already defined by the fitting end design standard drawings.

1.1 Purpose:

The internal passages of fittings are defined by the dimensions of the fitting end design standards, a through hole diameter that may be smaller than that on the fitting ends, an allowable mismatch of holes on the same axis, a minimum wall thickness of the center body section of shape fitting and a requirement for a minimum ball to pass through shape fittings. This document provides manufacturing recommendations to reduce abrupt changes in contours and thus minimize pressure drop, reduce the number of edges produced to minimize burrs and provide sufficient minimum size of fluid passages while maintaining a minimum wall thickness of the center body section, which is defined herein. The historical background of the need for this document is given in 4.1.

2. REFERENCES:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 ASME Publications:

Available from ASME Order Department, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300.

ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)

3. REQUIREMENTS:

3.1 Minimum Wall Thickness:

- 3.1.1 For straight fittings, such as unions, adapters, reducers, caps and plugs, the internal hole diameter and length should be specified with the hole ending in a conical end of 110° minimum included angle. A full spherical radius may be optional. If necessary a flat bottom may be specified.
- 3.1.2 For shape fittings, such as elbows, tees and crosses, a section thickness shall be specified as “Minimum wall thickness of center body section” as shown in Figure 1.

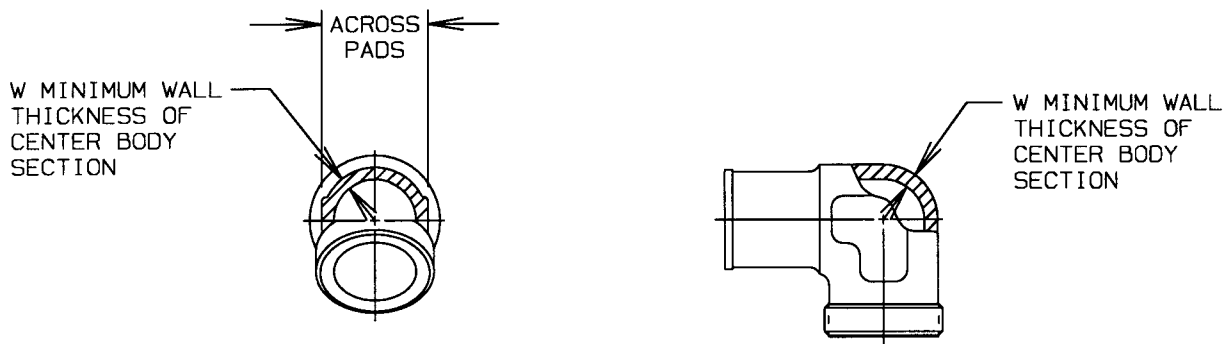


FIGURE 1 - Optional Callouts for Minimum Wall Thickness

- 3.1.3 The “center body section” is defined as that portion of the shape fitting that is not dimensioned by the individual fitting end design standards except the internal passage hole may be the minimum hole from the design standard. See examples in Figure 2.

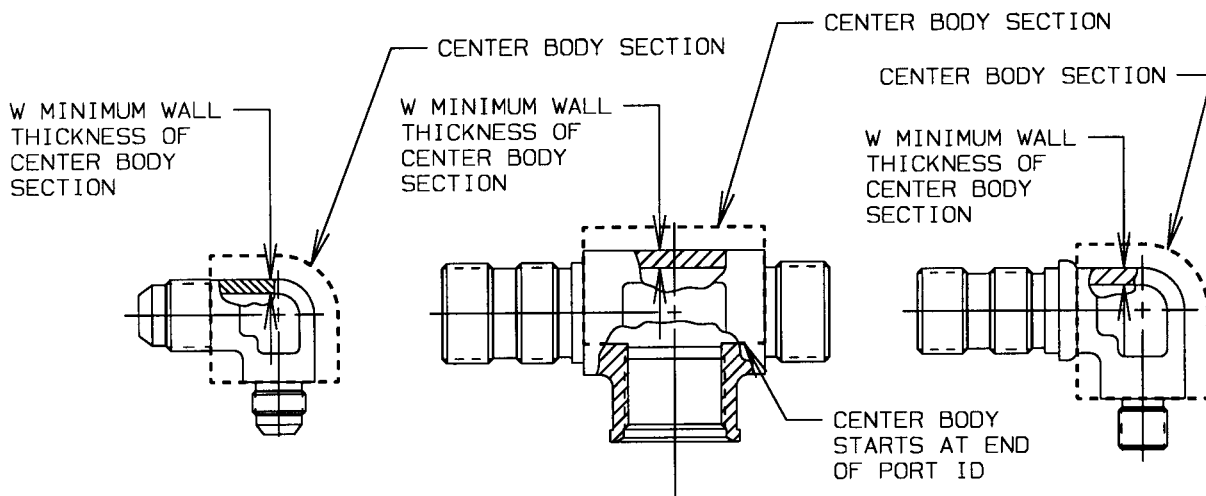


FIGURE 2 - Examples of Center Body Sections of Shape Fittings

3.2 Contours and Limits of Size of Internal Fluid Passages of Shape Fittings:

- 3.2.1 The suggested sequence of production of the internal passage holes with their contours and limits of size for the four basic shapes, 90° elbow, 45° elbow, tee and cross, are shown in Figures 3 through 14.

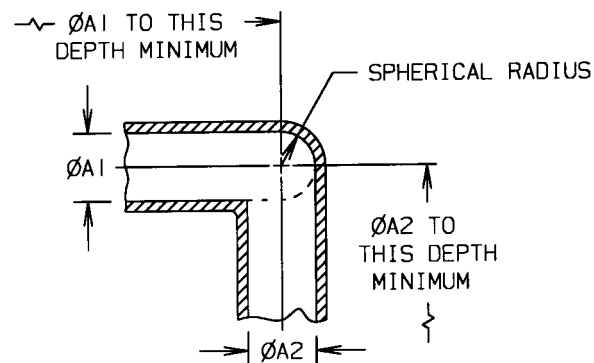


FIGURE 3 - 90° Elbow, Non-Reducer