



SURFACE VEHICLE STANDARD

J3129™**OCT2019**

Issued

2019-10

Seamless, 304/304L Stainless Steel Tubing

RATIONALE

Users and manufacturing committees have requested an SAE document to standardize stainless steel bulk tubing. This document is created to support the SAE need for a stainless steel, bulk tubing standard, which provides users with information and requirements regarding tubing material, dimensions, performance, and recommended attachment methods.

1. SCOPE

This SAE Standard covers seamless stainless steel pressure tubing intended for use as hydraulic lines and in other applications requiring corrosion resistance.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J533 Flares for Tubing

SAE J1453-1 Specification for O-Ring Face Seal Connectors: Part 1 - Tube Connection Details and Common Requirements for Performance and Tests.

2.1.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM A269/A269M Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service

ASTM A1016/A1016M Standard Specification for General Requirements for Ferritic Alloy Steel, Austenitic Alloy Steel, and Stainless Steel Tubes

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2019 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE J3129_201910

SAE values your input. To provide feedback on this Technical Report, please visit http://standards.sae.org/J3129_201910

Documents
Document Sharing Hub

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS5565 Steel, Corrosion Resistant, Welded Tubing, 19Cr - 9.5Ni (304), Solution Heat Treated

AMS5567 Steel, Corrosion Resistant, Seamless or Welded Hydraulic Tubing, 19Cr - 10Ni (304), Solution Heat Treated

3. MANUFACTURE

Tubing shall be cold drawn and annealed to produce a finished product and shall meet all requirements ASTM A269M and this document.

Tubes shall be bright annealed and passivated. Oxide annealed, pickled, and passivated can be supplied by agreement between producer and purchaser.

Centerless grinding is not permitted; however, a light polish to improve surface appearance is permitted. Polished tubing must be subsequently passivated.

4. DIMENSIONS AND TOLERANCES

4.1 Outside Diameter Tolerance

For tubing with a specified wall 3% or less than the specified OD, or with a wall specified as 0.50 mm or less, refer to the ovality limits in ASTM A1016 for additional ovality allowance.

The tolerances applicable to the tubing outside diameter are shown in Table 1.

Table 1 - Tubing outside diameter tolerance

Nominal Tubing OD ⁽¹⁾⁽²⁾ mm	Tube OD Tolerance ±mm
Up to 12.7	0.08
Over 12.7 to 25.4	0.10
Over 25.4 to 50.80	0.15
Over 50.80 to 63.50	0.18
Over 63.50 to 76.20	0.20
Over 76.20 to 88.90	0.25
Over 88.90 to 139.7	0.38

⁽¹⁾ OD measurements shall be taken at least 1.5 x diameter from the end of the tubing.

⁽²⁾ Refer to SAE J1453 for nominal tubing OD to be used in conjunction with standard hydraulic tube fittings and SAE J533 for recommended maximum nominal wall thickness for double flaring.

4.1 Wall Thickness Tolerance

The tolerance of the wall thickness dimension shall be ±10% of the nominal wall thickness.



Documents

Document Sharing Hub