Qualification of Suppliers of Machining Services for Use in the Petroleum and Natural Gas Industries

API STANDARD 20M
SECOND EDITION, JANUARY 2026



Special Notes

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed. The use of API publications is voluntary. In some cases, third parties or authorities having jurisdiction may choose to incorporate API standards by reference and may mandate compliance.

Neither API nor any of API's employees, subcontractors, consultants, committees, or other assignees make any warranty or representation, either express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein, or assume any liability or responsibility for any use, or the results of such use, of any information or process disclosed in this publication. Neither API nor any of API's employees, subcontractors, consultants, or other assignees represent that use of this publication would not infringe upon privately owned rights.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to ensure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any authorities having jurisdiction with which this publication may conflict.

API publications are published to facilitate the broad availability of proven, sound engineering and operating practices. These publications are not intended to obviate the need for applying sound engineering judgment regarding when and where these publications should be used. The formulation and publication of API publications is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or materials in conformance with the marking requirements of an API standard is solely responsible for complying with all the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

Users of this standard should not rely exclusively on the information contained in this document. Sound business, scientific, engineering, and safety judgment should be used in employing the information contained herein.

All rights reserved. No part of this work may be reproduced, translated, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. Contact the Publisher, API Publishing Services, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

Copyright © 2026 American Petroleum Institute

Foreword

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

The verbal forms used to express the provisions in this document are as follows.

Shall: As used in a standard, “shall” denotes a minimum requirement to conform to the standard.

Should: As used in a standard, “should” denotes a recommendation or that which is advised but not required to conform to the standard.

May: As used in a standard, “may” denotes a course of action permissible within the limits of a standard.

Can: As used in a standard, “can” denotes a statement of possibility or capability.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

Contents

Page

1 Scope ... 1
1.1 Purpose ... 1
1.2 Applicability ... 1
1.3 Machining Qualification Levels ... 1

2 Normative References ... 1

3 Terms, Definitions, and Abbreviations ... 2
3.1 Terms and Definitions ... 2
3.2 Abbreviations ... 4

4 Machining Services Supplier Qualification ... 4
4.1 Minimum Requirements ... 4
4.2 Machining Quality Levels (MQL) ... 4

5 QMS Requirements ... 6
5.1 General ... 6
5.2 Personnel Competency Requirements ... 6
5.3 Equipment Maintenance ... 6
5.4 Testing, Measuring, Monitoring, and Detection Equipment (TMMDE) ... 6
5.5 Document Control ... 8
5.6 Customer-Owned Property ... 8
5.7 Order Review ... 8
5.8 Identification and Traceability ... 9
5.9 Inspection Requirements ... 9
5.10 Preservation of Product ... 10
5.11 QMS Records ... 11
5.12 Continued Conformity of the QMS ... 11

6 Control of Suppliers ... 11
6.1 Control of MQL 1 Suppliers ... 11
6.2 Control of MQL 2 Suppliers ... 11
6.3 Control of MQL 3 Suppliers ... 11

7 Documentation ... 13
7.1 MQL 1 Documentation ... 13
7.2 MQL 2 Documentation ... 15
7.3 MQL 3 Documentation ... 16

Bibliography ... 17

Tables

1 Quality Management System Requirements ... 5
2 Service Supplier Qualification Requirements ... 12

Qualification of Suppliers of Machining Services for Use in the Petroleum and Natural Gas Industries

1 Scope

1.1 Purpose

This standard specifies requirements for the qualification of suppliers of machining services where API product standards require such services or are otherwise specified as a requirement for conformance. Conformance with this standard is not required to demonstrate conformance with any other API standard or specification.

1.2 Applicability

The requirements of this standard apply to machining operations performed in a machine shop or in the field.

NOTE This standard does not limit the responsibility of any manufacturer of commercial products using machined parts manufactured to an API standard from its responsibility for conformance with all applicable requirements of that API standard.

1.3 Machining Qualification Levels

This API standard establishes the requirements for three machining qualification levels (MQL 1, MQL 2, and MQL 3). These three MQL designations define different levels of quality and qualification requirements. These MQLs are numbered in increasing levels of requirements to reflect increasing quality and qualification criteria.

Final assembly, component testing (e.g., nondestructive examination, pressure testing) or a broker of machining services are outside the scope of this standard.

This standard applies when specified by the customer or voluntarily followed by the machining services supplier.

2 Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Specification Q1, *Quality Management System Requirements for Organizations Providing Products for the Petroleum and Natural Gas Industry*

API Standard 20D, *Qualification of Nondestructive Examination Services for Equipment Used in the Petroleum and Natural Gas Industry*

API Standard 20G, *Welding Services for Equipment Used in the Petroleum and Natural Gas Industry*

API Standard 20H, *Heat Treatment Services—Batch Type for Equipment Used in the Petroleum and Natural Gas Industry*

API Standard 20N, *Heat-Treatment Services—Continuous Furnace for Equipment Used in the Petroleum and Natural Gas Industry*

API Standard 20P, *Qualification of Applicators of Coating/Plating Services for Equipment Used in the Petroleum and Natural Gas Industry*

ISO 9001[1], *Quality Management Systems, Requirements*

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*