

Recommended Practice for the Care and Handling of Sucker Rods

Upstream Segment

API RECOMMENDED PRACTICE 11BR
NINTH EDITION, AUGUST 2008



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.

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.

Classified areas may vary depending on the location, conditions, equipment, and substances involved in any given situation. Users of this recommended practice should consult with the appropriate authorities having jurisdiction.

Users of this recommended practice 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.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to assure 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 utilized. 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.

All rights reserved. No part of this work may be reproduced, 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, 1220 L Street, N.W., Washington, D.C. 20005.

Copyright © 2008 American Petroleum Institute

Foreword

This recommended practice is under the jurisdiction of the API Executive Committee on Standardization.

Detailed requirements applying to sucker rods are given in API Specification 11B, *Specification for Sucker Rods*, which also is under the jurisdiction of the API Executive Committee on Standardization.

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.

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, 1220 L Street, N.W., Washington, D.C. 20005. 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, 1220 L Street, N.W., Washington, D.C. 20005.

Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, D.C. 20005, standards@api.org.

Contents

	Page
1 Scope	1
2 References	1
3 Selection of API Steel Sucker Rods	1
3.1 General	1
3.2 Stress Effects	1
3.3 Environmental Effects	1
3.4 Sucker Rod and Coupling Grade Selection	2
4 Allowable Sucker Rod Stress Determination Utilizing Range of Stress	3
4.1 General	3
4.2 Stress Diagrams	3
4.3 U.S. Customary (USC) Example	3
4.4 Metric Example	4
5 Slim Hole Sucker Rod Coupling Derating	4
5.1 Derating Factor History	4
5.2 Modified Derating Factor	4
6 Sucker Rod Joint Makeup Utilizing Circumferential Displacement	5
6.1 General	5
6.2 Circumferential Displacement Values	6
6.3 General Recommendations, Power Tongs	7
6.4 Calibration of Power Tongs	7
6.5 Use of Rod Wrenches for Manual Makeup	8
7 Installation of Polished Rod Clamp on Polished Rod	8
8 Inspection of Used Sucker Rods and Couplings	9
8.1 General	9
8.2 Visual Inspections	9
8.3 Electromagnetic Inspections	11
8.4 Pin End Inspections	12
8.5 Coupling Inspection	13
8.6 Acceptance Criteria	13
8.7 Completion of Inspection	13
9 Corrosion Control	14
10 Transportation and Handling, Storage, Running and Pulling	14
10.1 General	14
10.2 Handling	15
10.3 Transportation	15
10.4 Storage	15
10.5 Running and Pulling	16
11 Bibliography	17
Annex A NACE International SP0195, Corrosion Control of Sucker Rods by Chemical Treatment	19
Figures	
1 Modified Goodman Diagram for Allowable Stress and Range of Stress for Sucker Rods in Non-corrosive Service	3

2	Hand-tight Joint	6
3	Made-up Joint	6

Tables

1	Chemical Composition of Steel Sucker Rods	2
2	Mechanical Strength Properties of Steel Sucker Rods	2
3	Recommended Slim-hole Coupling Derating Factors, F_d	5
4	Sucker Rod Joint Circumferential Displacement Value Measurements	5
5	Color Coding	14