

# AMERICAN PETROLEUM INSTITUTE SPECIFICATION 11B – WHAT'S NEW AND IMPROVED

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## ABSTRACT & SCOPE

American Petroleum Institute (API) Specification 11B covers requirements for standardization of components, materials, dimensional requirements, and testing/inspection for sucker rod components.

This paper will review the recent revision of this specification and highlight the changes made to the specification.

## INTRODUCTION & BACKGROUND

The previous edition of API 11B was published in 1998 as API 11B revision 26<sup>th</sup> edition<sup>1</sup>. The previous 25<sup>th</sup> edition was originally adopted as a “fast track” document and issued by ISO as ISO 10428<sup>2</sup>. A “fast track” document is adopted in its entirety as a copy of another document and as such cannot be changed by ISO. The difference in these versions and the requirement for other technical changes in the standard required a joint API/ISO technical group to be formed to develop the latest, combined standard.

Extensive time was spent by the API 11B work group in conjunction with the ISO subcommittee to try to put the API 11B document into ISO format and meet the other requirements of the ISO subcommittee. Disagreements on the scope, content of the standard, and hard metrification resulted in API deciding to complete the work as an API standard without ISO participation.

The API 11B work group finished their work on the document and presented it to API who sent it for ballot to the SC11 subcommittee members. It passed balloting recently and will soon be issued as API Spec 11B, 27<sup>th</sup> edition.

## CHANGES

Changes to the specification fall into these categories:

- Formatting
- New products included
- Other new features included
- API monogram relationship

Formatting: The previous version of API Specification 11B was difficult to navigate and find requirements relating to certain products. This was due to many of the products’ requirements being listed together since they are similar products. The new revision uses a separate section for each product (annexes) as well as a separate section for general requirements. This allows the user to concentrate on one type of product at a time and know that all the requirements are listed in that section. See Figure 1 for the Table of Content for the new version, the different headings and Annexes for product requirements.

*The format of the General Section has the following sections:*

- Technical Requirements:
  - Design
  - Materials
- Manufacturer Requirements:

- Quality Control
  - Personnel Qualifications
  - Product Acceptance
- Frequency of inspection
- Non-conformances
- Coatings
- Heat treating
- Non-destructive examination
- Traceability
  - Product identification
  - Documentation

*The format of the Product Section has these sections:*

- Design Requirements:
  - Dimensions
- Material Requirements:
  - Chemical composition
- Mechanical properties:
  - Testing
- Dimensional inspection
- Straightness and surface finishes
  - Body straightness
  - End straightness
  - Surface finish
- Packaging and transportation requirements
- Thread protectors
- Storage
- Marking requirements
- Ordering information

*The format of the Gauge Section is essentially unchanged from the previous edition.*

*A diagram of a Sucker Rod Pumping System is included in Annex J to illustrate the locations of the various components API Specification 11B.*

*New pictures of Examples of Discontinuities have been added in Annex K. The pictures will be reproduced in color as an improvement to aid in interpretation of the photographs.*

New products included:

- Polished rod liners have been added to Annex B, the Polished Rod annex.
- A new size of Fiber Reinforced Plastic (FRP) sucker rod has been added; 3/4" diameter with 3/4" sucker rod pins.

Other new features added:

- The option of a wider face for make up was added for some sucker rod couplings, in Annex C.
- More polished rod lengths were added in Annex B.
- Many more terms were defined in section 3, and more symbols were added in section 4.
- The definitions of sucker rod “pits” and “longitudinal and transverse indications” were clarified.

API Monogram relationship to API 11B:

The API monogram program ties together product specifications, such as API Spec 11B, and the API Spec Q1 Quality specification. Products that meet the requirements of both of these specifications are

manufactured in conjunction with API Q1 requirements, including API audits, and can be marked with the API Monogram.

## SUMMARY

This new revision of API Spec 11B should make the standard easier to use as well as clarify some features of the older revision. It was revised with input from users, consultants and manufacturers. API revision efforts for many specifications are always underway and new work group members are welcome to join in.

## ACKNOWLEDGEMENT

Although many people helped with the revision of this specification, the following were long-serving members of the work group:

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- Norm Hein, Oil and Gas Optimization Specialists, (Users representative)
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- Scott Muller, Precision (Cameron)
- Art Delacruz, Weatherford

## REFERENCES

1. API Spec 11 B; "Specification for Sucker Rods," American Petroleum Institute, Washington, D.C., 26<sup>th</sup> edition, Jan. 1, 1998.
2. ISO 10428; "Petroleum and natural gas industry – Sucker rods (pony rods, polished rods, couplings and subcouplings) – Specification," International Standards Organization, Geneva, 1993.

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Figure 1- Table of Contents for New Revision of API Spec