Inflow Control Devices

API SPECIFICATION 19ICD
FIRST EDITION, MAY 2020

REAFFIRMED, MARCH 2025



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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.

This specification was initiated using Recommended Practice - Inflow Control Devices (ICDs) provided by the Advanced Well Equipment Standards group.

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Inflow Control Devices

1 Scope

This specification provides requirements and guidelines for inflow control devices (ICDs) for both production and injection, as defined herein, for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, and quality requirements.

Products covered by any other API specification, such as sand screens and sliding sleeves are not included. Also not included are externally controlled downhole devices including interval control valves (ICVs). This specification does not cover the connections to the well conduit, the effects of corrosion, or ICDs designated for use in thermal recovery applications. Installation, application, and operation of these products are outside the scope of this specification.

This specification includes the following annexes:

— Annex A—Reserved for Future Use

— Annex B—ICD Joint Components and Screen Attributes

— Annex C—Test Article, Test Fixture and Instrumentation Requirements

— Annex D—Cavitation Testing

— Annex E—Validation Test Requirements—ICD Flow Performance Test

— Annex F—Validation Test Requirements—Device Erosion Test

— Annex G—Validation Test Requirements—Mud Flow Initiation Test and Sediment Plugging Test

— Annex H—Validation Test Requirements—Flow Integrity Test

— Annex I—Validation Test Requirements—Static Pressure Test

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.

ANSI/ASQC Z1.4, *Sampling Procedures and Tables for Inspection by Attributes*

ANSI/NCSL Z540-3, *Requirements for the Calibration of Measuring and Test Equipment*

API 19SS, *Sand Screens*

API 5CT, *Specification for Casing and Tubing*

API 13B-1, *Recommended Practice for Field Testing Water-based Drilling Fluids*

API 13B-2, *Recommended Practice for Field Testing Oil-based Drilling Fluids*

API 19C, *Measurement of and Specification for Proppants Used in Hydraulic Fracturing and Gravel-packing Operations,* Second Edition