

# Specification for Oil Field Chain and Sprockets

## Upstream Segment

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## FOREWORD

This specification is under the jurisdiction of the API Subcommittee on Standardization of Drilling and Servicing Equipment.

The purpose of this specification is to provide standards for roller chains suitable for use in oil field drilling and producing operations.

Much of the engineering material pertaining to roller chains and sprockets was taken from ASME B29.1 *Precision Power Transmission Roller Chains, Attachments and Sprockets*; and the book, published by the American Chain Association, *Chains for Power Transmission and Material Handling*. Additionally, portions of the standard ASME B29.1 are requirements of this specification as referenced herein.

Some of the performance related characteristics of the chains that are contained in this document are specific to oil field chains and to their application to oil field drives. This information cannot be found in other publications and imposes performance testing that goes beyond the basic requirements found in any other standards or specifications.

A section on drive design has not been included in this edition of the specification due to the great variety of applications and the complexity of the subject drives.

Conversions of U.S. customary units to International System (SI) metric units are provided throughout the text of this specification in parentheses, e.g., 6 in. (152.4 mm). SI equivalents have also been included in all tables. Formulas and certain relationships are intentionally presented only in U.S. customary units to preclude any ambiguity between them and tabulated values. Conversion factors are provided below if SI equivalents are desired for the calculated unit values.

U.S. customary units are in all cases preferential and shall be standard in this specification. Products are to be marked in the units in which ordered unless there is an agreement to the contrary between the purchaser and the manufacturer.

1 in. (in.)	= 25.4 millimeters (mm) exactly
1 foot (ft)	= 0.3048 meters (m) exactly
1 pound force (lbf)	= 4.448222 Newtons (N)
1 foot-pound force (ft•lbf) torque	= 1.355818 Newton-meters (N•m)
1 horsepower (hp) (550 ft•lbf/s)	= 0.7456999 kilowatts (kW)
1 gallon per minute (gpm)	= 0.0630920 cubic decimeters/second (dm <sup>3</sup> /s)

The following formula was used to convert degrees Fahrenheit (F) to degrees Celsius (C):

$$C = \frac{5}{9}(F - 32)$$

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Suggested revisions are invited and should be submitted to the general manager of the Upstream Segment, American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005.

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