

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 606

SHORT PITCH TRANSMISSION PRECISION ROLLER CHAINS AND CHAIN WHEELS

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BRIEF HISTORY

The ISO Recommendation R 606, *Short Pitch Transmission Precision Roller Chains and Chain Wheels*, was drawn up by Technical Committee ISO/TC 100, *Chains and Chain Wheels for Power Transmission and Conveyors*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1961 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In February 1965, this Draft ISO Recommendation (No. 799) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Argentina	India	Spain
Australia	Italy	Sweden
Belgium	Japan	Turkey
Chile	New-Zealand	U.A.R.
Czechoslovakia	Poland	United Kingdom
Denmark	Republic	U.S.A.
France	of South Africa	
Germany	Romania	

One Member Body opposed the approval of the Draft:

U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in July 1967, to accept it as an ISO RECOMMENDATION.

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SHORT PITCH TRANSMISSION PRECISION ROLLER CHAINS AND CHAIN WHEELS

INTRODUCTION

The provisions of this ISO Recommendation have been arrived at by including sizes of chains used by the majority of countries in the world, and by unifying dimensions, strength and other data in respect of which current national standards were differing and at the same time eliminating certain side ranges listed in some national standards for which it was considered a universal usage had not been established.

The whole applicational field open to this medium of transmission has been covered by the ranges of chains already established. To achieve this the sizes of 12.7 mm (0.5 in) to 76.2 mm (3.0 in) pitch inclusive have been duplicated by the inclusion of chains derived from standards originating in the western hemisphere and centred around USASI (suffix A) and, on the other hand, by chains representing the unification of the principal standards originating in Europe and centred around BSI (suffix B), the two being complementary for the coverage of the widest possible field of application.

The part of this ISO Recommendation covering chain wheels represents the unification of all the relevant national standards in the world and includes, in particular, complete tolerances relating to tooth form which are absent from most current national standards.

The dimensions of chain specified ensure complete interchangeability of any given size and provide interchangeability of individual links of chains for repair purposes.

1. SCOPE

This ISO Recommendation applies to short pitch precision roller chains of simple and multiplex construction suitable for the mechanical transmission of power and allied applications, together with the tooth gap forms and rim profiles of their associated chain wheels. It covers dimensions, tolerances, measuring loads and minimum breaking loads.

2. CHAINS

2.1 Nomenclature

The illustrations shown in this clause and in the key to Tables 1, 1M, 2 and 2M, do not define the actual form of the chain plates.

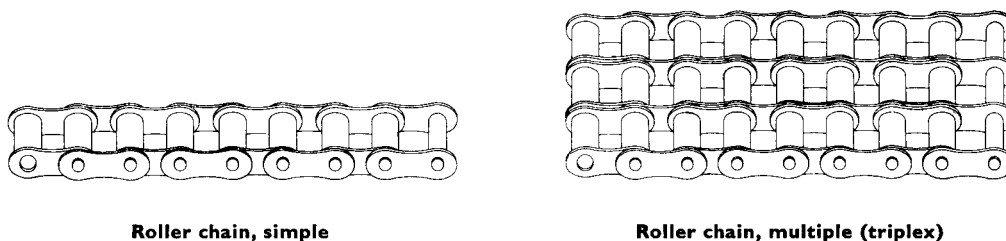


FIG. 1. — Roller chains

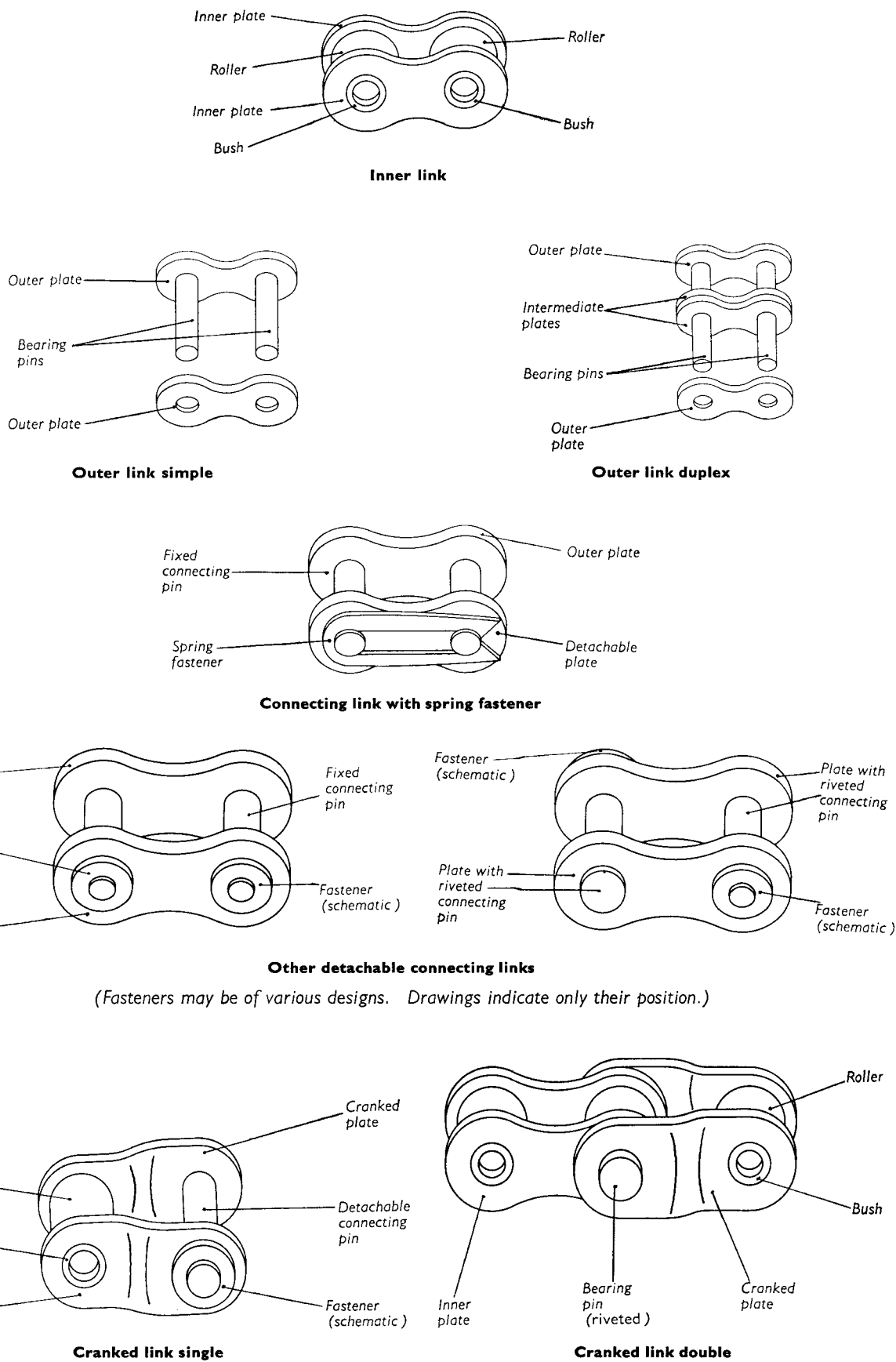


FIG. 2. — Types of links

Dimensional definitions are contained in the key to Tables 1, 1M, 2 and 2M.

2.2 Designation

Transmission precision roller chains are designated by the standard ISO numbers given in the Tables 1, 1M, 2 and 2M, first column, the first two digits expressing the pitch in sixteenths of an inch. The chain numbers in Tables 1 and 1M are supplemented by a hyphenated suffix 1 for simple chain, 2 for duplex chain, 3 for triplex chain etc., e.g. 16B-1, 16B-2, 16B-3, etc.

2.3 Dimensions

Chains should conform to the dimensions given in Tables 1, 1M, 2 and 2M. Maximum and minimum dimensions are specified to ensure interchangeability of links as produced by different makers of chain. They represent limits for interchangeability, but are not the actual tolerances that should be used in manufacture.

2.4 Breaking loads

The test length should have a minimum of 5 free pitches. The ends should be attached to the testing machine shackles by a pin through the plate holes or the bushes or by the bush common to an inner or outer link. The shackles should be so designed as to allow universal movement; the actual method to be used is left to the discretion of the manufacturer.

Tests in which failures occur adjacent to the shackles should be disregarded.

The minimum tensile breaking loads should be those given in Tables 1, 1M, 2 and 2M.

2.5 Proof loading

All chains should be proof loaded to one-third of the minimum tensile breaking load given in Tables 1, 1M, 2 and 2M.

2.6 Length accuracy

Finished chains should be measured after proof loading (where applicable) but before lubricating.

The standard length for measurement should be 49 times the pitch of the chain or 1524 mm (60 in), whichever is less, and should terminate at each end in an inner link.

The chain should be supported throughout its entire length, and the measuring load given in Tables 1, 1M, 2 and 2M, should be applied.

To comply with this ISO Recommendation, the length should be the nominal length subject to the tolerance

$$\begin{array}{c} 0\% \\ +0.15\% \end{array}$$

The length accuracy of chains which have to work in parallel should be within the above limits but matched by agreement with the manufacturer.