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UDC 621.867.3

Ref. No. : ISO/R 1977-1971 (E)

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1977

CONVEYOR CHAINS, ATTACHMENTS AND CHAIN WHEELS

PART I

CHAINS (METRIC SERIES)

1st EDITION

May 1971

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 1977, *Conveyor chains, attachments and chain wheels – Part I : Chains (Metric series)*, 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 led to the adoption of Draft ISO Recommendation No. 1977, which was circulated to all the ISO Member Bodies for enquiry in January 1970. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	South Africa, Rep. of
Belgium	Ireland	Spain
Czechoslovakia	Israel	Thailand
France	Japan	U.A.R.
Germany	New Zealand	United Kingdom
Greece	Romania	

The following Member Bodies opposed the approval of the Draft :

Sweden
U.S.A.

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

ISO Recommendation | R 1977 | May 1971

CONVEYOR CHAINS, ATTACHMENTS AND CHAIN WHEELS

PART I

CHAINS (METRIC SERIES)

INTRODUCTION

This ISO Recommendation has been prepared with a view to ensuring interchangeability of complete chains and interchangeability of individual links of chains for repair purposes.

Subsequent documents will relate to attachments and chain wheels.

1. SCOPE

This ISO Recommendation applies to metric-dimensioned bush, plain and flanged roller chains of both solid and hollow bearing pin types designed for general conveying and mechanical handling duties.

2. NOMENCLATURE

The nomenclature of chains is as given in the Figure on page 5 and in the key, on page 6, to Tables 1 and 2.

3. DESIGNATION

Conveyor chain designating numbers are based on the numbers given in Tables 1 and 2 (column 1). The numbers are derived from the minimum breaking loads (in kilonewtons) and are given the prefix M to indicate solid bearing pin chain, or prefix MC to indicate hollow bearing pin chain.

Examples :

M80 = Solid bearing pin chain of 80 kN nominal breaking load.

MC224 = Hollow bearing pin chain of 224 kN nominal breaking load.

The symbol B (bush), F (flanged), P (plain) or S (small) is added, as appropriate, to indicate the type. This is followed by further digits indicating the pitch in millimetres.

Example :

MC224-F-200 = Chain MC224 with flanged roller and pitch of 200 mm.

4. DIMENSIONS

Conveyor chains should conform to the dimensions given in Tables 1 and 2. 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 necessarily to be regarded as limits of tolerance used in manufacture.

Pitch p is a theoretical reference dimension used in calculating strand lengths and chain wheel dimensions and it is not intended for inspection of individual links.

5. BREAKING LOADS

The test length should have a minimum of three free pitches. The ends should be attached to the testing machine shackles by a pin through the plate holes, or the bushes; the actual method is left to the discretion of the manufacturer. The shackles should be so designed as to allow universal movement.

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

The minimum tensile breaking loads should be not less than 95 % of those given in Tables 1 and 2.

6. LENGTH ACCURACY

The finished chain should be accurate within $^{+0.25}_{0}$ % of the nominal chain length when measured under the following conditions :

6.1 Standard test length for measurement

The standard length of chain for measurement purposes should be that nearest 3000 mm when an odd number of pitches, terminating at each end in an inner link, are assembled.

6.2 Support

The chain, in the unlubricated condition, should be supported throughout its entire length.

6.3 Measuring load

A measuring load equal to 1/50 of the appropriate breaking load should be applied. (See Tables 1 and 2.)

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

7. CRANKED LINKS

To obtain an odd number of pitches in an endless chain it is necessary to use a cranked link (see Figure). Dimensions of the crank should be as given in Tables 1 and 2.

Cranked links are not recommended for normal use.

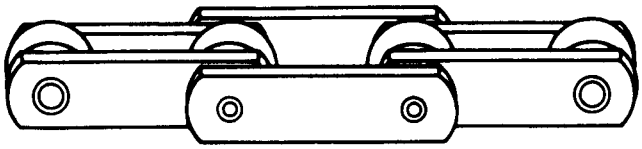
8. MARKING

It is recommended that the chains should be marked with

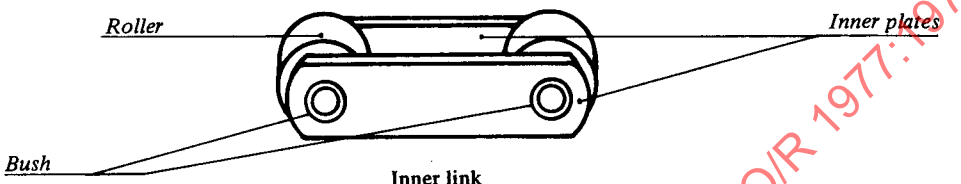
(*a*) the manufacturer's name or trademark;

(*b*) the ISO number (column 1 of Tables 1 and 2).

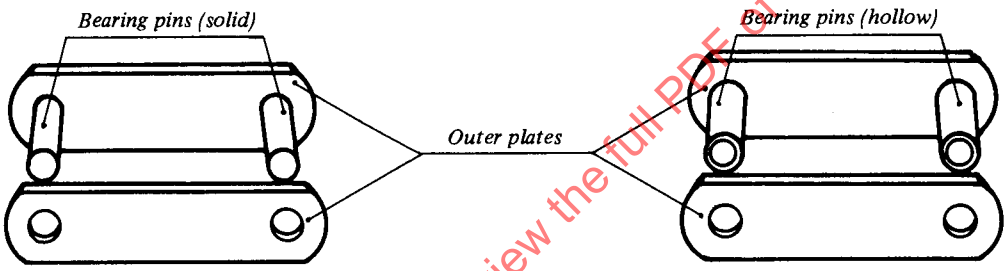
Solid bearing pin chain



Hollow bearing pin chain

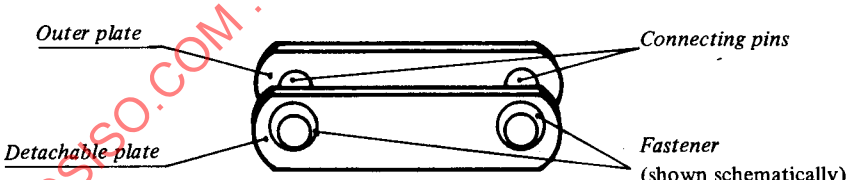


Inner link

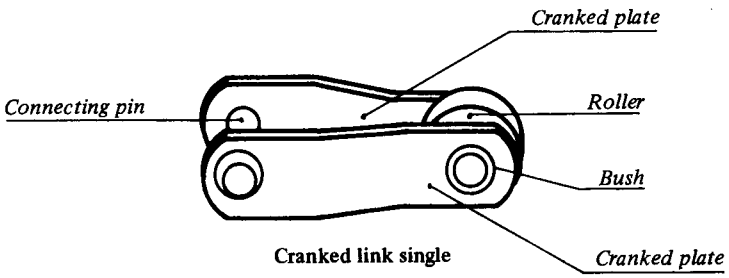


Outer link (Solid bearing pin)

Outer link (Hollow bearing pin)

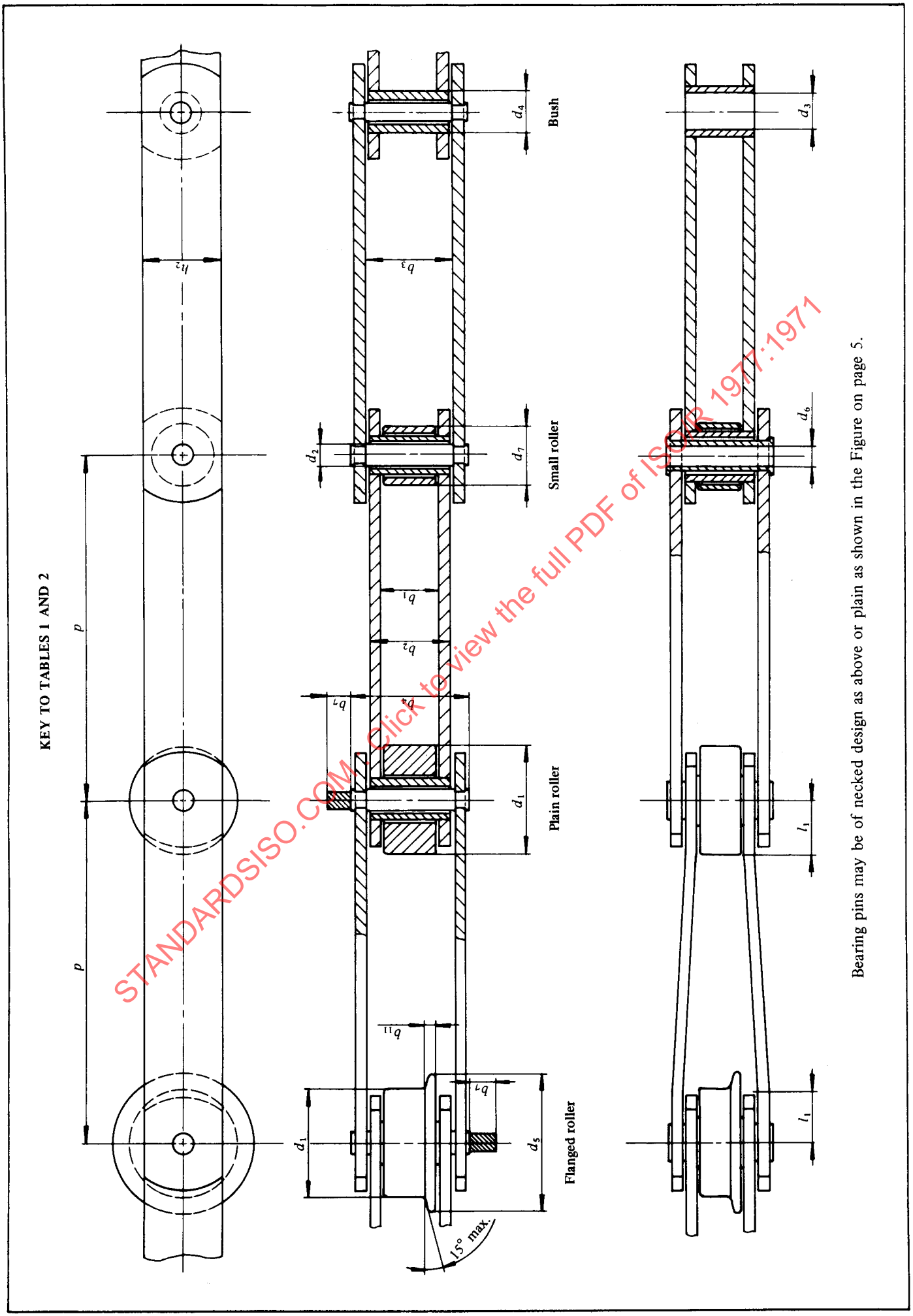


Connecting link



Cranked link single

FIGURE – Nomenclature of conveyor chains and chain details



Bearing pins may be of necked design as above or plain as shown in the Figure on page 5.