
International Standard



487

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Steel roller chains, types S and C, attachments and chain wheels

Chaînes à rouleaux en acier, types C et C, plaques-attaches et roues dentées

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Steel roller chains, types S and C, attachments and chain wheels

1 Scope and field of application

This International Standard specifies the characteristics of a range of steel roller chains dimensionally derived from the malleable iron type, suitable for conditions of operation and maintenance prevailing in such fields as agriculture, building, quarrying and related industry, mechanical handling, etc., together with associated chain wheels. The dimensions are given in inches and in millimetres; the latter are conversions from the basic inch dimensions.

2 References

ISO 185, *Grey cast iron — Classification*.¹⁾

ISO 606, *Short pitch transmission precision roller chains and chain wheels*.

3 Chains

3.1 Nomenclature

Figures 1 and 2 do not define the actual form of the chain plates.

3.2 Designation

Steel roller chains shall be designated by the standard ISO chain numbers as given in tables 1 and 1M.

3.3 Dimensions

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

3.4 Minimum ultimate tensile strength

3.4.1 The minimum ultimate tensile strength is the minimum strength of samples tested to destruction in tensile loading, as defined in 3.4.2. This strength is not a working load. It is in-

tended primarily as a comparative figure between chains of various materials and constructions. For application information, the manufacturers or their published data should be consulted.

3.4.2 A tensile load, not less than that specified in tables 1 and 1M, shall be applied slowly to the ends of a chain length containing at least five free pitches, by means of shackles permitting free movement on both sides of the chain centre line, in the normal plane of articulation.

Failure shall be considered to have occurred at the first point where increasing extension is no longer accompanied by increasing load, i.e. the first crest on the load/extension diagram.

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

3.4.3 The tensile test shall be considered a destructive test. Even though a chain may not fail when subjected to the minimum breaking load, it will have been stressed beyond the yield point and will be unfit for service.

3.5 Proof loading

All chains should be proof loaded during manufacture to at least one third of the minimum ultimate tensile load given in tables 1 and 1M.

3.6 Length

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

The standard length for measurement shall be a minimum of 20 times the pitch with a maximum length of 1 524 mm (60 in), and shall terminate with an inner link at each end.

The chain shall be supported throughout its entire length and the measuring load in tables 1 and 1M shall be applied.

To comply with this International Standard, the length shall be the nominal length subject to the limits of tolerance $+ \begin{matrix} 0,25 \\ 0 \end{matrix} \%$.

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

1) At present at the stage of draft. (Revision of ISO/R 185-1961.)