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# International Standard



# 8488

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Cycles — Screw threads used to assemble head fittings on bicycle forks

*Cycles — Filetages utilisés pour l'assemblage des «accessoires» de direction sur les fourches de bicyclettes*

First edition — 1986-06-15

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UDC 629.118.3 : 621.882.082

Ref. No. ISO 8488-1986 (E)

**Descriptors :** road vehicles, bicycles, forks, locknuts, screw threads, dimensions, dimensional tolerances, designation.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8488 was prepared by Technical Committee ISO/TC 149, *Cycles*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Cycles — Screw threads used to assemble head fittings on bicycle forks

## 0 Introduction

Inch screw threads of BSC (British Standard Cycle) thread profile are used extensively throughout the world for various applications on bicycle components, and have been standardized in national standards. The purpose of this document is to provide an International Standard for the particular screw thread used to assemble the head race and locknut on bicycle forks; it is based on the use of the ISO basic thread profile and complies as far as is practicable with existing International Standards for general purpose screw threads.

The change to an ISO system of screw threads will inevitably take a long time to complete in view of the millions of bicycles now in use which employ BSC thread profile inch screw threads and for which replacement spare parts will be required. For this reason, in order to minimize changes in production methods during the changeover to the International Standard, and also to secure satisfactory interchangeability with the BSC screw threads now used, the ISO screw thread in this International Standard has the same pitch as that of the 1.000 in  $\times$  24 t.p.i. BSC screw thread it is intended to replace.

An M25,522  $\times$  1,058 (1.005 in  $\times$  24 t.p.i.) screw thread of ISO basic profile has been adopted in this International Standard. The basic pitch diameter of this thread is identical to the 1.000 in  $\times$  24 t.p.i. BSC thread, but, due to the smaller crest truncation of the ISO profile (see figure 1), interference may occur at the major diameter when an ISO fork thread made towards its upper limit is assembled with a BSC race/locknut thread made towards its lower limit on major diameter. The possibility of interference occurring in this manner is considered to be unlikely in practice because of the effect of the manufacturing tolerances (–ve on the fork and +ve on the fittings) and the usual practice of using high-crested screwing taps. However, a practical investigation has been carried out and has confirmed that there is little possibility of any interference arising in practice.

NOTE — In addition to the 1.000 in  $\times$  24 t.p.i. BSC thread referred to above, it should particularly be noted that there exists in the cycle trade other widely used threads:

- French 25 mm  $\times$  1,0 mm (0.984 in  $\times$  25.4 t.p.i.)
- Italian 25,4 mm  $\times$  1,058 mm (1 in  $\times$  24 t.p.i.)
- UK 25,4 mm  $\times$  0,977 mm (1 in  $\times$  26 t.p.i.)
- USA 25,4 mm  $\times$  1,058 mm (1 in  $\times$  24 t.p.i.)

The French and UK threads are clearly not interchangeable with the BSC thread due to outside diameter and t.p.i. respectively. The Italian thread is also not compatible due to the Italian flank angle of 55° compared to the BSC angle of 60°.

As referred to in the second paragraph above, this ISO system of screw threads is intended to replace the 1.000 in  $\times$  24 t.p.i. BSC threading, but the continued usage of the other non-compatible threadings is not in harmony with the objects of ISO worldwide standardization, and wherever and as soon as possible, it is strongly recommended that all new products change over to the new ISO threads detailed herein.

It should also be noted that where the design size of the fork column tube is already 25,4 mm (1.000 in) nominal, the thread cutting of this new ISO thread will increase the truncation and facilitate assembly.

Attention should be paid to ISO 6692 for the proposals on thread identification marking.

## 1 Scope and field of application

This International Standard specifies details of the screw threads used to assemble head races and locknuts, i.e. fittings, on bicycle fork steering columns.

The basic thread profile is that of ISO 68; the tolerance grades and tolerance positions are in accordance with ISO 965/1; the gauging system is that specified in ISO 1502.

Threads to this International Standard are interchangeable with the corresponding BSC (British Standard Cycle) thread.

## 2 References

ISO 68, *ISO general purpose screw threads — Basic profile.*

ISO 965/1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 1502, *ISO general purpose metric screw threads — Gauging.*

ISO 6692, *Cycles — Marking of cycle components.*