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भारतीय मानक मसौदा

फास्टनर्स – शंकु सिरे वाले खाँचेदार सैट स्क्रू – विशिष्टि

(IS 15629 *का पहला पुनरीक्षण*)

Draft Indian Standard

Fasteners — Slotted Set Screws with Cone Point — Specification

(*First Revision of* IS 15629)

ICS 21.060.10

General Engineering and Fasteners Standards Sectional Committee, PGD 37	Last date for receipt of comment is **27 November 2024**

NATIONAL FOREWORD

(*Formal clause will be added later on*)

Set screws also known as blind screws, are fasteners that consist entirely of a threaded rod. They do not have a head or a tip. Instead, they consist of a rod with uniform threading running the entire length of the screw. Set screws have several applications, one of the most common being to join two parts together. Assuming two parts have threaded holes in the appropriate size, they can be joined with a set screw. Half of the set screw is inserted into one of the parts, and the other half is inserted into the opposite part. The set screw will then join the two parts together while ensuring that they are flush.

Set screws can often prove especially useful in situations where a standard nut and bolt would impede the optimal functioning of an object or components, or else would not achieve the clean aesthetic the installer is aiming for on the visible/external faces of an item. They are almost always found being used in mechanical systems where two or more metal surfaces rub or press directly together, and where there isn't room to fit a bolt or other type of protruding head between the two flush surfaces without limiting proper functionality or movement of the parts. Common specific examples of set screw use include affixing spindle cams and handles or securing gears and pulleys to a shaft.

This standard covers the requirements of slotted set screws with cone point. The other standards on slotted set screws are as follows:

a) IS 15628 : 2005 Slotted set screws with flat point.
b) IS 15630 : 2024 Slotted set screws with long dog point.
c) IS 15631 : 2024 Slotted set screws with cup point.

This Indian Standard was first published in 2005. This first revision has been undertaken to align it with ISO 7434 : 2024. The major changes in this revision are as follows:

a) The point angle with tolerance of ±2° has been changed to a reference angle of 90° or 120°, without tolerance;

b) The values of d_t for cone point have been added in Table 1;

c) In relation to length:

1) For M1.6, length of 2 mm has been classified as too short (*see* Table 2);

2) The lengths for M2 (l = 3 mm), M3 (l = 4 mm), M3.5 (l = 5 mm), M4 (l = 5 mm) and M5 (l = 6 mm) have been classified separately as short standard lengths (*see* footnote in Table 2) with l_{nom} calculated in order to get at least 2.5 full pitches; and

3) Regular standard lengths have been calculated in order to get at least 4 full pitches up to M3.5 and 3 full pitches above M3.5;

d) For stainless steel screws, grades A2 and A4 with hardness classes 12H and 21H have been added;

e) Non-ferrous metal screws have been deleted (as a consequence of the withdrawal of ISO 8839);

f) Mechanical properties of steel and stainless-steel screws have been added for d < 1.6 mm ("As agreed") in Table 3;

g) For steel fasteners, "plain" has been modified to "as processed", and non-electrolytically applied zinc flake coating has been added in Table 3;

h) For stainless steel fasteners, "plain" has been changed to "Clean and bright", and "Passivated" has been added in Table 3;

j) The requirement of surface integrity has been added for steel screws in Table 3; and

k) Specifications for marking and labelling have been added as Clause 6.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the certain International Standard for which Indian Standard also exists. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 225 Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions	IS 8536 : 2021/ISO 225 : 2010 Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions (*second revision*)	Identical
ISO 724 ISO general purpose metric screw threads — Basic dimensions	Doc. PGD 37 (26432)/ISO 724 : 2023 ISO general purpose metric screw threads: Part 3 Basic dimensions (*third revision*)	Identical
ISO 888 Fasteners — Bolts, screws and studs — Nominal lengths and thread lengths	IS 4206 : 2012/ISO 888 : 2012 Dimensions for nominal lengths and thread lengths for bolts, screws and studs (*second revision*)	Identical
ISO 898-5 Mechanical properties of fasteners made of carbon steel and alloy steel — Part 5: Set screws and similar threaded fasteners with specified hardness classes — Coarse thread and fine pitch thread	IS 1367 (Part 5) : 2018 /ISO 898-5 : 2012 Technical supply conditions for threaded steel fasteners: Part 5 Mechanical properties of fasteners made of carbon steel and alloy steel — Set screws and similar threaded fasteners with specified hardness classes — Coarse thread and fine pitch thread (*fourth revision)*	Identical
ISO 965-1 ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data	IS 14962 (Part 1) : 2018/ISO 965-1 : 2013 ISO general purpose metric screw threads — Tolerances: Part 1 Principles and basic data (*first revision*)	Identical
ISO 1891-4 Fasteners — Vocabulary — Part 4: Control, inspection, delivery, acceptance and quality	Doc. PGD 37 (22772)/ ISO 1891-4 : 2018 Fasteners — Vocabulary: Part 4 Control, inspection, delivery, acceptance and quality	Identical
ISO 3269 Fasteners — Acceptance inspection	IS 1367 (Part 17) : 2023/ISO 3269 : 2019 Technical supply conditions for threaded steel fasteners: Part 17 Inspections, sampling and acceptance procedure (*fifth revision*)	Identical
ISO 3506-3 Mechanical properties of corrosion-resistant stainless-steel fasteners — Part 3: Set screws and similar fasteners not under tensile stress	IS 1367 (Part 14/Sec 3) : 2018/ISO 3506-3 : 2009 Technical supply conditions for threaded steel fasteners: Part 14 Mechanical properties of corrosion-resistant stainless steel fasteners, Section 3 Set	Identical

	screws and similar fasteners not under tensile stress (*fourth revision*)	
ISO 4042 Fasteners — Electroplated coating systems	IS 1367 (Part 11) : 2024/ISO 4042 : 2022 Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coating systems (*fifth revision*)	Identical
ISO 4753 Fasteners — Ends of parts with external ISO metric thread	IS 1368 : 2018/ISO 4753 : 2011 Dimensions for ends of parts with external ISO metric threads (*fourth revision)*	
ISO 4759-1 Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C	IS 1367 (Part 2) : 2002/ISO 4759-1 : 2000 Technical supply conditions for threaded steel fasteners: Part 2 Tolerances for fasteners — Bolts, screws, studs and nuts — Product grades A, B and C (*third revision*)	Identical
ISO 6157-1 Fasteners — Surface discontinuities — Part 1: Bolts, screws and studs for general requirements	IS 1367 (Part 9/Sec 1) : 1993/ISO 6157-1 Technical supply conditions for threaded steel fasteners: Part 9 Surface discontinuities Section 1 Bolts, screws and studs for general applications (*third revision*)	Identical
ISO 8991 Designation system for fasteners	IS 1367 (Part 16) : 2002/ISO 8991 : 1986 Technical supply conditions for threaded steel fasteners: Part 16 Designation system for fasteners (*third revision*)	Identical
ISO 8992 Fasteners — General requirements for bolts, screws, studs and nuts	IS 1367 (Part 1) : 2014/ISO 8992 : 2005 Technical supply conditions for threaded steel fasteners: Part 1 General requirements for bolts, screws, studs and nuts (*fourth revision*)	Identical
ISO 10683 Fasteners — Non-electrolytically applied zinc flake coating systems	IS/ISO 10683 : 2018 Fasteners — Non-electrolytically applied zinc flake coating systems	Identical

The standard also makes a reference to the BIS Certification Making of the product. Details of which are given in National Annex A

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

NATIONAL ANNEX A
(*National Foreword*)

A-1 BIS CERTIFICATION MARKING

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

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NOTE: The technical content of draft standard is not available on website. For details, please refer to ISO 7434 : 2024 or contact:

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