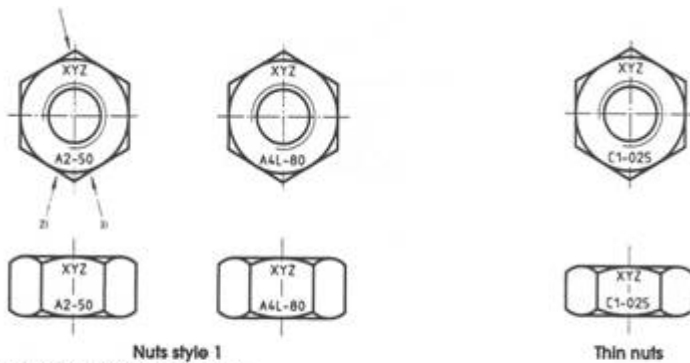


**Nuts**

**Published Date: 11/05/2009**

The relevant British Standard for nuts is BS EN ISO 3506-1: 1998 "Mechanical properties of corrosion-resistant stainless steel fasteners, Part 2. Nuts"

In general, the specification of the nuts should match that of the threaded item it is screwed on to. The designation of material consists of two blocks separated by a hyphen. The first block is a letter showing the type of steel (A = austenitic), and a digit showing the chemical composition. The second block is a value = 1/10th of the tensile strength.



- Nuts style 1**
- 1) manufacturer's identification mark
  - 2) steel grade
  - 3) property class

Marking with material designation and manufacturer's identification mark

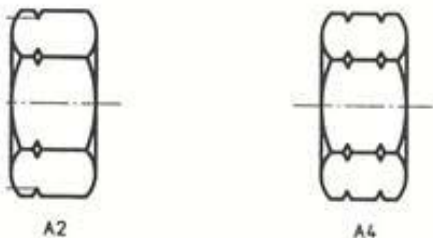
The 'normal' shape of nut used is 'style 1'. There is also a 'thin' style of nut, which is sometimes used as a lock nut (see below).

Occasionally, nuts may be marked with notches on the side, which indicate the grade (see below). If notches are present without the property class being stated, then it must be assumed to be class 50.

There are two main classifications of stainlessness/strength that we use:

A2-70 indicates austenitic steel, cold worked minimum 700 N/mm<sup>2</sup> tensile strength

A4-80 indicates austenitic steel, high strength minimum 800 N/mm<sup>2</sup> tensile strength



A2 is the general grade suitable for most work. It should not however be specified for use in areas with high chlorine content such as swimming pools or seawater. In these cases A4-80 should be specified.

A classification of A2-70 is the 'standard'. Whilst A2-80 and A4-70 are theoretically possible, they would be 'special' and should be specified with caution.

Where vibration is anticipated, it may be necessary to use a lock nut. These are special cases and should be specified by the Engineers.

## Nuts

Published Date: 11/05/2009

### Lock Nuts

Where vibration is anticipated, it may be necessary to use a lock nut. These are special cases and should be specified by the Engineers.

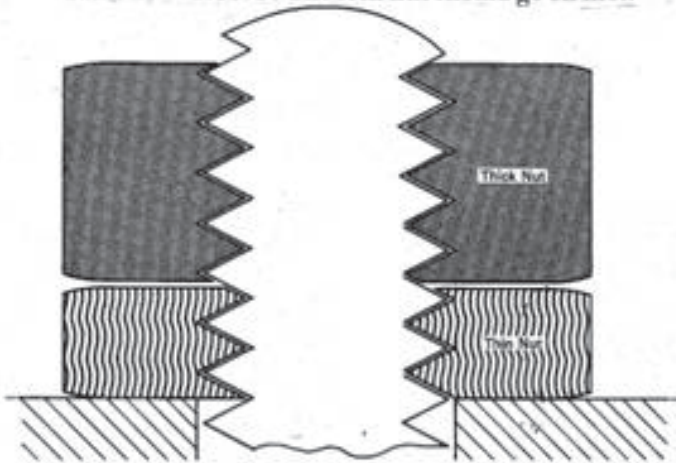
#### Locknuts

*(Sometimes known as 'jam nuts' or 'thin nuts')*

A common way of locking a thread is by using a thin nut in conjunction with a standard nut.

Such a locknut works by causing the two nuts to react against each other, thus producing a jamming effect.

However, the locknut is usually put on after the standard nut. **THIS IS WRONG.** The lock nut should go on first.



The theory behind lock nuts is that the second nut holds the first in place. To do this, the capacity of the second must be at least as great as the first, preferably greater.

It may be seen therefore that if a thin nut is used in such situations, then this must go on first, with the normal (higher strength) nut following. The thin nut does not go on after the standard one. It is normally simpler to use two similar nuts unless space is a problem.