BRITISH UNIFIED UNC UNF UNEF

Gauge for testing unified threads to BS 1580: Parts 1 & 2:1962 _BS 1580: Parts3 1965 and BS 919: Part 1: 1960.

BS 3643 comprises two parts. Part 1 provides information and data on the basic principles, and is based on **ISO 965/1 and ISO 965/3**. Part 2 tabulates diameters of coarse, constant and fine pitch series threads, and is based on **ISO 965/3**.

BS1580: Pts1 & 2:1962 specifies details of product threads (The basic profile is the same as that for ISO threads) The standard includes nominal sizes and limits of size for standard threads for 1A, 2A and 3A for external threads, and 1B, 2B and 3B for internal threads in the following sizes:- __UNC (Coarse pitch) from 1/4" to 4" dia.... _UNF (Fine pitch) from 1/4" to 1 1/2" dia.... _UNEF (Extra fine pitch) from 1/4" to 1 11/16" dia.... _UN (Constant pitch) for 4, 6, 8, 12, 16, 20, 28 and 32 tip.. for various diameters as specified.

ALLOWANCES (Deviation from basic size) _1A and 2A provide allowances of 30% of the effective diameter tolerance of 2A external threads. 3A is basic (no allowance). 2AG is 0.001" smaller on diameter to provide for plating to finish at 2A. (0.001") on diameter will allow for an average deposit of 0.00025"). 1B,2B and 3B for internal threads are basic. Before plating threads are not designated. They are referred to as before plating, and are 0.001" larger on diameter than basic size.

Classes of fit _1A / 1B are used where easy assembly is required. _2A / 2B are the classes used for the majority of general engineering purposes. _3A / 3B apply to threads requiring a closer fit, and are only used when a close accuracy of form and pitch are required.

BS 1580: Pt 3: 1965 specifies nominal sizes and limits of size for standard threads for 2A and 3A for external threads, and 2B and 3B for internal threads for UNC, UNF, and UNEF for threads below 1/4" diameter. The allowance and classes of fit are the same as above.

BS 919: Pt 1: 1960 specifies the limits for gauges for testing the product thread. The basic for determining the gauge limits is the diameter / pitch. Generally, the larger the diameter, the coarser the pitch, the larger the gauge limits within defined diameter / pitch bands.

The types of gauges used are the same as for ISO threads. Gauges can be supplied to comply with the requirements of American Nation Standards Institution specifications ANSI / ASME B1.1 1989 for product threads, and B1.2 1983 for gauges.

The designated diameter/pitch combinations are similar to those in BS 1580 with similar allowances and classes of fit. The gauge philosophy however in B1.2 differs from the British system. In the ANSI system generally the gauging limits are contained within the product tolerance, whereas in the British system limits may transgress the minimum material limit. Further, the ANSI standard specifies that the major diameter of the Not Go plug gauge is truncated to high addendum, whilst the British standard specifies low addendum truncation.