Inspectorate for Diving Equipment Servicing and Testing
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Technical Information

THREAD GAUGES *T005*

Guidance on cylinder and valve thread gauges

A **plug gauge** is an internal thread gauge of either single or double end type, comprising of a handle with a GO and/or NOT GO threaded mandrel.

A **ring gauge** is a gauge employed for measuring external threads. Can be either GO or NOT GO gauges.

External and Internal Threads - An external thread is a thread on the external surface of a cylinder shape. An internal thread is a thread on the internal surface of a hollow cylinder shape.

Classes of Threads
Classes of threads are distinguished from each other by the amount of tolerance or allowance specified.

Unified Screw Thread Classes
Classes 1A and 1B - These classes are intended for ordnance and other special uses. They are used on threaded components where quick and easy assembly is necessary and where liberal allowance is required to permit ready assembly, even with slightly bruised or dirty threads.

Classes 2A and 2B **-** Class 2A for external threads and 2B for internal threads are the most commonly used thread standards for general applications, including production of bolts, screws, nuts, and similar threaded fasteners.

Metric Screw Thread Classes
ISO specifies three Tolerance Grades, Grades 4, 6, and 8, which reflect the size of the tolerance.
Grade 6, the most common, is recommended for "medium" quality and normal lengths or general purpose threads.

Grade 6 is the closest to the Unified Class 2A and 2B. Tolerances smaller than Grade 6 are recommended for "fine" quality or short lengths of engagement.

Tolerances above Grade 6 are larger and recommended for "coarse" quality or long lengths of engagement.

Tolerance Positions
External threads:
small "g" = small allowance, small "h" =no allowance, small "e" = large allowance.

Internal Threads:
Large "G" = small allowance, Large "H" = no allowance.

Technical Information Sheet