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## **Pipe threads where pressure-tight joints are not made on the threads —**

### **Part 2 : Verification by means of limit gauges**

*Filetages de tuyauterie pour raccordement sans étanchéité dans le filet —*

*Partie 2 : Vérification par calibres à limites*

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## 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 228-2 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*.

This second edition cancels and replaces the first edition (ISO 228-2 : 1980), of which it constitutes a minor revision.

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.

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# Pipe threads where pressure-tight joints are not made on the threads —

## Part 2 : Verification by means of limit gauges

### 1 Scope and field of application

This part of ISO 228 specifies the verification, by means of limit gauges, of cylindrical threads, the dimensions and tolerances of which are given in ISO 228-1.

For industrial applications (see for example ISO 1179), it may be necessary to carry out additional checks.

Since this 55° profile has different elements to be verified, it is necessary to provide for several GO and several NOT GO gauges :

- a) the threaded GO gauges (see clauses 6 and 7) shall ensure that the profile of the machined piece does not exceed the maximum of material provided for by the tolerances applied to the dimensions of the profile defined by ISO 228-1;
- b) the threaded NOT GO gauges for the threads of the pieces (see clauses 6 and 7) fix the minimum material limit on the flanks of the thread.

NOTE — Reference checks may be carried out in specialized laboratories.

### 2 References

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1 : Designation, dimensions and tolerances.*

ISO 1179, *Pipe connections, threaded to ISO 228-1, for plain end steel and other metal tubes in industrial applications.*

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

### 3 Symbols and explanations

The symbols used in this part of ISO 228 are the same as those used in ISO 1502 for the ISO thread gauges, plus some additional symbols ( $n$ ,  $S$ ,  $u$ ), as shown in table 1.

Table 1

Symbol	Explanation
$b_3$	Width of clearance groove at the major and minor diameter respectively of the thread profile with truncated flanks
$d=D$	Basic major diameter of the thread
$d_1 = D_1$	$= d - 1,280\ 654\ P$ : Basic minor diameter of the thread
$d_2 = D_2$	$= d - 0,640\ 327\ P$ : Basic pitch diameter of the thread
$m$	Distance between the middle of the tolerance zones $T_R$ of the threaded ring gauge and $T_{CP}$ of the GO check plug
$n$	Nominal value of $b_3$
$P$	Pitch
$s$	Displacement of the clearance groove with truncated flanks
$S$	Tolerance on $b_3$
$T_{CP}$	Tolerance on the pitch diameter of GO and NOT GO threaded check plugs and wear check plugs
$T_{d2}$	Tolerance on the pitch diameter of the external thread
$T_{D2}$	Tolerance on the pitch diameter of the internal thread
$T_{PL}$	Tolerance on the pitch diameter of GO and NOT GO threaded plug gauges
$T_R$	Tolerance on the pitch diameter of GO and NOT GO threaded ring gauges
$u$	$= 0,147\ 84\ P$ : Twice the radial height of rounding at crest and root of thread
$W_{GO}$	Average amount available for the permissible wear of GO threaded plug gauge and GO threaded ring gauge
$W_{NG}$	Average amount available for the permissible wear of NOT GO threaded plug gauge and NOT GO threaded ring gauge
$Z_{PL}$	Distance between the middle of the tolerance zone $T_{PL}$ of the GO threaded plug gauge and the lower limit of the thread
$Z_R$	Distance between the middle of the tolerance zone $T_R$ of the GO threaded ring gauge and the upper limit of the thread