
INTERNATIONAL STANDARD



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Straight bevel gears for general engineering and heavy engineering — Modules and diametral pitches

Engrenages coniques à denture droite de mécanique générale et de grosse mécanique — Modules et diametral pitches

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Descriptors : gears, bevel gears, teeth modulus, spacing.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 60 has reviewed ISO Recommendation R 678 and found it technically suitable for transformation. International Standard ISO 678 therefore replaces ISO Recommendation R 678-1968 to which it is technically identical.

ISO Recommendation R 678 was approved by the Member Bodies of the following countries :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Israel	Sweden
Brazil	Italy	Switzerland
Bulgaria	Japan	Turkey
Chile	Netherlands	United Kingdom
Czechoslovakia	New Zealand	U.S.S.R.
France	Poland	Yugoslavia
Germany	Portugal	

No Member Body expressed disapproval of the Recommendation.

The Member Body of the following country disapproved the transformation of ISO/R 678 into an International Standard :

Germany

Straight bevel gears for general engineering and heavy engineering – Modules and diametral pitches

0 INTRODUCTION

This International Standard, intended essentially to facilitate the establishment of series of cutting tools, is not intended to prevent the use of any unstandardized module or diametral pitch, which can always be obtained by using the tool for the module or diametral pitch corresponding to the next smaller size given in the table.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies modules and diametral pitches of straight bevel gears for general engineering and heavy engineering.

2 DEFINITIONS¹⁾

2.1 module : The ratio of the pitch, expressed in millimetres, to the number π (or the quotient of the reference diameter, expressed in millimetres, to the number of teeth).

2.2 diametral pitch : The ratio of the number π to the pitch expressed in inches (or the quotient of the number of teeth by the reference diameter expressed in inches).

3 VALUES

Preference should be given to the use of the modules and diametral pitches stated in column I. The module 6,5 in column II should be avoided.

The diametral pitches are given in this International Standard only on a provisional basis; they will be deleted after the period necessary to allow conversion to the metric system.

Modules <i>m</i>		Diametral pitches <i>P</i>	
I	II	I	II
1	1,125	20	18
1,25	1,375	16	14
1,5	1,75	12	11
2	2,25	10	9
2,5	2,75	8	7
3	3,5	6	5,5
4	4,5	5	4,5
5	5,5	4	3,5
6	(6,5)	3	2,75
8	7	2,5	2,25
10	9	2	1,75
12	11	1,5	1,375
16	14	1,25	0,875
20	18	1	
25	22	0,75	
32	28	0,625	
40	36	0,50	
50	45		

NOTES

1 The module of a bevel gear is determined on the complementary cone.

The module and the diametral pitch are defined with respect to the reference surface.

2 For the definition of "basic rack", see ISO 677.

1) Extract from ISO/R 1122, *Glossary of gears – Geometrical definitions*.