
INTERNATIONAL STANDARD



691

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Spanner gaps and sockets — Metric series — Tolerances for general use

Ouvertures de clés et d'embouts de serrage — Série métrique — Tolérances d'usage courant

First edition — 1975-04-01

UDC 621.883 : 621.753.1

Ref. No. ISO 691-1975 (E)

Descriptors : tools, wrenches, dimensions, dimensional tolerances.

Price based on 1 page

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 29 has reviewed ISO Recommendation R 691 and found it technically suitable for transformation. International Standard ISO 691 therefore replaces ISO Recommendation R 691-1968 to which it is technically identical.

ISO Recommendation R 691 was approved by the Member Bodies of the following countries :

Austria	Hungary	Portugal
Belgium	India	Spain
Canada	Israel	Sweden
Chile	Italy	Switzerland
Czechoslovakia	Japan	Turkey
Egypt, Arab Rep. of	Korea, Rep. of	Yugoslavia
France	Netherlands	
Germany	Poland	

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

United Kingdom
U.S.A.

The Member Body of the following country disapproved the transformation of ISO/R 691 into an International Standard :

United Kingdom

Spanner gaps and sockets – Metric series – Tolerances for general use

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies tolerances on spanner gaps and sockets for bolts and nuts (or similar parts) having metric across flat dimensions, as shown diagrammatically below.

It gives, for each dimension, the tolerance for general use, defined by its two deviations, minimum and maximum, with respect to the nominal value.

These deviations have been determined in relation to the across flat tolerances for bolts and nuts specified in ISO/R 733 and with regard to the manufacture of tightening tools.

The nominal dimensions given in the table cover, in addition to the standard values of the metric widths across

flats specified in ISO/R 272, a certain number of possible intermediate values which are indicated in brackets.

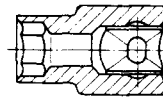
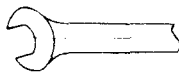
2 REFERENCES

ISO/R 272, *Hexagon bolts and nuts – Widths across flats, heights of heads, thicknesses of nuts – Metric series.*

ISO/R 733, *Hexagon bolts and nuts – Metric series – Tolerances on widths across flats – Widths across corners.*

3 TOLERANCES

The tolerances are given in the table below.



Values in millimetres

Nominal dimensions	Tolerances on spanner gaps and sockets			
	Machined closed or open		Unmachined closed	
	Deviations		Deviations	
	min.	max.	min.	max.
3,2	+ 0,02	+ 0,08	X	X
4 – 5 – 5,5	+ 0,02	+ 0,12		
(6) – 7	+ 0,03	+ 0,15		
8 – (9)	+ 0,03	+ 0,15	+ 0,03	+ 0,18
10 – 11	+ 0,04	+ 0,19	+ 0,04	+ 0,24
12 – 13	+ 0,04	+ 0,24	+ 0,04	+ 0,30
14 – (15) – (16)	+ 0,05	+ 0,27	+ 0,05	+ 0,35
17 – (18)	+ 0,05	+ 0,30	+ 0,05	+ 0,40
19 – (20) – (21) – 22 – (23) – 24 – (25)	+ 0,06	+ 0,36	+ 0,06	+ 0,46
(26) – 27 – (28) – 30 – 32	+ 0,08	+ 0,48	+ 0,08	+ 0,58
36 – 41 – 46 – 50	+ 0,10	+ 0,60	+ 0,10	+ 0,70
55 – 60	+ 0,12	+ 0,72	+ 0,12	+ 0,92