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Capillary solder fittings for copper tubes — Assembly dimensions and tests

Raccords à braser par capillarité pour tubes en cuivre — Dimensions d'assemblage et essais

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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.

International Standard ISO 2016 was developed by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*, and was circulated to the member bodies in April 1980.

It has been approved by the member bodies of the following countries :

Austria	Germany, F.R.	South Africa, Rep. of
Belgium	India	Spain
Brazil	Israel	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Denmark	Netherlands	USSR
Egypt, Arab Rep. of	Poland	
Finland	Romania	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Australia	Japan
Canada	United Kingdom
France	USA

This International Standard cancels and replaces ISO Recommendation R 2016-1971, of which it constitutes a technical revision.

Capillary solder fittings for copper tubes — Assembly dimensions and tests

1 Scope and field of application

This International Standard specifies the field of application, the assembly dimensions and their tolerances, the materials and tests for capillary solder fittings for copper tubes.

Capillary soldered joints having socket and male end dimensions and tolerances as given in this International Standard are suitable for the service conditions shown in table 1.

2 References

ISO 7, *Pipe threads where pressure-tight joints are made on the threads —*

*Part 1 : Designation, dimensions and tolerances.*¹⁾

*Part 2 : Verification by means of limit gauges.*²⁾

ISO 228, *Pipe threads where pressure-tight joints are not made on the threads —*

*Part 1 : Designation, dimensions and tolerances.*³⁾

Part 2 : Verification by means of limit gauges.

Table 1 — Service conditions

Solder- ing/ brazing	Typical examples of soldering/ brazing alloys ¹⁾²⁾	Service temperature ²⁾ °C max.	Service pressure in bars for assembly diameters ²⁾³⁾		
			6 to 28 mm	35 to 54 mm	76,1 to 108 mm
Solder- ing	I lead/tin 50/50 % or 60/40 %	30	16	16	10
		65	10	10	6
		110	6	6	4
	II tin/silver or tin/copper 95/5 % or 97/3 %	30	40	25	16
		65	25	16	16
		110	16	10	10
Brazing	III silver cadmium free 55 % silver	30	40	25	16
	IV silver with cadmium 30 or 40 % silver	65	25	16	16
	V copper/phos- phorous 94/6 % or with 2 % silver	110	16	10	10

1) The choice depends upon the field of application and the rules in force.

2) For use in applications involving higher working pressures and higher working temperatures, solder/brazing alloys with suitable fluxes as recommended by the solder or fitting manufacturer shall be used.

3) A factor of safety of 2,5 will be achieved with 50/50 % tin/lead solder when a solder bond of 60 % of the specified assembly surface is attained.

1) At present at the stage of draft. (Revision of ISO 7/1-1978.)

2) At present at the stage of draft.

3) At present at the stage of draft. (Revision of ISO 228/1-1978.)