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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Metallic flanges —

Part 3:
Copper alloy and composite flanges

Brides métalliques —

Partie 3: Brides en alliages de cuivre et brides composites

Reference number
ISO 7005-3 : 1988 (E)

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 7005-3 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings.*

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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Contents

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0 Introduction

Various flange systems based on differing design criteria have been in use throughout the world for many years. Given the increasing difficulties arising from such a situation, this International Standard has been based on a single series of metallic flanges. ISO 7005 will be published in four parts as follows:

Part 1: Steel flanges

Part 2: Cast iron flanges

Part 3: Copper alloy and composite flanges

Part 4: Aluminium and aluminium alloy flanges

This part of ISO 7005 is based on the American and European copper alloy flange systems which have been combined to produce one International Standard with some changes to the dimensions specified in the two systems.

The flanges specified in this part of ISO 7005 are intended, in general, for use with copper or copper alloy tubes and pipework system components. Integral flanges are also intended for use with steel and cast iron pipework system components.

In the American system, flanges are designated by a Class rating but in this part of ISO 7005 the relevant Class ratings are designated by nominal pressure (PN) ratings.

The equivalent designations are as follows:

Class 150: ISO PN20

Class 300: ISO PN50

The ratings for ISO PN20 and ISO PN50 flanges are those based on American standards, established for use in copper alloy pipework systems. The ratings used in the European system remain as ISO PN6, ISO PN10, ISO PN16, ISO PN25 and ISO PN40.

In this part of ISO 7005, ISO copper alloys, in wrought and cast forms, have been specified where they are comparable with the American and European materials. In addition, an American specification has been retained for a ferrous backing flange material and work is proceeding within ISO to prepare steel material specifications suitable for flange applications.

Flange details in all four parts of ISO 7005 are such that flanges having the same PN and nominal size (DN) values and compatible flange facings will mate together.

Users of this part of ISO 7005 should satisfy themselves that the flanges comply with any statutory requirements.

1 Scope and field of application

This part of ISO 7005 for a single system of flanges specifies requirements for circular copper alloy and composite flanges in the following nominal pressure ratings:

Series 1*	Series 2*
ISO PN10	ISO PN6
ISO PN16	ISO PN25
ISO PN20	ISO PN40
ISO PN50	

Attention is drawn to the need to refer to the pressure/temperature (p/T) ratings in tables 10, 10a), 10b) and 10c) for the maximum permissible working pressures and temperatures, particularly for ISO PN20 and ISO PN50 flanges and for ISO PN6, ISO PN10, ISO PN16 and ISO PN25 flanges attached by soft solder or silver brazing.

This part of ISO 7005 specifies the types of flanges and their facings, dimensions, tolerances, bolt sizes (including copper alloy), flange face surface finish, marking, testing, inspection and materials.

NOTES

1 Dimensions of gaskets will be the subject of a future International Standard.

2 For guidance, information on the application and installation of flanges is given in the annex, which does not form an integral part of this part of ISO 7005.

* Series 1 ratings are the basic ratings; series 2 ratings have limited application.