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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 430

CLASSIFICATION OF COPPER-NICKEL-ZINC ALLOYS

1st EDITION

March 1965

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 430, *Classification of Copper-Nickel-Zinc Alloys*, was drawn up by Technical Committee ISO/TC 26, *Copper and Copper Alloys*, the Secretariat of which is held by the Deutscher Normenausschuss (DNA).

Work on this question by the Technical Committee began in 1961 and led, in 1962, to the adoption of a Draft Recommendation.

In December 1962, this Draft ISO Recommendation (No. 548) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Germany	Romania
Belgium	Greece	Spain
Brazil	India	Sweden
Canada	Iran	Switzerland
Chile	Italy	Turkey
Denmark	Japan	Yugoslavia
Finland	Netherlands	
France	Poland	

One Member Body opposed the approval of the Draft: United Kingdom.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in March 1965, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 430 March 1965

CLASSIFICATION OF COPPER-NICKEL-ZINC ALLOYS

1. SCOPE

This ISO Recommendation relates to the chemical composition and forms of semi-manufactured products of the following wrought copper alloys:

Copper-nickel-zinc alloys,

currently available in commercial quantities.

It is intended as a classification and not as a specification for the various types. For the classification principles, see Appendix.

2. GENERAL

The chemical compositions given below show only the main constituent elements and usual impurities. It is the responsibility of the supplier to ensure that any element not specifically limited by this ISO Recommendation is not present in an amount such as is generally accepted as having an adverse effect on the product. If the purchaser's requirements necessitate limits for any element not specified, these should be agreed upon between supplier and purchaser.

3. CHEMICAL COMPOSITION (PER CENT)

TABLE 1

Designation	Cu	Ni	Mn	Pb	Zn	Maximum impurities			Average density* kg/dm³
						Fe	Pb	Other elements Total	
Cu Ni18 Zn20	60.0-64.0	17.0-19.0	0-0.7	—	The	0.3	0.03	0.1	8.75
Cu Ni18 Zn27	53.0-56.0	17.0-19.0	0-0.5	—	re-	0.3	0.03	0.1	8.70
Cu Ni12 Zn24	62.0-66.0	11.0-13.0	0-0.5	—	main-	0.3	0.05	0.1	8.65
Cu Ni10 Zn27	61.0-65.0	8.0-11.0	0-0.7	—	der	0.3	0.05	0.1	8.60
Cu Ni18 Zn19 Pb	59.0-63.0	17.0-19.0	0-0.7	0.3-1.5	The remain-	0.3	—	0.1	8.80
Cu Ni10 Zn45	44.0-48.0	8.0-11.0	0-0.5	0-2.5	der	0.5	—	0.5	8.45

* For information only.

4. FORMS OF SEMI-MANUFACTURED PRODUCTS

TABLE 2

Alloy	Plate, Sheet	Strip	Rod, Bar	Sections*	Tube	Wire	Forgings
Cu Ni18 Zn20	x	x	(x)	x		(x)	
Cu Ni18 Zn27	x	x	(x)			(x)	
Cu Ni12 Zn24	x	x	x	(x)	(x)	x	
Cu Ni10 Zn27	x	x				(x)	
Cu Ni18 Zn19 Pb	(x)	(x)	x	x		(x)	
Cu Ni10 Zn45	(x)		x	x			x

* sections or shapes made by extruding, or by a combination of extruding and drawing.

x indicates the main forms manufactured.

(x) indicates forms manufactured in smaller quantities, e.g. in certain countries only or for special purposes.

If no symbol is given, the form is not considered of importance for that alloy, but it does not necessarily indicate that such a product cannot be manufactured.