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ISO RECOMMENDATION R 1071

CODE OF SYMBOLS FOR COVERED ELECTRODES
FOR MANUAL METAL-ARC WELDING OF CAST IRON

1st EDITION

May 1969

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BRIEF HISTORY

The ISO Recommendation R 1071, *Code of symbols for covered electrodes for manual metal-arc welding of cast iron*, was drawn up by Technical Committee ISO/TC 44, *Welding*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led, in 1966, to the adoption of a Draft ISO Recommendation.

In April 1967, this Draft ISO Recommendation (No. 1163) 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 :

Belgium	Ireland	Spain
Canada	Israel	Sweden
Czechoslovakia	Japan	Switzerland
Denmark	Korea, Rep. of	Thailand
Finland	Norway	Turkey
France	Poland	U.A.R.
Germany	Portugal	U.S.A.
Greece	Romania	U.S.S.R.
India	South Africa, Rep. of	Yugoslavia

Two Member Bodies opposed the approval of the Draft :

Austria
United Kingdom

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1969, to accept it as an ISO RECOMMENDATION.

CODE OF SYMBOLS FOR COVERED ELECTRODES FOR MANUAL METAL-ARC WELDING OF CAST IRON

1. SCOPE

This ISO Recommendation gives a code of symbols applicable to covered electrodes used for manual metal-arc welding of cast iron. The coding is based upon the chemical composition of the core wire and upon the normal uses of the electrodes.

Additional descriptions of the various groups of electrodes are also given.

NOTE. – When the purchaser requires special properties, he is advised to consult the manufacturer for further information.

2. CODING

2.1 General plan

The code follows the general scheme of coding for filler metals which is divided into the four following groups of symbols :

Group I : welding process, form of filler metal, flux, gas, etc.

Group II : composition or chemical analysis.

Group III : properties of the deposited metal.

Group IV : particulars of the method of operation.

2.2 Group I

In the special case of welding cast iron by manual metal-arc welding, only covered electrodes are considered.

For simplicity, only the symbol E is used. The ISO Recommendation number which precedes it indicates which type of covered electrode is defined, i.e.

ISO/R ... E ...

2.3 Group II

Group II concerns the chemical composition.

Usually the weld deposit is taken as the basis of coding for covered electrodes, but for cast iron the composition of the weld deposit is not generally the same as the composition of the parent metal, and no specification referring to a particular chemical composition of the weld deposit is required. The coding in this case is therefore based on the chemical composition of the core wire. Group II gives the chemical symbols of the main constituents of the core wire. Where a number, separated by a dash from the chemical symbols, is used, this indicates that more than one chemical composition is available for an electrode having the main constituents shown by the symbol.

TABLE 1

Symbol	Type of alloy
FeC-1	Grey cast iron type
FeC-2	Grey cast iron type, with steel core wire
Fe	Steel type
NiFe	Nickel-iron type
NiCu-1 } NiCu-2 }	Nickel-copper type
Ni	Nickel type
CuAl	Copper-aluminium type
CuSn-1 } CuSn-2 }	Copper-tin type
Z	Other types

NOTE. — Detailed descriptions and examples of application are given in the Annex. Table A.1 of the Annex gives as a guide fuller details of chemical compositions.

2.4 Group III

Group III normally indicates mechanical properties. In the case of covered electrodes for welding cast iron, each type has its specific mechanical properties as indicated in the Annex. There is not much difference in the mechanical properties of the different brands of any given type and therefore, for simplicity, no symbol is used for this group. A dash indicates this omission.