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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 636

CODE OF SYMBOLS FOR FILLER RODS FOR GAS WELDING OF MILD STEELS AND LOW ALLOY HIGH TENSILE STEELS

1st EDITION
November 1967

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

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BRIEF HISTORY

The ISO Recommendation R 636, *Code of Symbols for Filler Rods for Gas Welding of Mild Steels and Low Alloy High Tensile Steels*, 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 by the Technical Committee began in 1955 and led, in 1958, to the adoption of a Draft ISO Recommendation.

In September 1958, this Draft ISO Recommendation (No. 226) 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	France	Norway
Belgium	Germany	Poland
Bulgaria	India	Republic of South Africa
Burma	Israel	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Switzerland
Finland	Netherlands	U.S.A.

Four Member Bodies opposed the approval of the Draft:

Austria
Canada
Romania
United Kingdom

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1967, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 636 November 1967

CODE OF SYMBOLS FOR FILLER RODS FOR GAS WELDING OF MILD STEELS AND LOW ALLOY HIGH TENSILE STEELS

FOREWORD

This ISO Recommendation is one of a set which also includes the following:

ISO/R 637, *Methods of Test for Determining the Mechanical Properties of Weld Metal Deposited by Filler Rods for Gas Welding Mild Steels and Low Alloy High Tensile Steels.*

INTRODUCTION

The mechanical properties of the deposited metal which serve as a reference for the symbolization of filler rods must be looked upon as conventional values resulting from the test methods described in ISO Recommendation R 637. They cannot be taken to characterize an assembly welded with the same filler rods because the influence of the parent metal, of the welding procedure, of the heat treatment after welding or the absence of heat treatment, may cause substantial changes in the conventional values found during the tests on the deposited metal.

1. SCOPE

This ISO Recommendation describes a method of coding filler rods for gas welding of mild steels and low alloy high tensile steels.

2. THE CODE

2.1 To define filler rods for gas welding of mild steels and low alloy steels, use is made of a code system with three symbols showing respectively

— the tensile strength

— the elongation

— the impact strength

2.1.1 These three symbols should be preceded by the letter G, indicating gas welding. The letter G is separated from the group of numerical symbols by a dash signifying that the rod is for welding a mild steel or a high tensile mild steel.

2.1.2 Since the tensile strength of the deposited metal may vary for different diameters of a given type of filler rod it is specified that the highest value of this property should not exceed by more than 10 kgf/mm² the minimum tensile strength indicated by the symbol for the filler rod.

2.2 The correspondence between the symbols and mechanical properties is given below.

2.2.1 *Tensile strength* (minimum)

Symbol	Tensile strength in kgf/mm²
0	—
Z	< 35
Y	35
1	41
2	44
3	48
4	52
5	56
6	60

2.2.2 *Elongation* (minimum).

Symbol	Elongation %
0	—
Z	< 14
1	14
2	18
3	22
4	26
5	30

2.2.3 *Impact strength KV* (minimum), (see ISO Recommendation R 637).

Symbol	Impact strength in kgf · m
0	not specified
Z	< 3
1	3
2	6
3	9
4	12
5	15

2.2.4 These mechanical properties should be determined by the test methods described in ISO Recommendation R 637.