ISO 16834:2025-02 (E)

Welding consumables - Wire electrodes, wires, rods and deposits for gas shielded arc welding of high strength steels - Classification

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Classification 2
4.1 General 2
4.2 Classification systems 2

5 Symbols and requirements 3
5.1 Symbols for the product/process 3
5.2 Symbols for strength and elongation properties of all-weld metal 3
5.2.1 Classification by yield strength and 47 J impact energy - System A 3
5.2.2 Classification by tensile strength and 27 J impact energy - System B 3
5.3 Symbol for impact properties of all-weld metal 3
5.3.1 Classification by yield strength and 47 J impact energy - System A 3
5.3.2 Classification by tensile strength and 27 J impact energy - System B 4
5.4 Symbol for shielding gas 4
5.5 Symbol for the chemical composition of wire electrodes, wires and rods 5
5.6 Symbol for condition of post-weld heat treatment 5
5.6.1 Classification by yield strength and 47 J impact energy - System A 5
5.6.2 Classification by tensile strength and 27 J impact energy - System B 5

6 Mechanical tests 10

7 Preheating and interpass temperatures 10

8 Welding conditions and pass sequence 10
8.1 General 10
8.2 Post-weld heat-treated condition 11
8.2.1 Classification by yield strength and 47 J impact energy - System A 11
8.2.2 Classification by tensile strength and 27 J impact energy - System B 11

9 Chemical analysis 11

10 Rounding procedure 11

11 Retest 12

12 Technical delivery conditions 12

13 Examples of designation 12
13.1 General 12
13.2 Example 1 - Classification by yield strength and 47 J impact energy - System A 12
13.3 Example 2 - Classification by tensile strength and 27 J impact energy - System B 13
13.4 Example 3 - Classification by yield strength and 47 J impact energy - System A 13
13.5 Example 4 - Classification by tensile strength and 27 J impact energy - System B 13
13.6 Example 5 - Classification by yield strength and 47 J impact energy - System A 14
13.7 Example 6 - Classification by tensile strength and 27 J impact energy - System B 14

Annex A (informative) Description of composition designations for electrodes in the classification system based upon tensile strength and average impact energy of 27 J - System B 16

Bibliography 17