DIN EN ISO 16834:2025-06 (E)

Welding consumables - Wire electrodes, wires, rods and deposits for gas shielded arc welding of high strength steels - Classification (ISO 16834:2025)

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**