DIN EN ISO 14174:2019-09 (E)

Welding consumables - Fluxes for submerged arc welding and electroslag welding - Classification (ISO 14174:2019)

Contents

Page

European foreword ... 4

Foreword ... 5

1 Scope ... 6

2 Normative references ... 6

3 Terms and definitions ... 6

4 Classification ... 6

5 Symbols ... 7
5.1 Symbol for the product/process ... 7
5.2 Symbol for method of manufacture ... 7
5.3 Symbol for type of flux, characteristic chemical constituents ... 7
5.4 Symbol for applications, flux class ... 7
5.4.1 General ... 7
5.4.2 Flux class 1 ... 8
5.4.3 Flux classes 2 and 2B ... 8
5.4.4 Flux class 3 ... 8
5.4.5 Flux class 4 ... 8
5.5 Symbol for metallurgical behaviour ... 10
5.5.1 General ... 10
5.5.2 Metallurgical behaviour, flux class 1 ... 10
5.5.3 Metallurgical behaviour, flux classes 2 and 2B ... 10
5.5.4 Metallurgical behaviour, flux class 3 ... 11
5.5.5 Metallurgical behaviour, flux class 4 ... 11
5.5.6 Determination of symbols for metallurgical behaviour ... 11
5.6 Symbol for type of current ... 12
5.7 Symbol for diffusible hydrogen content in deposited weld metal (class 1 fluxes only) ... 12

6 Particle size range ... 13

7 Rounding procedure ... 13

8 Retest ... 13

9 Technical delivery conditions ... 14

10 Marking ... 14

11 Designation ... 14

Annex A (informative) Characteristic chemical constituents of flux — Example of determination from elemental analysis ... 16
A.1 General ... 16
A.2 General case ... 16
A.3 Fluorspar present in the flux ... 16
A.4 Carbonate present in the flux ... 16
A.5 Deliberately added metallic Fe in the flux ... 16
A.6 Examples of determinations ... 16

Annex B (informative) Description of flux types **18**
B.1 General **18**
B.2 Manganese-silicate, MS **18**
B.3 Calcium-silicate, CS **18**
B.4 Calcium-magnesium, CG **18**
B.5 Calcium-magnesium basic, CB **18**
B.6 Calcium-magnesium with iron, CG-I **18**
B.7 Calcium-magnesium basic, CB-I **19**
B.8 Magnesium-silicate, GS **19**
B.9 Zirconium-silicate, ZS **19**
B.10 Rutile silicate, RS **19**
B.11 Aluminate-rutile, AR **19**
B.12 Basic-alumina, BA **19**
B.13 Acid-aluminium-silicate, AAS **19**
B.14 Aluminate-basic, AB **19**
B.15 Aluminate-silicate, AS **19**
B.16 Aluminate-fluoride-basic, AF **20**
B.17 Fluoride-basic, FB **20**
B.18 Any other composition, Z **20**
Bibliography **21**