ISO 945-1:2017-12 (E)

Microstructure of cast irons - Part 1: Graphite classification by visual analysis

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 General 1
4.1 Designation system for classifying graphite in cast irons 1
4.2 Form 2
4.3 Distribution 3
4.4 Size 4
4.5 Visual classification of graphite 23

5 Sampling and sample preparation 23
5.1 Samples taken from a casting 23
5.2 Sample preparation 23

6 Procedure for graphite classification 23
6.1 Procedure for visual classification of graphite 23
6.2 Evaluation of the analysis results 24

7 Reference images 24
7.1 General 24
7.2 Reference images for graphite form 24
7.3 Reference images for the distribution of graphite (form I) 24
7.4 Reference images for graphite size 24

8 Designation of graphite by form, distribution and size 25
8.1 Designation system 25
8.2 Designation of different graphite sizes within a casting 25
8.3 Designation of mixed graphite forms, distributions and sizes 26
8.4 Designation of unclassified graphite forms 26
8.5 Nodule count 26

9 Report 27

Annex A (informative) Typical graphite forms in cast-iron materials -- Examples of photomicrographs 28

Annex B (informative) Distribution of flake (lamellar) graphite (form I) -- Examples of photomicrographs 29

Annex C (informative) Common terminology and main occurrences concerning graphite in cast irons 30

Bibliography 32