

DIN EN ISO 945-1:2019-10 (E)

Microstructure of cast irons - Part 1: Graphite classification by visual analysis (ISO 945-1:2019)

Contents

	Page
European foreword	3
Foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 General	6
4.1 Designation system for classifying graphite in cast irons	6
4.2 Form	7
4.3 Distribution	8
4.4 Size	9
4.5 Visual classification of graphite	28
5 Sampling and sample preparation	28
5.1 Samples taken from a casting	28
5.2 Sample preparation	28
6 Procedure for graphite classification	28
6.1 Procedure for visual classification of graphite	28
6.2 Evaluation of the analysis results	29
7 Reference images	29
7.1 General	29
7.2 Reference images for graphite form	29
7.3 Reference images for the distribution of graphite (form I)	29
7.4 Reference images for graphite size	29
8 Designation of graphite by form, distribution and size	30
8.1 Designation system	30
8.2 Designation of different graphite sizes within a casting	30
8.3 Designation of mixed graphite forms, distributions and sizes	31
8.4 Designation of unclassified graphite forms	31
8.5 Nodule count	31
9 Report	32
Annex A (informative) Typical graphite forms in cast-iron materials — Examples of photomicrographs	33
Annex B (informative) Distribution of flake (lamellar) graphite (form I) — Examples of photomicrographs	34
Annex C (informative) Common terminology and main occurrences concerning graphite in cast irons	35
Bibliography	37