

# ISO 945-1:2019 (E)

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

---

### Contents

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