

ISO/TR 945-3:2016-05 (E)

Microstructure of cast irons - Part 3: Matrix structures

| Contents | | Page |
|---|---|-------------|
| Foreword | | iv |
| Introduction | | v |
| 1 | Scope | 1 |
| 2 | Designations and descriptions of cast iron microstructures | 1 |
| 2.1 | Ferrite | 1 |
| 2.2 | Pearlite | 1 |
| 2.3 | Austenite | 2 |
| 2.4 | Acicular ferrite | 2 |
| 2.5 | Ausferrite | 2 |
| 2.6 | Bainite | 2 |
| 2.7 | Cementite | 2 |
| 2.8 | Ledeburite | 2 |
| 2.9 | Martensite | 2 |
| 3 | Sampling and preparation of samples | 3 |
| 3.1 | Samples taken from castings and cast samples | 3 |
| 3.2 | Sample preparation | 3 |
| 4 | Matrix structures | 4 |
| 4.1 | Grey cast irons | 4 |
| 4.2 | Spheroidal graphite cast irons | 6 |
| 4.3 | Austenitic cast irons | 10 |
| 4.4 | Malleable cast irons | 11 |
| 4.5 | Compacted (vermicular) graphite cast irons | 23 |
| 4.6 | Ausferritic spheroidal graphite cast irons | 24 |
| 4.7 | Abrasion-resistant cast irons | 26 |
| Annex A (informative) Spheroidal graphite cast irons: Evaluation of pearlite content | | 32 |
| Annex B (informative) List of European and some national cast iron material designations corresponding to the ISO designations | | 34 |
| Bibliography | | 42 |