

ISO 683-3:2019 (E)

Heat-treatable steels, alloy steels and free-cutting steels — Part 3: Case-hardening steels

Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
4	Classification and designation
4.1	Classification
4.2	Designation
5	Information to be supplied by the purchaser
5.1	Mandatory information
5.2	Options and/or supplementary or special requirements
5.3	Ordering example
6	Manufacturing process
6.1	General
6.2	Deoxidation
6.3	Heat-treatment condition and surface condition at delivery
6.3.1	Normal condition at delivery
6.3.2	Particular heat-treatment condition
6.3.3	Particular surface conditions
6.4	Traceability of the cast
7	Requirements
7.1	Chemical composition, hardness and hardenability
7.1.1	General
7.1.2	Hardenability
7.1.3	Chemical composition
7.2	Machinability
7.3	Cold shearability
7.4	Grain size
7.5	Non-metallic inclusions
7.5.1	Microscopic inclusions
7.5.2	Macroscopic inclusions
7.6	Internal soundness
7.7	Surface condition
7.8	Shape, dimensions and tolerances
8	Inspection
8.1	Testing procedures and types of documents
8.2	Frequency of testing
8.3	Tests to be carried out for specific inspection
8.3.1	General
8.3.2	Visual and dimensional inspection
9	Test methods
9.1	Chemical analysis
9.2	Hardness and hardenability tests
9.2.1	Verification of hardness
9.2.2	Verification of hardenability

9.3 Retests

10 Marking

Annex A (normative) Supplementary or special requirements

- A.1 Fine grain steel**
- A.2 Non-destructive tests**
- A.3 Product analysis**
- A.4 Reduction ratio and deformation ratio**
- A.5 Special agreements for marking**

Annex B (informative) Designation of steels given in this document and of comparable grades covered in various designation systems

Annex C (informative) Dimensional standards applicable to products complying with this document

Annex D (informative) Classification of steel grades according to minimum tensile strength as a function of diameter after hardening and tempering at 200 °C

Page count: 36