

ISO 683-11:2012-09 (E)

Heat-treatable steels, alloy steels and free-cutting steels - Part 11: Case-hardening steels

Contents		Page
Foreword		iv
1 Scope		1
2 Normative references		1
3 Terms and definitions		2
4 Classification and designation		3
4.1 Classification		3
4.2 Designation		3
5 Information to be supplied by the purchaser		3
5.1 Mandatory information		3
5.2 Options and/or supplementary or special requirements		3
6 Manufacturing process		4
6.1 General		4
6.2 Deoxidation		4
6.3 Heat-treatment condition and surface condition at delivery		4
6.4 Traceability of the cast		4
7 Requirements		4
7.1 Chemical composition, hardness and hardenability		4
7.2 Machinability		5
7.3 Cold shearability		5
7.4 Grain size		5
7.5 Non-metallic inclusions		5
7.6 Internal soundness		5
7.7 Surface condition		6
7.8 Shape, dimensions and tolerances		6
8 Inspection		6
8.1 Testing procedures and types of documents		6
8.2 Frequency of testing		7
8.3 Test to be carried out for specific inspection		7
9 Test methods		7
9.1 Chemical analysis		7
9.2 Hardness and hardenability tests		7
9.3 Retests		7
10 Marking		8
Annex A (normative) Supplementary or special requirements		21
Annex B (informative) Designation of steels given in this part of ISO 683 and of comparable grades covered in various designation systems		22

Annex C (informative) Dimensional standards applicable to products complying with this part of ISO 683	23
Annex D (informative) Classification of steel grades according to minimum tensile strength as a function of diameter after hardening and tempering at 200 °C.....	24
Bibliography	25