

ISO 185:2019-07 (E)

Grey cast irons - Classification

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Designation	2
5	Order information	2
6	Manufacture	2
7	Requirements	3
7.1	Mechanical properties	3
7.2	Tensile properties	3
7.2.1	General	3
7.2.2	Test pieces machined from cast samples	3
7.2.3	Test pieces cut from a casting	3
7.3	Hardness properties	5
7.4	Graphite structure	6
8	Sampling	6
8.1	General	6
8.2	Types of samples	7
8.3	Samples for tensile test	7
8.3.1	Size of cast samples	7
8.3.2	Frequency and number of test samples	7
8.3.3	Separately cast samples	7
8.3.4	Side-by-side cast samples	7
8.3.5	Cast-on samples	8
8.3.6	Samples cut from a casting	10
8.4	Samples for hardness test	11
9	Test methods	11
9.1	Tensile test	11
9.2	Brinell hardness test	13
9.3	Graphite structure	13
9.4	Alternative test procedures	13
10	Retests	13
10.1	Need for retests	13
10.2	Test validity	13
10.3	Nonconforming test results	14
10.4	Heat treatment of samples and castings	14
Annex A (informative)	Information on mechanical and physical properties in addition to that given in Tables 1 and 2	15

Annex B (informative) Additional information on the relationship between hardness and tensile strength of grey cast irons	17
Annex C (informative) Additional information on the relationship between tensile strength, hardness and wall thickness of grey iron castings	20
grades of grey cast irons	24
Bibliography	26