

# DIN EN 1563:2019-04 (E)

## Founding - Spheroidal graphite cast irons

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	6
4	Designation .....	8
5	Order information .....	8
6	Manufacture .....	8
7	Requirements .....	9
7.1	General .....	9
7.2	Ferritic to pearlitic spheroidal graphite cast irons .....	9
7.3	Solid solution strengthened ferritic spheroidal graphite cast irons .....	12
8	Sampling .....	13
8.1	General .....	13
8.2	Cast samples .....	14
8.3	Samples cut from a casting .....	15
9	Test methods .....	20
9.1	Tensile test .....	20
9.2	Impact test .....	21
9.3	Hardness test .....	22
9.4	Graphite morphology examination .....	22
10	Retests .....	22
10.1	Need for retests .....	22
10.2	Test validity .....	23
10.3	Non-conforming test results .....	23
10.4	Heat treatment of samples and castings .....	23
11	Inspection documentation .....	23
Annex A (informative) Additional information on solid solution strengthened ferritic spheroidal graphite cast irons .....		24
Annex B (informative) Guidance values for mechanical properties determined on test pieces machined from samples cut from the castings .....		27
Annex C (informative) Guidance values for hardness .....		29
Annex D (informative) Nodularity .....		31
Annex E (informative) Additional information on mechanical and physical properties .....		32

<b>Annex F (normative) Sectioning procedure for cast samples .....</b>	<b>36</b>
<b>Annex G (informative) Comparison of spheroidal graphite cast iron material designations according to EN 1560 [1] and ISO/TR 15931 [15] .....</b>	<b>37</b>
<b>Annex H (informative) Fracture mechanical approach to spheroidal graphite cast irons .....</b>	<b>38</b>
<b>Annex I (informative) Significant technical changes between this European Standard and the 2011 edition .....</b>	<b>43</b>
<b>Annex J (informative) Significant technical changes between the 1997 edition and the 2011 edition</b>	<b>44</b>
<b>Annex ZA (informative) Relationship between this European Standard and the essential safety requirements of Annex I of the Directive 2014/68/EU aimed to be covered .....</b>	<b>46</b>
<b>Bibliography .....</b>	<b>47</b>