

# DIN EN 1564:2012-01 (E)

## Founding - Ausferritic spheroidal graphite cast irons

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	6
4	Designation .....	7
5	Order information .....	7
6	Manufacture .....	8
7	Requirements .....	8
7.1	General .....	8
7.2	Test pieces machined from cast samples .....	8
7.2.1	General .....	8
7.2.2	Impact energy .....	8
7.3	Test pieces machined from samples cut from a casting .....	8
7.4	Hardness .....	10
7.5	Graphite structure .....	10
7.6	Matrix structure .....	10
8	Sampling .....	10
8.1	General .....	10
8.2	Cast samples .....	11
8.2.1	Size of cast samples .....	11
8.2.2	Frequency and number of tests .....	11
8.2.3	Separately cast samples .....	11
8.2.4	Side-by-side cast samples .....	11
8.2.5	Cast-on samples .....	12
8.2.6	Test pieces machined from cast samples .....	12
8.3	Samples cut from a casting .....	12
9	Test methods .....	17
9.1	Tensile test .....	17
9.2	Impact test .....	18
9.3	Hardness test .....	19
9.4	Graphite and matrix structure examination .....	19
10	Retests .....	19
10.1	Need for retest .....	19
10.2	Test validity .....	20
10.3	Non-conforming test results .....	20
10.4	Heat treatment of samples and castings .....	20
11	Inspection documentation .....	20
Annex A (normative)	Abrasion resistant grades of ausferritic spheroidal graphite cast iron .....	21

<b>Annex B (informative) Comparison of ausferritic spheroidal graphite cast iron material designations according to EN 1560 and ISO/TR 15931 [2] [7]</b> .....	<b>23</b>
<b>Annex C (informative) Guidance values for tensile strength and elongation for test pieces machined from samples cut from a casting</b> .....	<b>24</b>
<b>Annex D (informative) Guidance values for Brinell hardness</b> .....	<b>25</b>
<b>Annex E (informative) Determination of the hardness range</b> .....	<b>26</b>
<b>Annex F (informative) Nodularity</b> .....	<b>27</b>
<b>Annex G (normative) Sectioning procedure for cast samples</b> .....	<b>28</b>
<b>Annex H (informative) Un-notched impact test</b> .....	<b>29</b>
<b>Annex I (informative) Additional information on mechanical and physical properties</b> .....	<b>31</b>
<b>Annex J (informative) Machinability of ausferritic spheroidal graphite cast irons</b> .....	<b>33</b>
<b>Annex K (informative) Significant technical changes between this European Standard and the previous edition</b> .....	<b>35</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 97/23/EC</b> .....	<b>36</b>
<b>Bibliography</b> .....	<b>37</b>