

# Magnetic materials —

## Part 8: Individual materials —

### Section 8.9 Standard specification for sintered soft magnetic materials

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee ISE/NFE/5, Magnetic alloys and steels, upon which the following bodies were represented:

- Association of Manufacturers Allied to the Electrical and Electronic Industry (BEAMA Ltd.)
- British Steel Industry
- Department of Trade and Industry (National Physical Laboratory)
- Electricity Supply Industry in England and Wales
- Electronic Components Industry Federation
- GAMBICA (BEAMA Ltd.)
- Institute of Physics
- Rotating Electrical Machines Association (BEAMA Ltd.)
- Sunderland Polytechnic (Magnet Centre)
- Transmission and Distribution Association (BEAMA Ltd.)
- Wolfson Centre for Magnets Technology
- Coopted members

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 March 1995

© BSI 04-2000

The following BSI references relate to the work on this standard:  
Committee reference ISE/NFE/5  
Draft for comment 94/303430 DC

ISBN 0 580 23854 7

## Amendments issued since publication

| Amd. No. | Date | Comments |
|----------|------|----------|
|          |      |          |
|          |      |          |
|          |      |          |
|          |      |          |

# Contents

|                                                                                                               | Page               |
|---------------------------------------------------------------------------------------------------------------|--------------------|
| Committees responsible                                                                                        | Inside front cover |
| National foreword                                                                                             | ii                 |
| 1 Scope                                                                                                       | 1                  |
| 2 Normative references                                                                                        | 1                  |
| 3 Definitions                                                                                                 | 1                  |
| 4 Symbols                                                                                                     | 2                  |
| 5 General requirements                                                                                        | 2                  |
| 6 Measurements                                                                                                | 2                  |
| 7 Classification                                                                                              | 3                  |
| 8 Designation                                                                                                 | 3                  |
| 9 Ordering information                                                                                        | 3                  |
| 10 Tables                                                                                                     | 3                  |
| Table 1 — Minimum sintered densities and maximum coercivities                                                 | 3                  |
| Table 2 — Typical values for the properties of soft magnetic sintered materials in the finally annealed state | 4                  |
| List of references                                                                                            | Inside back cover  |

## National foreword

This Section of BS 6404 has been prepared by Technical Committee ISE/NFE/5. It is identical with IEC 404-8-9:1994, *Magnetic materials Part 8: Specifications for individual materials. Section 9: Standard specification for sintered magnetic materials*, published by the International Electrotechnical Commission (IEC).

This Section of BS 6404 is one of a series of British Standards based on the IEC 404 series. The Part and Section numbers of the British Standards follow those of the IEC 404 series. The following Parts of the British Standard have been published or will shortly be published.

- *Part 1: Classification;*
- *Part 2: Methods of measurement of magnetic, electrical and physical properties of magnetic sheet and strip;*
- *Part 3: Methods of measurement of the magnetic properties of magnetic sheet and strip by means of a single sheet tester;*
- *Part 4: Methods of measurement of the d.c. magnetic properties of solid steels;*
- *Part 5: Methods of measurement of the magnetic properties of magnetically hard (permanent magnet) materials;*
- *Part 6: Methods of measurement of the magnetic properties of isotropic nickel-iron soft magnetic alloys, types E1, E3 and E4;*
- *Part 7: Method of measurement of the coercivity of magnetic materials in an open magnetic circuit;*
- *Part 8: Individual materials;*
- *Section 8.1: Specification for magnetically hard materials;*
- *Section 8.2: Specification for cold-rolled, magnetic, non-oriented, alloyed steel strip delivered in the semi-processed state;*
- *Section 8.3: Specification for cold-rolled, magnetic, non-oriented, non-alloyed steel strip delivered in the semi-processed state;*
- *Section 8.4: Specification for cold-rolled, non-oriented, magnetic steel sheet and strip delivered in the finally annealed state;*
- *Section 8.5: Specification for steel sheet and strip with specified mechanical properties and magnetic permeability;*
- *Section 8.6: Specification for soft magnetic metallic materials;*
- *Section 8.7: Specification for grain-oriented magnetic steel sheet and strip;*
- *Section 8.8: Specification for thin magnetic steel strip for use at medium frequencies;*
- *Part 9: Methods for determination of the geometrical characteristics of magnetic steel sheet and strip;*
- *Part 10: Methods of measurement of magnetic properties of magnetic steel and strip at medium frequencies;*
- *Part 11: Method of test for the determination of surface insulation resistance of magnetic sheet and strip;*
- *Part 12: Guide to methods of assessment of temperature capability of interlaminar insulation coatings.*

Additional Parts and Sections of IEC 404 will be published and it is envisaged that they will provide a basis for additional Parts and Sections of BS 6404.