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Specification for

Ferrous and non-ferrous Bourdon tubing

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- Control and Automation Manufacturers' Association (BEAMA)
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- Electrical Research Association
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- Institution of Gas Engineers*
- Oil Companies Materials Association*
- Scientific Instrument Manufacturers' Association
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The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Associated Offices Technical Committee
- British Paper and Board Industry Federation (PIF)
- British Pressure Gauge Manufacturers' Association
- Copper Development Association
- Department of Energy — Gas Standards
- Department of Industry — National Engineering Laboratory
- National Coal Board
- National Water Council

This British Standard, having been prepared under the direction of the Industrial Process Measurement and Control Standards Committee, was published under the authority of the Executive Board on 29 December 1978

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Foreword

This British Standard has been prepared under the direction of the Industrial Process Measurement and Control Standards Committee. It is a revision of BS 3127:1959 and that standard is therefore now withdrawn. This revision specifies fewer types of tubing and expresses dimensions in metric form.

Attention is particularly drawn to the fact that this standard applies to tubing in the form and condition in which it is supplied for the fabrication of Bourdon tubes. The processes involved in the fabrication of Bourdon tubes will in all cases alter both the physical properties of the material and its cross section. In some cases these changes may be quite substantial. The finished Bourdon tube, as assembled in an instrument, cannot therefore be expected to have the physical properties or the cross-sectional shapes specified in this standard.

In this standard the specified physical properties are limited to a hardness test. An indication of the mechanical properties which may be expected in the tubes, in the condition in which they are supplied to the instrument manufacturer, is given in Appendix A. Apart from the condition and hardness figures, these properties do not constitute a mandatory part of this standard. They are given for the guidance of the instrument manufacturers, but non-compliance with these properties does not constitute ground for the rejection of the tubing.

This standard specifies three ferrous and three non-ferrous tubing materials but does not attempt to cover all of the possible materials and types of tubing, as for example tubing made by drilling from the solid, which may be satisfactorily used for the fabrication of Bourdon tubes. Also, this standard does not seek to control all the features of a material which may affect its performance. Any additional features, such as microstructure, which may be required, should be the subject of agreement between purchaser and manufacturer.

The cross sections of tubing specified in Table 1 and Table 2 do not cover all the many cross sections which are supplied for Bourdon tube manufacture. The conditions under which Bourdon tubes have to operate are diverse and demand the use of a great variety of shapes and thicknesses. Those specified in Table 1 and Table 2 are representative of tubing which is suitable for the more common applications, and instrument manufacturers should, so far as designs permit, select tubing from these sizes. The concentration of the demand on these sizes (and materials) will assist in the economic production of the tubing and enable the tubing manufacturers to supply the more common sizes from stock.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

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This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.