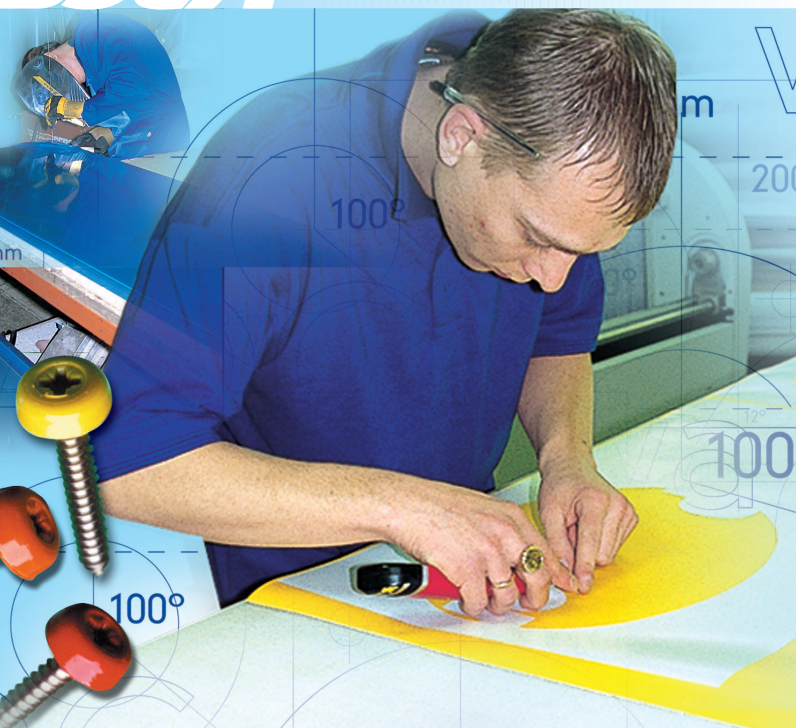


# BSGA

TECHNICAL GUIDELINES



TECHNICAL  
GUIDELINES



BRITISH SIGN  
& GRAPHICS  
ASSOCIATION

The BSGA Technical Guidelines have been developed and produced over a number of years and are updated regularly. Every endeavour has been made to ensure that the information provided in the Guidelines is accurate. However, the Association cannot accept responsibility for any loss occasioned by any person acting on or refraining from action as a result of the information in these Guidelines.

If anyone has doubts or queries, they are advised to seek specialist advice.

The BSGA Helpline on **01773 230033** is open during normal office hours to provide assistance and direction.

The content of the Guidelines is copyright to the BSGA. It may not be reproduced without the written consent of the BSGA Council.

BSGA Members can access and download Technical Guidelines from within the Members Area of the Association's website [www.bsga.co.uk](http://www.bsga.co.uk)



## TECHNICAL GUIDELINES

---

### CATEGORIES

- A** General

---

- B** Commercial Factors

---

- C** Sign Design

---

- D** Sign Manufacture

---

- E** Control Gear for Light Sources

---

- F** Installation and Maintenance

---

- G** Health and Safety

---

- H** Quality Assurance

---

- J** Waste Management and Environmental Matters

---

- K** Legislation and Standards

---




## Category A – General

- A1 BSGA
  - Obligations of membership
- A2 Acknowledgements
- A3 Glossary of Terms

## Category B

### – Commercial Factors

- B1 Investment Cost
  - Purchase or Lease
- B2 Standard Form of Contract
- B3 Terms and Conditions of Sale
- B4 Insurance issues
- B5 Model Maintenance Agreement
- B6 Maintenance Price Index

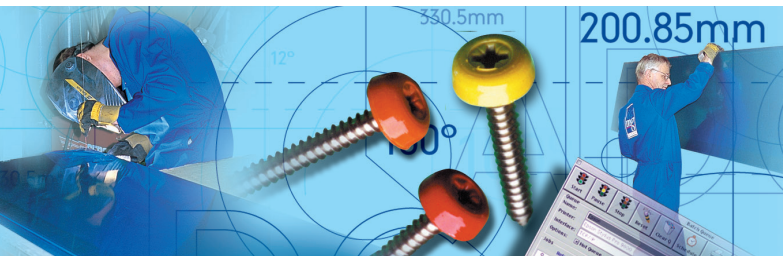
## Category C – Sign Design

- C1 The Sign Function
  - concepts and types
- C2 Design Considerations
  - C2.1 Legibility and Visibility
  - C2.2 Internal Illumination
    - a) Box Signs
    - b) Letters and Logos
    - c) Use of Light Emitting Diodes
  - C2.3 External Illumination (Floodlighting)
    - a) General Criteria
    - b) Compact Luminaires
    - c) Slim Luminaires
    - d) Linear Reflectors
  - C2.4 Animation
  - C2.5 Structural Design
    - a) Poles and Structures
    - b) Structural design for Acrylic Panels
    - c) Structural design, retaining plastic sign panels
  - C2.6 Electrical Design
  - C2.7 Cold-Cathode Lighting Design
  - C2.8 Fire Safety Design
- C3 Variable Information Signs

## Category D

### – Sign Manufacture

- D1 Materials
  - D1.1 Metals, Types and Sources of Information
  - D1.2 Plastic Materials
    - a) Rigid Plastic Materials
    - b) Flexible Plastic Material
  - D1.3 Wood and Wood Laminates
- D2 Fabrication
  - D2.1 Cutting and Routing
  - D2.2 Fixing Methods
    - a) Adhesives and Sealants
    - b) Fastenings
  - D2.3 Soldering and Welding
    - a) Soldering and Welding of Metals
    - b) Welding of Plastic Materials
  - D2.4 Finishing Processes
  - D2.5 Vinyl Graphics
    - a) Types of Vinyl Sheet
    - b) Working with Vinyl Sheets
  - D2.6 Signwriting
- D3 Light Sources
  - D3.1 Cold-cathode Tubes
    - a) Types and Characteristics of Cold-Cathode Tubes
    - b) Cold-Cathode Tubes - Pumping
    - c) Operation of Cold-Cathode Tubes
  - D3.2 Hot-Cathode fluorescent lamps (MCF) and their control gear
  - D3.3 Lamps other than MCF Lamps and their control gear
  - D3.4 Fluorescent Lamps



A STRUCTURED APPROACH TO DEVELOPING

## Category E

### - Control Gear for Light Sources

- E1 Ballasts for Cold-Cathode Tubes
  - a) High-voltage transformers
  - b) High frequency ballasts
- E2 Control gear and wiring of fluorescent lamps in box signs
- E3 Suppression of interference
- E4 Lamps and control gear operating at medium voltage
- E5 High Frequency Luminaires
- E6 Use of High Frequency Ballasts in Outdoor Signs

## Category F

### - Installation and Maintenance

- F1 Access Equipment
- F2 Sign Installation
- F3 High Voltage Installations
- F4 Active Protection
- F5 Mains-supply Wiring

## Category G

### - Health and Safety

- G1 Safety in High Voltage Enclosures
- G2 General COSHH Procedures
- G3 Safety in Manufacturing Processes
- G4 Safety on Installation Sites
  - G4.1 General Safety Precautions
  - G4.2 Testing and Fault-finding on Site Installations
  - G4.3 Precautions to be taken During Site Excavations
  - G4.4 Health and Safety Policy for Site Working
- G5 Sample form for Safety Policy
- G6 Health and Safety Check List

## Category H

### - Quality Assurance

- H1 BSGA Quality Guidelines
- H2 BSGA Quality Manual

## Category J - Waste Management and Environmental Matters

- J1 Waste Management
- J2 Disposal of Lamps
- J3 Ultra Violet Radiation and Health
- J4 Removal of Waste from Installation sites

## Category K

### - Legislation and Standards

- K1 Control of Advertisements Regulations
- K2 Brightness of Illuminated Advertisements Regulations (ILE Report No5)
- K3 British Standard BS EN 50107:  
*"Signs and Luminous Discharge Tube Installations operating from a no-load output voltage exceeding 1,000V but not exceeding 10,000V."*  
K3.1 A guide to British Standard BS EN 50107
- K4 British Standard BS 559:  
*Specification for the Design, Construction and Installation of Signs.*  
K4.1 A guide to BS 559
- K5 British Standard BS EN 50143.  
*Cables for Signs and Luminous-Discharge-Tube Installations operating from a no-load output voltage exceeding 1kV but not exceeding 10kV.*  
(Complementary to BS EN 50107)



- K6 British Standard BS 7671.**  
*The IEE Wiring Regulations*  
**K6.1 A Guide to British Standard BS 7671**
- K7 British Standard BS 4533 (EN 60598):**  
*Luminaires (i.e. low voltage signs) BS 4533, Part 101 (EN 60598-1):*  
*Specification for general requirements and tests*  
 BS 4533, Part 102 (EN 60598-2): *Particular Requirements*  
 Section 102.1 (EN 60598-2-1): *Specification for fixed general purpose luminaires*  
 Section 102.4 (EN 60598-2-4): *Specification for portable general purpose luminaires*  
 Section 102.5 (EN 60598-2-5): *Specification for floodlights*  
**K7.1 A Guide to British Standard BS 4533 (EN 60598)**
- K8 Fire Regulations**
- K9 A Guide to Electricity at Work Regulations**
- K10 CE Marking**  
**K10.1 Technical Documentation related to CE Marking**  
**K10.2 A Guide to Electromagnetic Compatibility Directive (EMCD)**  
**K10.3 A Guide to the Low Voltage Directive (LVD)**
- K11 The Construction (Design and Management) Regulation:**  
**K11.1 A guide to the Construction (Design and Management) Regulation**
- K12 British Standard BS EN 60529:**  
 Degrees of Protection provided by Enclosures (IP Code)  
**K12.1 A Guide to British Standard BS EN 60529**



- K13 British Standard BS 6399:**  
*Loading for Buildings. Part 2: Code of Practice for Wind Loads.*  
**K13.1 A Guide to British Standard BS 6399**
- K14 European Voltage Harmonisation**
- K15 Use of Energy Efficient Ballasts**



**BRITISH SIGN  
& GRAPHICS  
ASSOCIATION**

5 ORTON ENTERPRISE CENTRE, BAKEWELL ROAD,  
ORTON SOUTHGATE, PETERBOROUGH, CAMBRIDGESHIRE, PE2 6XU

tel: 01733 230033 fax: 01733 230993  
e-mail: [info@bsga.co.uk](mailto:info@bsga.co.uk) web: [www.bsga.co.uk](http://www.bsga.co.uk)



**BRITISH SIGN  
& GRAPHICS  
ASSOCIATION**