

**Specification for**

**Colours for  
identification, coding  
and special purposes**

ICS 01.070

**NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW**

---



**BS 381C : 1996**

## Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee ST1/14, Colour schedules, upon which the following bodies were represented:

A E A Technology  
 Association of Metropolitan Authorities  
 British Ceramic Research Ltd.  
 British Ceramic Tile Council  
 British Coatings Federation Ltd.  
 British Colour Makers' Association  
 British Decorators' Association  
 British Gas Plc  
 British Railways Board  
 British Telecommunications Plc  
 Builders Merchants' Federation  
 Building Centre  
 Chartered Society of Designers  
 Convention of Scottish Local Authorities  
 Department for Education  
 Department of Health  
 Department of Transport  
 Electricity Association  
 London Transport (Buses)  
 Ministry of Defence  
 Oil and Colour Chemists' Association  
 Paint Research Association  
 Post Office  
 Royal Institute of British Architects  
 Society of Chief Architects of Local Authorities

This British Standard, having been prepared under the direction of the Sector Board for Materials and Chemicals, was published under the authority of the Standards Board and comes into effect on 15 December 1996

© BSI 1996

BS 381 First published 1930  
 BS 381C First published October 1991  
 Second edition 1943  
 Third edition 1944  
 Fourth edition March 1948  
 Fifth edition 1964  
 Sixth edition September 1980  
 Seventh edition March 1988  
 Eighth edition December 1996

The following BSI references relate to the work on this standard:  
 Committee reference ST1/14  
 Draft for comment 94/500940 DC

ISBN 0 580 26777 6

### Amendments issued since publication

| Amd. No. | Date | Text affected |
|----------|------|---------------|
|          |      |               |
|          |      |               |
|          |      |               |
|          |      |               |
|          |      |               |

---

## Contents

|                                                                | Page               |
|----------------------------------------------------------------|--------------------|
| Committees responsible                                         | Inside front cover |
| Foreword                                                       | ii                 |
| <b>Specification</b>                                           |                    |
| 1 Scope                                                        | 1                  |
| 2 References                                                   | 1                  |
| 3 Identification of colours                                    | 1                  |
| 4 Colours                                                      | 1                  |
| 5 Colour matching                                              | 1                  |
| <b>Annex</b>                                                   |                    |
| A (informative) Major organizations using colours from BS 381C | 16                 |
| <b>Tables</b>                                                  |                    |
| 1 Standard colours                                             | 2                  |
| A.1 Major organizations using colours from BS 381C             | 16                 |
| <b>List of references</b>                                      | Inside back cover  |

## Foreword

This British Standard has been prepared by Technical Committee STI/14. It is a revision of the 1988 edition, which is withdrawn. It is intended as the principal standard for surface colours that are used for identification, coding and special purposes such as signalling and camouflage. It is a collection of colours used by industry, public bodies, Government departments and other major organizations, and colours needed for various signalling and coding systems.

Any colours required for identification and coding systems should therefore be chosen from the colours in this standard.

The standard does not constitute a coordinated range of colours for building purposes, which is the subject of BS 5252 : 1976 and standards derived from it e.g. BS 4800.

BS 381 was first published in 1930, and a revised version was issued in 1948 as BS 381C *Colours for ready mixed paints*. With the publication in 1955 of BS 2660 *Colours for building and decorative paints* (superseded in 1972 by BS 4800), it became necessary to distinguish between the selected range of colours provided by that standard and the unrelated individual colours in BS 381C, which provided standardization of colours for applications that were not necessarily limited either to buildings or to paints. This led to the revision, published as BS 381C : 1964 *Colours for specific purposes* (described as 'for identification or other technical purposes, or for purposes based on long-established practice').

In the 1980 revision, five new colours were introduced but no colours were deleted. Nevertheless, a survey at that time suggested that many of the colours were probably no longer used within the scope of the standard, and so 41 of the total 107 colours were designated as obsolescent with the intention to omit them completely from the next revision, and of these 40 were withdrawn.

In the 1988 revision, following consultation, 25 of the colours in the table of obsolescent colours in the previous edition were reinstated in the table of standard colours, whilst 14 colours previously listed as standard were declared to be obsolescent. Seven colours were deleted and seven new colours were added. All erroneous references were corrected and the names of four colours in the standard were changed as they were no longer appropriate, i.e. 267 Traffic green became 267 Deep chrome green, 368 Traffic yellow became 568 Apricot, 538 Post Office red became 538 Cherry, and 539 Red became 539 Currant red.

For the present revision it was decided that there should no longer be gloss and matt colours but that all colours would be at the same gloss level and this would be 'semi-matt' in line with other standards (e.g. BS 4800). It was also decided to declare no further colours obsolescent, however two colours previously declared obsolescent, 366 Light beige and 453 Shell pink, have been reinstated in the table of standard colours and all other colours declared obsolescent in the 1988 edition have been withdrawn. Five new colours have been added to the standard: 284 Spruce green; 315 Grapefruit; 380 Camouflage desert sand; 420 Dark camouflage desert sand; and 629 Dark camouflage grey.

An annex is included in this standard in order to help identify the use of particular colours. Annex A lists some major organizations that use colours from BS 381C. A large number of British Standards refer to the colours in BS 381C.

NOTE. This information was checked for accuracy before publication. Errors or omissions should be notified to BSI (Secretary to Technical Committee STI/14).

When colours are used for identification purposes, they should preferably be associated with other distinctive markings such as symbols, banding or wording, e.g. see BS 5378. Such additional markings may be essential to people with defective colour vision, who can often be helped also by a suitable choice of colours.

Recommendations for surface colours for visual signalling have been published by the Commission International de l'Eclairage (CIE), (CIE Publication No. 39.2 *Recommendations for surface colours visual signalling* 2nd Edition (1983)) and hence many organizations, both national and international, can be expected to bring their relevant standards or specifications into conformity to them. BS 381C is the British Standard that is considered to be the most appropriate for implementing these recommendations in the interest of international coordination. Three colours, 262 Bold green, 363 Bold yellow and 564 Bold red were included in the 1988 revision to conform to these recommendations.

Other colours may be added to this standard from time to time if a well-defined and continuing need within the scope of the standard is shown to exist that cannot be met by the use of a colour already standardized. Any organization wishing to add a colour in this way should consult BSI (Secretary to Technical Committee STI/14) as early as possible, and preferably before any final decision is taken for the adoption of a particular colour.

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

This document comprises a front cover, an inside front cover, pages i to iv blank, pages 1 to 16, an inside back cover and a back cover.

# Specification

## 1 Scope

This British Standard specifies surface (opaque) colours for identification, coding and special purposes. Individual colour cards are available for colour matching and were used for the measurement of the colorimetric values given in table 1. This British Standard does not deal with the colours of lights nor of luminescent, translucent or retroreflecting materials.

NOTE. The small colour patches in this standard, arranged in order of hue and lightness, are produced in semi-matt finish and are intended to give a general indication of the colours in daylight. They should not be used for colour matching (see clause 5).

**WARNING.** When using the individual cards for the purpose of colour matching, it is essential to bear in mind that the relative appearance of the surface colours is affected by any differences in gloss and, more particularly, by the character of the light under which they are compared. Thus close matchings under one illuminant may not be close under others, a phenomenon resulting from dye or pigment difference and known as metamerism.

## 2 References

### 2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this British Standard only when incorporated in it by updating or revision.

### 2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this British Standard are listed on the inside back cover, but reference should be made to the latest editions.

## 3 Identification of colours

Each colour is identified by a three-digit reference number and a descriptive name. Both the number and the descriptive name shall be used to specify a colour.

The reference numbers have been allocated in accordance with the following basic system.

- 100 to 199 blue, turquoise
- 200 to 299 green
- 300 to 399 yellow, cream, buff
- 400 to 499 brown, pink
- 500 to 599 orange, red
- 600 to 699 grey
- 700 to 799 purple, violet

## 4 Colours

Table 1 gives typical values for individual colour cards. Some cards may deviate slightly from these values, although the colours remain a satisfactory visual match.

Table 1 also contains colours for which specific uses have been identified, and from which selections for new applications shall be made.

The table gives the tristimulus values  $X$ ,  $Y$ ,  $Z$ , the chromaticity coordinates  $(x, y)$  and the CIE LAB values, calculated using the CIE Standard Illuminant D65 and the CIE 1964 10° Supplementary Standard Observer, with the specular component included.

NOTE 1. Colour patches that represent colours of high saturation, i.e. strong colours, are shown together on page 15. This has been done to help with the selection of suitable colours for signalling and coding.

NOTE 2. The colours in table 1 have had colorimetric values determined by the National Physical Laboratory using an abridged spectrophotometer with an integrating sphere coupled to an online data system.

## 5 Colour matching

Individual colour cards, approximately 150 mm × 100 mm, are available to represent the colours specified in this standard and shall be used for visual colour matching purposes. Comparisons shall be made in good diffuse daylight or under an illuminant conforming to BS 950 : Part 1.

NOTE. The cards are available either singly or in a complete set. It should be noted that handling and storage of these cards may affect their appearance.

**BS 381C : 1996**

| Table 1. Standard colours |                        |                                                                                                                                                  |        |        |        |        |       |        |        |                                             |     |      |
|---------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|--------|--------|---------------------------------------------|-----|------|
| Ref. No.                  | Name                   | Colorimetric values under CIE Standard Illuminant D65 and the CIE 1964 10° Supplementary Standard Observer, with the specular component included |        |        |        |        |       |        |        |                                             |     |      |
|                           |                        | X                                                                                                                                                | Y      | Z      | x      | y      | L*    | a*     | b*     | Approximate Munsell reference <sup>1)</sup> |     |      |
| 101                       | Sky blue               | 29.284                                                                                                                                           | 35.269 | 35.634 | 0.2923 | 0.3520 | 65.96 | −15.28 | 2.80   | 0.5BG                                       | 6.3 | 3.0  |
| 103                       | Peacock blue           | 9.592                                                                                                                                            | 12.204 | 17.485 | 0.2442 | 0.3107 | 41.54 | −15.02 | −10.04 | 3.1B                                        | 3.7 | 4.1  |
| 104                       | Azure blue             | 8.064                                                                                                                                            | 8.812  | 18.938 | 0.2252 | 0.2460 | 35.62 | −2.61  | −23.19 | 4.7PB                                       | 3.1 | 6.1  |
| 105                       | Oxford blue            | 5.222                                                                                                                                            | 5.396  | 10.221 | 0.2506 | 0.2589 | 27.83 | 1.30   | −15.77 | 6.2PB                                       | 2.2 | 4.4  |
| 106                       | Royal blue             | 3.998                                                                                                                                            | 4.134  | 5.503  | 0.2932 | 0.3032 | 24.11 | 1.14   | −5.15  | 7.4PB                                       | 1.9 | 1.3  |
| 107                       | Strong blue            | 13.054                                                                                                                                           | 15.812 | 33.126 | 0.2106 | 0.2551 | 46.73 | −12.19 | −27.02 | 1.4PB                                       | 4.1 | 7.9  |
| 108                       | Aircraft blue          | 6.980                                                                                                                                            | 6.796  | 17.683 | 0.2219 | 0.2160 | 31.34 | 5.51   | −28.03 | 7.1PB                                       | 2.6 | 7.6  |
| 109                       | Middle blue            | 8.476                                                                                                                                            | 10.308 | 20.341 | 0.2166 | 0.2635 | 38.39 | −10.62 | −21.12 | 0.4PB                                       | 3.3 | 6.1  |
| 110                       | Roundel blue           | 7.094                                                                                                                                            | 7.013  | 16.464 | 0.2321 | 0.2294 | 31.84 | 4.51   | −24.60 | 7.0PB                                       | 2.6 | 6.6  |
| 112                       | Arctic blue            | 26.235                                                                                                                                           | 32.467 | 46.685 | 0.2489 | 0.3081 | 63.73 | −17.83 | −14.09 | 5.6B                                        | 6.0 | 5.3  |
| 113                       | Deep Saxe blue         | 9.568                                                                                                                                            | 11.879 | 18.095 | 0.2420 | 0.3004 | 41.02 | −13.00 | −12.18 | 5.6B                                        | 3.7 | 4.2  |
| 166                       | French blue            | 12.963                                                                                                                                           | 13.389 | 36.843 | 0.2051 | 0.2119 | 43.34 | 1.79   | −37.73 | 6.2PB                                       | 3.8 | 10.4 |
| 172                       | Pale roundel blue      | 40.079                                                                                                                                           | 44.297 | 66.074 | 0.2664 | 0.2944 | 72.43 | −5.90  | −17.70 | 3.4PB                                       | 6.9 | 5.3  |
| 175                       | Light French blue      | 18.446                                                                                                                                           | 20.723 | 46.652 | 0.2149 | 0.2415 | 52.65 | −6.16  | −33.16 | 4.5PB                                       | 4.8 | 9.3  |
| 210                       | Sky                    | 38.589                                                                                                                                           | 42.061 | 34.826 | 0.3342 | 0.3642 | 70.91 | −4.08  | 12.40  | 4.7GY                                       | 6.9 | 1.9  |
| 216                       | Eau-de-nil             | 37.395                                                                                                                                           | 43.994 | 28.274 | 0.3410 | 0.4012 | 72.23 | −13.59 | 23.89  | 6.7GY                                       | 7.0 | 4.3  |
| 217                       | Sea green              | 25.908                                                                                                                                           | 31.700 | 15.998 | 0.3520 | 0.4307 | 63.09 | −16.46 | 30.32  | 6.7GY                                       | 6.1 | 5.8  |
| 218                       | Grass green            | 13.055                                                                                                                                           | 17.545 | 8.216  | 0.3363 | 0.4520 | 48.94 | −21.72 | 27.04  | 8.3GY                                       | 4.6 | 6.1  |
| 220                       | Olive green            | 7.426                                                                                                                                            | 8.634  | 5.534  | 0.3439 | 0.3998 | 35.27 | −7.06  | 13.95  | 5.6GY                                       | 3.2 | 3.1  |
| 221                       | Brilliant green        | 9.710                                                                                                                                            | 13.431 | 7.037  | 0.3218 | 0.4451 | 43.41 | −22.12 | 21.77  | 10.0GY                                      | 4.1 | 6.0  |
| 223                       | Middle bronze green    | 7.108                                                                                                                                            | 7.919  | 5.955  | 0.3388 | 0.3774 | 33.81 | −3.88  | 9.60   | 4.8GY                                       | 3.2 | 2.1  |
| 224                       | Deep bronze green      | 5.719                                                                                                                                            | 6.370  | 5.375  | 0.3275 | 0.3648 | 30.33 | −3.60  | 6.15   | 6.2GY                                       | 2.6 | 1.8  |
| 225                       | Light Brunswick green  | 8.029                                                                                                                                            | 10.573 | 6.220  | 0.3235 | 0.4260 | 38.85 | −16.86 | 17.17  | 9.4GY                                       | 3.6 | 4.8  |
| 226                       | Middle Brunswick green | 5.792                                                                                                                                            | 7.421  | 6.044  | 0.3008 | 0.3854 | 32.75 | −13.19 | 7.38   | 2.5G                                        | 2.9 | 3.5  |
| 227                       | Deep Brunswick green   | 5.086                                                                                                                                            | 6.198  | 5.732  | 0.2989 | 0.3642 | 29.91 | −9.30  | 3.82   | 4.2G                                        | 2.6 | 2.7  |
| 228                       | Emerald green          | 11.422                                                                                                                                           | 17.480 | 13.553 | 0.2690 | 0.4117 | 48.86 | −32.62 | 11.48  | 5.7G                                        | 4.6 | 7.0  |
| 241                       | Dark green             | 8.480                                                                                                                                            | 9.143  | 7.833  | 0.3331 | 0.3592 | 36.26 | −1.64  | 6.51   | 2.3GY                                       | 3.3 | 1.2  |
| 262                       | Bold green             | 12.075                                                                                                                                           | 18.991 | 12.947 | 0.2744 | 0.4315 | 50.68 | −35.83 | 16.13  | 4.0G                                        | 4.7 | 7.9  |
| 267                       | Deep chrome green      | 8.167                                                                                                                                            | 10.675 | 8.716  | 0.2964 | 0.3874 | 39.03 | −16.36 | 8.26   | 3.4G                                        | 3.6 | 3.9  |
| 280                       | Verdigris green        | 18.250                                                                                                                                           | 24.977 | 19.432 | 0.2913 | 0.3986 | 57.05 | −26.19 | 12.80  | 3.9G                                        | 5.4 | 5.9  |
| 283                       | Aircraft grey green    | 18.045                                                                                                                                           | 20.637 | 16.699 | 0.3258 | 0.3726 | 52.55 | −7.86  | 10.61  | 8.0GY                                       | 5.0 | 2.4  |
| 284                       | Spruce green           | 13.407                                                                                                                                           | 14.566 | 11.827 | 0.3369 | 0.3660 | 45.03 | −2.58  | 9.34   | 2.4GY                                       | 4.2 | 1.6  |
| 285                       | NATO green             | 8.548                                                                                                                                            | 9.162  | 7.646  | 0.3371 | 0.3613 | 36.29 | −1.20  | 7.24   | 0.1GY                                       | 3.3 | 1.3  |
| 298                       | Olive drab             | 7.303                                                                                                                                            | 7.863  | 6.062  | 0.3440 | 0.3704 | 33.70 | −1.46  | 8.94   | 0.9GY                                       | 3.0 | 1.8  |
| 309                       | Canary yellow          | 56.186                                                                                                                                           | 57.944 | 8.745  | 0.4573 | 0.4716 | 80.71 | 3.14   | 80.03  | 5.9Y                                        | 8.1 | 11.6 |
| 310                       | Primrose               | 59.176                                                                                                                                           | 63.538 | 21.367 | 0.4107 | 0.4410 | 83.73 | −2.55  | 55.15  | 8.0Y                                        | 8.4 | 7.8  |
| 315                       | Grapefruit             | 62.183                                                                                                                                           | 64.895 | 22.830 | 0.4148 | 0.4329 | 84.43 | 1.54   | 53.76  | 5.6Y                                        | 8.4 | 7.7  |
| 320                       | Light brown            | 19.102                                                                                                                                           | 17.425 | 7.794  | 0.4310 | 0.3932 | 48.79 | 13.85  | 28.26  | 8.2YR                                       | 4.7 | 5.3  |
| 337                       | Very dark drab         | 7.924                                                                                                                                            | 8.331  | 7.236  | 0.3373 | 0.3546 | 34.66 | 0.24   | 5.94   | 7.3Y                                        | 3.1 | 1.0  |
| 352                       | Pale cream             | 59.162                                                                                                                                           | 61.083 | 34.019 | 0.3835 | 0.3960 | 82.42 | 3.03   | 33.32  | 4.1Y                                        | 8.2 | 4.9  |
| 353                       | Deep cream             | 62.969                                                                                                                                           | 62.740 | 26.198 | 0.4145 | 0.4130 | 83.31 | 8.21   | 46.21  | 2.8Y                                        | 8.3 | 7.1  |

1) Not to be used for colour matching.

<sup>1)</sup> Not to be used for colour matching.

Table 1. Standard colours (continued)

| Ref. No. | Name                        | Colorimetric values under CIE Standard Illuminant D65 and the CIE 1964 10° Supplementary Standard Observer, with the specular component included |        |        |        |        |       |       |       |                                             |          |
|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|-------|-------|---------------------------------------------|----------|
|          |                             | X                                                                                                                                                | Y      | Z      | x      | y      | L*    | a*    | b*    | Approximate Munsell reference <sup>1)</sup> |          |
| 355      | Lemon                       | 53.250                                                                                                                                           | 50.688 | 7.431  | 0.4781 | 0.4551 | 76.49 | 13.87 | 77.33 | 2.9Y                                        | 7.7 12.0 |
| 356      | Golden yellow               | 52.005                                                                                                                                           | 46.855 | 6.589  | 0.4932 | 0.4443 | 74.10 | 20.95 | 76.44 | 0.7Y                                        | 7.4 12.6 |
| 358      | Light buff                  | 47.869                                                                                                                                           | 45.750 | 20.397 | 0.4198 | 0.4013 | 73.38 | 12.87 | 39.11 | 0.1Y                                        | 7.3 6.6  |
| 361      | Light stone                 | 37.527                                                                                                                                           | 37.029 | 21.196 | 0.3919 | 0.3867 | 67.30 | 8.07  | 27.14 | 0.9Y                                        | 6.6 4.5  |
| 363      | Bold yellow                 | 59.014                                                                                                                                           | 56.532 | 6.964  | 0.4817 | 0.4614 | 79.92 | 13.49 | 85.00 | 3.0Y                                        | 8.0 13.2 |
| 365      | Vellum                      | 58.646                                                                                                                                           | 61.954 | 48.027 | 0.3478 | 0.3674 | 82.89 | -0.22 | 17.51 | 5.9Y                                        | 8.2 2.3  |
| 366      | Light beige                 | 56.778                                                                                                                                           | 57.883 | 37.094 | 0.3741 | 0.3814 | 80.67 | 4.76  | 26.31 | 2.7Y                                        | 8.0 4.0  |
| 367      | Manilla                     | 63.570                                                                                                                                           | 65.552 | 48.500 | 0.3579 | 0.3691 | 84.77 | 3.29  | 20.25 | 2.5Y                                        | 8.4 2.9  |
| 369      | Biscuit                     | 63.072                                                                                                                                           | 63.099 | 41.648 | 0.3758 | 0.3760 | 83.50 | 7.63  | 25.65 | 0.4Y                                        | 8.3 4.1  |
| 380      | Camouflage desert sand      | 31.774                                                                                                                                           | 31.213 | 24.829 | 0.3618 | 0.3554 | 62.69 | 8.14  | 12.88 | 6.0YR                                       | 6.1 2.6  |
| 384      | Light straw                 | 53.952                                                                                                                                           | 55.899 | 38.005 | 0.3649 | 0.3781 | 79.56 | 2.46  | 23.24 | 3.8Y                                        | 7.9 3.4  |
| 388      | Beige                       | 48.042                                                                                                                                           | 48.740 | 31.973 | 0.3731 | 0.3786 | 75.29 | 5.13  | 23.81 | 1.9Y                                        | 7.4 3.7  |
| 389      | Camouflage beige            | 29.202                                                                                                                                           | 30.655 | 24.395 | 0.3466 | 0.3639 | 62.22 | 0.54  | 12.79 | 4.8Y                                        | 6.0 1.8  |
| 411      | Middle brown                | 10.985                                                                                                                                           | 10.010 | 5.548  | 0.4138 | 0.3771 | 37.86 | 11.60 | 18.35 | 7.0YR                                       | 3.6 3.7  |
| 412      | Dark brown                  | 7.512                                                                                                                                            | 6.959  | 5.299  | 0.3800 | 0.3520 | 31.71 | 9.09  | 8.89  | 3.5YR                                       | 2.8 2.5  |
| 414      | Golden brown                | 19.081                                                                                                                                           | 16.348 | 6.142  | 0.4590 | 0.3933 | 47.43 | 19.62 | 32.28 | 6.0YR                                       | 4.6 6.7  |
| 420      | Dark camouflage desert sand | 24.115                                                                                                                                           | 23.644 | 18.357 | 0.3647 | 0.3576 | 55.73 | 7.62  | 12.64 | 6.7YR                                       | 5.4 2.5  |
| 436      | Dark camouflage brown       | 7.600                                                                                                                                            | 7.615  | 6.910  | 0.3435 | 0.3442 | 33.17 | 3.66  | 4.61  | 6.4YR                                       | 3.0 1.0  |
| 445      | Venetian red                | 12.115                                                                                                                                           | 9.512  | 5.444  | 0.4475 | 0.3514 | 36.95 | 23.61 | 17.26 | 0.0YR                                       | 3.4 5.9  |
| 447      | Salmon pink                 | 46.455                                                                                                                                           | 41.880 | 27.855 | 0.3998 | 0.3604 | 70.79 | 20.10 | 22.05 | 2.1YR                                       | 6.9 5.7  |
| 453      | Shell pink                  | 59.667                                                                                                                                           | 59.251 | 58.940 | 0.3355 | 0.3331 | 81.43 | 8.53  | 4.19  | 4.9R                                        | 8.0 2.6  |
| 454      | Pale roundel red            | 39.486                                                                                                                                           | 34.705 | 31.466 | 0.3737 | 0.3285 | 65.52 | 22.02 | 7.67  | 6.8R                                        | 6.4 4.7  |
| 499      | Service brown               | 7.700                                                                                                                                            | 7.606  | 5.940  | 0.3624 | 0.3580 | 33.15 | 4.68  | 8.51  | 8.7YR                                       | 3.0 1.8  |
| 537      | Signal red                  | 22.506                                                                                                                                           | 14.046 | 4.938  | 0.5424 | 0.3385 | 44.30 | 49.68 | 32.29 | 7.5R                                        | 4.2 13.4 |
| 538      | Cherry                      | 16.580                                                                                                                                           | 10.643 | 5.098  | 0.5130 | 0.3293 | 38.97 | 42.66 | 22.34 | 6.1R                                        | 3.6 11.2 |
| 539      | Currant red                 | 19.082                                                                                                                                           | 11.997 | 5.202  | 0.5260 | 0.3307 | 41.21 | 46.42 | 25.71 | 6.3R                                        | 3.9 12.3 |
| 541      | Maroon                      | 5.357                                                                                                                                            | 5.020  | 4.841  | 0.3520 | 0.3299 | 26.79 | 7.42  | 2.58  | 5.7R                                        | 2.2 1.8  |
| 542      | Ruby                        | 12.663                                                                                                                                           | 9.012  | 10.573 | 0.3927 | 0.2795 | 36.01 | 31.42 | -2.71 | 7.0RP                                       | 3.2 8.3  |
| 557      | Light orange                | 35.816                                                                                                                                           | 27.078 | 6.195  | 0.5184 | 0.3919 | 59.05 | 37.97 | 52.09 | 2.9YR                                       | 5.8 11.8 |
| 564      | Bold red                    | 22.107                                                                                                                                           | 13.650 | 4.685  | 0.5466 | 0.3375 | 43.73 | 50.31 | 32.55 | 7.2R                                        | 4.2 13.2 |
| 568      | Apricot                     | 39.675                                                                                                                                           | 32.616 | 6.335  | 0.5046 | 0.4148 | 63.85 | 29.81 | 59.79 | 6.5YR                                       | 6.3 11.6 |
| 592      | International orange        | 27.081                                                                                                                                           | 17.973 | 5.092  | 0.5400 | 0.3584 | 49.46 | 47.12 | 40.46 | 9.1R                                        | 4.8 12.7 |
| 593      | Rail red                    | 28.424                                                                                                                                           | 17.983 | 5.106  | 0.5518 | 0.3491 | 49.48 | 52.42 | 40.41 | 8.3R                                        | 4.8 14.1 |
| 626      | Camouflage grey             | 30.723                                                                                                                                           | 33.143 | 36.529 | 0.3060 | 0.3301 | 64.28 | -2.59 | -1.24 | 2.1B                                        | 6.2 0.7  |
| 627      | Light aircraft grey         | 40.955                                                                                                                                           | 43.507 | 43.847 | 0.3192 | 0.3391 | 71.90 | -0.90 | 3.13  | 4.2GY                                       | 7.0 0.5  |
| 629      | Dark camouflage grey        | 17.651                                                                                                                                           | 18.969 | 22.786 | 0.2971 | 0.3193 | 50.65 | -1.78 | -4.41 | 1.5PB                                       | 4.7 1.4  |
| 630      | French grey                 | 30.073                                                                                                                                           | 32.741 | 29.430 | 0.3260 | 0.3549 | 63.95 | -3.62 | 7.90  | 5.6GY                                       | 6.2 1.3  |
| 631      | Light grey                  | 28.889                                                                                                                                           | 31.684 | 31.956 | 0.3122 | 0.3424 | 63.08 | -4.41 | 2.78  | 3.3G                                        | 6.1 1.0  |
| 632      | Dark Admiralty grey         | 14.142                                                                                                                                           | 15.262 | 17.695 | 0.3003 | 0.3240 | 45.99 | -2.03 | -2.80 | 7.7B                                        | 4.3 0.9  |
| 637      | Medium sea grey             | 25.566                                                                                                                                           | 27.577 | 31.515 | 0.3020 | 0.3257 | 59.51 | -2.42 | -2.77 | 7.7B                                        | 5.7 1.0  |
| 638      | Dark sea grey               | 13.841                                                                                                                                           | 14.744 | 17.379 | 0.3011 | 0.3208 | 45.28 | -0.87 | -3.36 | 2.6PB                                       | 4.2 1.0  |

<sup>1)</sup> Not to be used for colour matching.

**BS 381C : 1996**

| <b>Table 1. Standard colours (continued)</b> |                        |                                                                                                                                                  |        |        |        |        |       |       |        |                                             |         |
|----------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|-------|--------|---------------------------------------------|---------|
| Ref. No.                                     | Name                   | Colorimetric values under CIE Standard Illuminant D65 and the CIE 1964 10° Supplementary Standard Observer, with the specular component included |        |        |        |        |       |       |        |                                             |         |
|                                              |                        | X                                                                                                                                                | Y      | Z      | x      | y      | L*    | a*    | b*     | Approximate Munsell reference <sup>1)</sup> |         |
| 642                                          | Night                  | 4.644                                                                                                                                            | 4.913  | 5.379  | 0.3109 | 0.3289 | 26.48 | -0.18 | -0.50  | 8.9B                                        | 2.1 0.2 |
| 676                                          | Light weatherwork grey | 35.690                                                                                                                                           | 38.763 | 43.943 | 0.3014 | 0.3274 | 68.58 | -3.54 | -2.70  | 5.7B                                        | 6.6 1.2 |
| 677                                          | Dark weatherwork grey  | 14.207                                                                                                                                           | 15.189 | 18.476 | 0.2968 | 0.3173 | 45.89 | -1.20 | -4.56  | 2.3PB                                       | 4.2 1.4 |
| 692                                          | Smoke grey             | 21.667                                                                                                                                           | 24.437 | 33.045 | 0.2738 | 0.3087 | 56.52 | -6.90 | -10.02 | 9.8PB                                       | 5.3 3.3 |
| 693                                          | Aircraft grey          | 21.172                                                                                                                                           | 22.981 | 24.209 | 0.3097 | 0.3362 | 55.05 | -2.92 | 0.75   | 0.4BG                                       | 5.2 0.7 |
| 694                                          | Dove grey              | 24.540                                                                                                                                           | 26.458 | 26.811 | 0.3154 | 0.3400 | 58.47 | -2.34 | 2.42   | 0.9G                                        | 5.6 0.6 |
| 697                                          | Light Admiralty grey   | 42.917                                                                                                                                           | 48.244 | 52.541 | 0.2987 | 0.3357 | 74.98 | -8.24 | -0.78  | 7.0BG                                       | 7.3 1.6 |
| 796                                          | Dark violet            | 11.711                                                                                                                                           | 9.918  | 17.487 | 0.2994 | 0.2536 | 37.70 | 17.56 | -16.67 | 6.5P                                        | 3.4 6.2 |
| 797                                          | Light violet           | 38.036                                                                                                                                           | 36.812 | 50.962 | 0.3023 | 0.2926 | 67.14 | 10.42 | -12.71 | 5.6P                                        | 6.4 4.9 |

<sup>1)</sup> Not to be used for colour matching.



172 Pale roundel blue



112 Arctic blue



101 Sky blue



103 Peacock blue



104 Azure blue



109 Middle blue



113 Deep Saxe blue



110 Roundel blue



105 Oxford blue



106 Royal Blue

See also 'strong' colours on page 15.



216 Eau-de-Nil



210 Sky



217 Sea green



280 Verdigris green



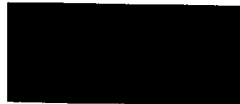
283 Aircraft grey green



284 Spruce green



267 Deep chrome green



225 Light Brunswick green



285 NATO green



220 Olive green



241 Dark green



298 Olive drab



226 Middle Brunswick green



223 Middle bronze green



227 Deep Brunswick green



224 Deep bronze green

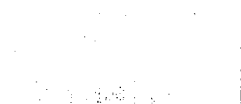
See also 'strong' colours on page 15.



315 Grapefruit



310 Primrose



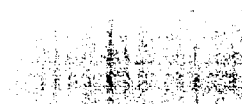
367 Manilla



365 Vellum



353 Deep cream



369 Biscuit



352 Pale cream



366 Light beige



384 Light straw



389 Camouflage beige



388 Beige



358 Light buff



361 Light stone



380 Camouflage desert sand

420 Dark camouflage  
desert sand

320 Light brown



337 Very dark drab

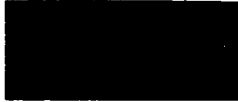


499 Service brown

See also 'strong' colours on page 15.



453 Shell pink



447 Salmon pink



797 Light violet



454 Pale roundel red



414 Golden brown



411 Middle brown



445 Venetian red



542 Ruby



436 Dark camouflage brown



412 Dark brown



541 Maroon

See also 'strong' colours on page 15.



627 Light aircraft grey



676 Light weatherwork grey



697 Light Admiralty grey



626 Camouflage grey



630 French grey



637 Medium sea grey



631 Light grey



692 Smoke grey



693 Aircraft grey



694 Dove grey



677 Dark weatherwork grey



629 Dark camouflage grey



632 Dark Admiralty grey



638 Dark sea grey



642 Night

See also 'strong' colours on page 15.



796 Dark violet



108 Aircraft blue



166 French blue



175 Light French blue



107 Strong blue



228 Emerald green



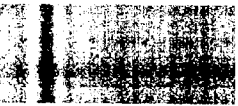
262 Bold green



221 Brilliant green



218 Grass green



309 Canary yellow



363 Bold yellow



355 Lemon



356 Golden yellow



568 (368) Apricot



557 Light orange



592 International orange



593 Rail red



537 Signal red



564 Bold red



539 Currant red



538 Cherry

**BS 381C : 1996****Annex****Annex A (informative)****Major organizations using colours from BS 381C**

NOTE. This table has been prepared in consultation with the organizations concerned, but it is not necessarily comprehensive or completely up-to-date. It will be revised from time to time, and information regarding additions or deletions should be directed to BSI (secretary to Technical Committee STI/14).

| <b>Table A.1 Major organizations using colours from BS 381C</b> |                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Organization</b>                                             | <b>Colours adopted</b>                                                                                                                                                                                                                                                       |
| British Gas                                                     | 309, 355, 411, 632, 796                                                                                                                                                                                                                                                      |
| British Rail                                                    | 108, 166, 216, 218, 221, 356, 366, 411, 447, 537, 557, 593, 627, 693                                                                                                                                                                                                         |
| Electricity Association                                         | 218, 355, 537, 632                                                                                                                                                                                                                                                           |
| Department of Transport                                         | 109, 225, 226, 310, 353, 355, 411, 537, 557, 631, 693                                                                                                                                                                                                                        |
| Ministry of Defence                                             | 101, 104, 105, 106, 110, 113, 166, 172, 175, 216, 218, 220, 221, 224, 225, 226, 241, 267, 284, 285, 298, 309, 315, 320, 355, 356, 358, 361, 365, 380, 389, 411, 420, 445, 447, 453, 454, 499, 537, 538, 557, 592, 626, 627, 629, 631, 632, 637, 638, 676, 677, 693, 697, 796 |
| Post Office                                                     | 356, 537 (signs), 538 (street furniture), 539 (vehicles)                                                                                                                                                                                                                     |

## List of references (see clause 2)

### Normative references

#### BSI standards publications

BRITISH STANDARDS INSTITUTION, London

BS 950 :

BS 950 : Part 1 : 1967

*Specification for artificial daylight for the assessment of colour  
Illuminant for colour matching and colour appraisal*

### Informative references

#### BSI standards publications

BRITISH STANDARDS INSTITUTION, London

BS 4800 : 1989

BS 5252 : 1976

BS 5378 :

*Schedule of paint colours for building purposes*

*Framework for colour coordination for building purposes*

*Safety signs and colours*

**BS 381C : 1996**

---

**BSI — British Standards Institution**

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

**Contract requirements**

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.

**Revisions**

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the responsible technical committee, the identity of which can be found on the inside front cover. Tel: 0181 996 9000; Fax: 0181 996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

**Buying standards**

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services, Sales Department at Chiswick: Tel: 0181 996 7000; Fax: 0181 996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

**Information on standards**

BSI provides a wide range of information on national, European and international standards through its Library, the Standardline Database, the BSI Information Technology Service (BITS) and its Technical Help to Exporters Service. Contact the Information Department at Chiswick: Tel: 0181 996 7111; Fax: 0181 996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Customer Services, Membership at Chiswick: Tel: 0181 996 7002; Fax: 0181 996 7001.

**Copyright**

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager, BSI, 389 Chiswick High Road, London W4 4AL.

BSI  
389 Chiswick High Road  
London  
W4 4AL