

# DuraLabel® European Union Pipe Marking Guide

This guide follows the specifications for Identification of Pipelines and Services set by BS 1710 and colour standards from BS 4800.

**OVERVIEW:** The British Standard 1710 specifies the colours for the identification of pipes conveying fluids in above ground installations and on board ships on a generic basis. It also includes ducts for ventilation and conduits used for carrying electrical services.



Listed in this guide are the colour standards for Basic Identification Colours, the Safety Colours and the Code Indication Colours as listed in BS 4800 (approximate RAL values are given as well). The contents of the pipe determine the appropriate Basic Identification Colour. If required, additional Safety Colour or Code Indication Colours should be added as specified under the Colour Banding section of this guide. Where banding is adopted do not use a Basic Identification Colour as the decorative or protective colour of the pipe.

**DIRECTION OF FLOW:** Show direction of flow with an arrow in either black or white to contrast the colour of the pipe marker (arrow should match text colour). When it is necessary to indicate both the flow and return pipes separately: mark the flow pipe with the word FLOW or the letter F and the return pipe with the word RETURN or the letter R. This is used for central heating systems or other closed circuits.

Pipe Contents	Example	Colour Name	BS Colour Identification	RAL Colour Identification
<b>WATER</b>	Drinking Water	<b>GREEN</b>	<b>12 D 45</b>	<b>6025</b>
<b>STEAM</b>	Waste Steam	<b>SILVER-GRAY</b>	<b>10 A 03</b>	<b>9002</b>
<b>OILS</b> - mineral, vegetable or animal Combustible Liquids	Diesel Fuel	<b>BROWN</b>	<b>06 C 39</b>	<b>8008</b>
<b>GASES</b> - in either gaseous or liquefied condition (except air)	Carbon Dioxide	<b>YELLOW OCHRE<sup>†</sup></b>	<b>08 C 35</b>	<b>1017</b>
<b>ACIDS &amp; ALKALIS</b>	Ammonia	<b>VIOLET<sup>†</sup></b>	<b>22 C 37</b>	<b>4005</b>
<b>AIR</b>	Compressed Air	<b>LIGHT BLUE</b>	<b>20 E 51</b>	<b>5024</b>
<b>OTHER LIQUIDS</b>	Saline Solution	<b>BLACK</b>	<b>00 E 53</b>	<b>9005</b>
<b>ELECTRICAL SERVICES &amp; VENTILATION DUCTS</b>	Ventilation Ducts	<b>ORANGE</b>	<b>06 E 51</b>	<b>1034</b>

<sup>†</sup>European colour standards assign Yellow (see BS4800/RAL values below) to gases and BS4800: 04 E 58 Purple/RAL: 4006 Traffic Purple to acids & alkalis.

## Safety Colours

	BS4800	RAL
 <b>Red</b> . . . . .	04 E 53	3028
Fire-fighting		
 <b>Yellow<sup>†</sup></b> . . . . .	08 E 51	1021
Warning		
 <b>Auxiliary Blue</b> . . . . .	18 E 53	5017
Use with green Basic Identification Colour for pipes containing potable or non-potable fresh water.		

<sup>†</sup>Reference BS 5378 : Part 1 when supplementing warning colour with warning sign.

## Code Indication Colours

	BS4800	RAL	BS4800	RAL
<b>Crimson</b> . . . . .	04 D 45	3000	<b>Primrose<sup>††</sup></b> . . . . .	10 E 53
<b>Emerald Green</b> . . . . .	14 E 53	6024	<b>Sea-Green</b> . . . . .	16 C 37
<b>Salmon Pink</b> . . . . .	04 C 33	3015	<b>Golden Brown</b> . . . . .	06 D 45
<b>Blue</b> . . . . .	18 E 51	5024	<b>Dark Mauve</b> . . . . .	02 C 37
<b>French Blue</b> . . . . .	20 D 45	5010	<b>White</b> . . . . .	00 E 55

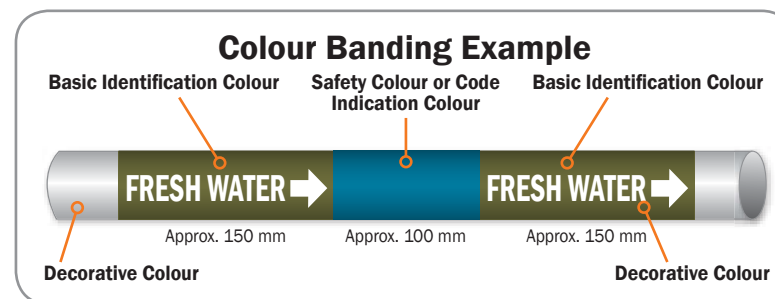
<sup>††</sup>This colour reference was previously described as Yellow.

## Colour Banding

The Basic Identification Colour should be approximately 150 mm in length, depending on the diameter of the pipe. When the contents of a pipe need to be identified more precisely a band of colour approximately 100 mm in length may be added. The Basic Identification Colour shall extend at least 150 mm on either side of the colour band (see Example section below).

Colour bands may be comprised of Safety Colours and Code Indicator Colours. Follow the Colour Banding Chart to see how colour bands are used to distinguish one pipe's contents from another with the same Basic Identification Colour. Whether a single colour is used, or a combination, they should have a width of approximately 100 mm.

**REMINDER:** do not use a Basic Identification Colour as a colour band.



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## Colour Banding Chart

### GENERAL BUILDING SERVICES

Pipe Contents	Basic Identification Colour	Colour Code Identification	Basic Identification Colour
<b>Water</b>			
Drinking	<b>GREEN</b>	<b>AUXILIARY BLUE</b>	<b>GREEN</b>
Cooling (primary)	<b>GREEN</b>	<b>WHITE</b>	<b>GREEN</b>
Boiler feed	<b>GREEN</b>	<b>C*</b> <b>W*</b> <b>C*</b>	<b>GREEN</b>
Condensate	<b>GREEN</b>	<b>C*</b> <b>E.G.*</b> <b>C*</b>	<b>GREEN</b>
Chilled	<b>GREEN</b>	<b>W*</b> <b>E.G.*</b> <b>W*</b>	<b>GREEN</b>
Central heating < 100°	<b>GREEN</b>	<b>B*</b> <b>C*</b> <b>B*</b>	<b>GREEN</b>
Central heating > 100°	<b>GREEN</b>	<b>C*</b> <b>B*</b> <b>C*</b>	<b>GREEN</b>
Cold, down service	<b>GREEN</b>	<b>W*</b> <b>B*</b> <b>W*</b>	<b>GREEN</b>
Hot water supply	<b>GREEN</b>	<b>W*</b> <b>C*</b> <b>W*</b>	<b>GREEN</b>
Hydraulic power	<b>GREEN</b>	<b>SALMON PINK</b>	<b>GREEN</b>
Sea, river, untreated	<b>GREEN</b>	<b>GREEN</b>	<b>GREEN</b>
Fire extinguishing	<b>GREEN</b>	<b>RED</b>	<b>GREEN</b>

Pipe Contents	Basic Identification Colour	Colour Code Identification	Basic Identification Colour
<b>Oils</b>			
Diesel fuel	<b>BROWN</b>	<b>WHITE</b>	<b>BROWN</b>
Furnace fuel	<b>BROWN</b>	<b>BROWN</b>	<b>BROWN</b>
Lubricating	<b>BROWN</b>	<b>EMERALD GREEN</b>	<b>BROWN</b>
Hydraulic power	<b>BROWN</b>	<b>SALMON PINK</b>	<b>BROWN</b>
Transformer	<b>BROWN</b>	<b>CRIMSON</b>	<b>BROWN</b>

Pipe Contents	Basic Identification Colour	Colour Code Identification	Basic Identification Colour
<b>Other</b>			
Natural Gas	<b>YELLOW OCHRE</b>	<b>PRIMROSE<sup>††</sup></b>	<b>YELLOW OCHRE</b>
Compressed Air	<b>LIGHT BLUE</b>	<b>LIGHT BLUE</b>	<b>LIGHT BLUE</b>
Vacuum	<b>LIGHT BLUE</b>	<b>WHITE</b>	<b>LIGHT BLUE</b>
Steam	<b>SILVER GRAY</b>	<b>SILVER GRAY</b>	<b>SILVER GRAY</b>
Drainage	<b>BLACK</b>	<b>BLACK</b>	<b>BLACK</b>
Electrical conduits & ventilation ducts	<b>ORANGE</b>	<b>ORANGE</b>	<b>ORANGE</b>
Acids & Alkalis	<b>VIOLET</b>	<b>VIOLET</b>	<b>VIOLET</b>

\*W = WHITE C = CRIMSON E.G. = EMERALD GREEN B = BLUE

### REFRIGERATION SERVICES\*\*

Pipe Contents	Basic Identification Colour	Colour Code Identification	Basic Identification Colour
Refrigerant 12	<b>YELLOW OCHRE</b>	<b>BLUE</b>	<b>YELLOW OCHRE</b>
Refrigerant 22	<b>YELLOW OCHRE</b>	<b>SEA-GREEN</b>	<b>YELLOW OCHRE</b>
Refrigerant 502	<b>YELLOW OCHRE</b>	<b>GOLDEN BROWN</b>	<b>YELLOW OCHRE</b>
Anhydrous Ammonia	<b>YELLOW OCHRE</b>	<b>DARK MAUVE</b>	<b>YELLOW OCHRE</b>
Other Refrigerants	<b>YELLOW OCHRE</b>	<b>EMERALD GREEN</b>	<b>YELLOW OCHRE</b>

\*\*Refrigerant service pipe contents should also be indicated by the chemical symbol and refrigerant number where appropriate as specified in BS 4580.

### MEDICAL GAS SERVICES\*\*\*

Pipe Contents	Basic Identification Colour	Colour Code Identification	Basic Identification Colour
Oxygen	<b>YELLOW OCHRE</b>	<b>WHITE</b>	<b>YELLOW OCHRE</b>
Nitrous Oxide	<b>YELLOW OCHRE</b>	<b>FRENCH BLUE</b>	<b>YELLOW OCHRE</b>
N <sub>2</sub> O/O <sub>2</sub> Mixture	<b>YELLOW OCHRE</b>	<b>WHITE</b> <b>FRENCH BLUE</b>	<b>YELLOW OCHRE</b>
Anaesthetic Gas Scavenging	<b>YELLOW OCHRE</b>	<b>PRIMROSE<sup>††</sup></b> <b>FRENCH BLUE</b>	<b>YELLOW OCHRE</b>
Medical Air	<b>LIGHT BLUE</b>	<b>WHITE</b> <b>BLACK</b>	<b>LIGHT BLUE</b>
Medical Vacuum	<b>LIGHT BLUE</b>	<b>PRIMROSE<sup>††</sup></b>	<b>LIGHT BLUE</b>
Spare Medical Gas	<b>YELLOW OCHRE</b>	<b>YELLOW OCHRE</b>	<b>YELLOW OCHRE</b>

<sup>††</sup>This colour reference was previously described as Yellow. <sup>\*\*\*</sup>An additional GOLDEN BROWN band should be added to all pathological services.

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## Pipe Information

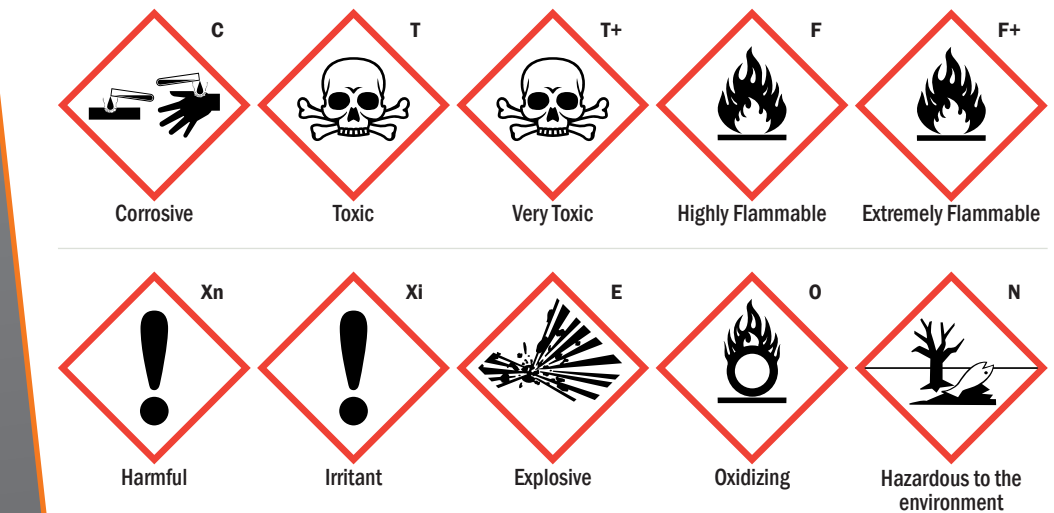
Mark pipe contents with one or more of the following:

- Full chemical name
- Abbreviation of the chemical name
- Chemical symbol
- Refrigerant number (if applicable)
- Safety colour code band where appropriate

**NOTE:** if pipeline is coded with safety colours for fire-fighting, the paint the valves red. In other cases the valves may be painted with the appropriate identification colours.

## Danger Symbols

Include danger symbols on all pipe markers when applicable.



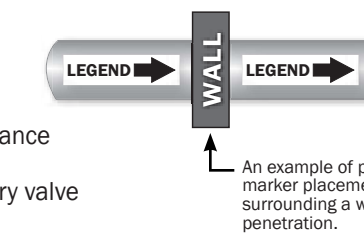
**Danger Symbols:**  
 C = Corrosive  
 E = Explosive  
 O = Oxidizing  
 F = Highly Flammable  
 F+ = Extremely Flammable  
 T = Toxic  
 T+ = Very Toxic  
 Xn = Harmful  
 Xi = Irritant  
 N = Hazardous to the Environment

**NOTE:** Orange and black Danger symbols are acceptable during OSHA's phase-in period of GHS standard.

## Pipe Marker Placement

Place pipe markers:

- At each junction
- At every service appliance
- On both sides of every valve
- On both sides of each bulkhead
- On either side of every wall penetration
- Anywhere else that pipe identification is needed



An example of pipe marker placement surrounding a wall penetration.

## Pipe Marker Size Chart\*\*\*

Letter & Label Dimensions in accordance with pipe diameter.

Outside Pipe Diameter Including Covering	Minimum Length of Label Field Colour	Minimum Height of Letters
19 - 32 mm	203 mm	13 mm
38 - 51 mm	203 mm	19 mm
64 - 152 mm	305 mm	32 mm
203 - 254 mm	610 mm	64 mm
Over 254 mm	813 mm	89 mm

**NOTE:** It is recommended that pipes less than .75" (19.05 mm) in diameter be labeled with a permanent tag.

\*\*\*The pipe marker size chart above follows ASME A13.1 - 2007 standards per our recommendation.

Create all your pipe markers and safety labels/signs with DuraLabel



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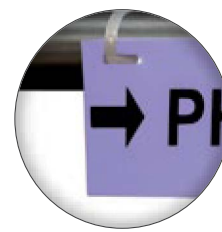
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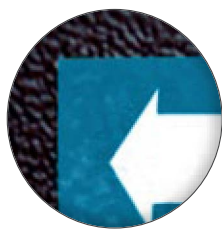
## DuraLabelSupplies.com



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Adhesive contains low levels of halogen to help protect stainless steel alloys from corrosive damage



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Pipe marking for general building services, refrigeration services, medical gas services



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