

# OM 2009/03 Appendix 4 – European Standards and Markings for Respiratory Protection

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## Introduction

- 1 Harmonised European Standards for Personal Protective Equipment (PPE) have been developed as the preferred means of demonstrating equipment conformity with the basic health and safety requirements (BHSRs) of the EC Personal Protective Equipment Directive (89/686/EEC). Only equipment which meets these BHSRs is entitled to carry the CE mark and to be sold for use in the EC.
- 2 The alternative route to obtaining the CE mark involves the manufacturer producing a 'technical file' for the equipment which also demonstrates that it satisfies the BHSRs. In such cases, the equipment will carry the CE mark but may not display any Standard number. The manufacturer's information will contain the performance specification.
- 3 For Category III PPE (for use against "mortal danger"), the CE mark will be accompanied by a four-digit code number identifying the responsible Notified Body appointed to ensure that the manufactured product continues to satisfy the BHSRs.
- 4 Increasingly, European Standards (prefixed EN – European Norm) are being superseded or subsumed by International Standards (prefixed ISO). Where these are adopted in the UK, they will also be issued as British Standards and be prefixed BS. The British versions of standards (BS EN, BS ISO or BS EN ISO) may have minor differences from the original versions of the standard, usually in the form of a National Foreword or National Annex, to account for legislative or technical variations specific to the UK. If such a UK variation exists, this is flagged up in the attached listings below for the individual standards. BS versions may also differ slightly in the stated year of issue from the EN or ISO versions; the original EN or ISO issue dates are quoted here.
- 5 The Standards may contain design, performance and marking requirements for the different types of equipment. This document lists the Standards, and gives a brief explanation of the markings which they define.

## Organisation of the information

- 6 PPE Standards are separated into broad categories, depending on the type of protection intended, eg head protection, foot protection. Separate documents have been produced for each category.

7 Within a category, where possible, Standards have been further subdivided according to the hazard (eg mechanical hazards, heat and flame) or component type (eg filters; facepieces) as appropriate. Both current and recently superseded versions are listed, as equipment marked according to either version may be encountered in the field.

8 Standard number and date are given, with the title (sometimes abridged).

9 If a UK National variation applies to this standard, the nature of this variation is described.

10 Markings and classifications defined in the Standard for that class of equipment are listed and briefly described.

11 Related Standards, eg specific test methods which will not usually appear in the markings on equipment are listed separately at the end of each document.

12 Pictograms and symbols for each type of equipment are included at the rear of the relevant document.

## **Updates**

13 Standards are constantly under review, and new Standards issued. The information in this document is believed to be correct at the time of issue, but updates will be necessary. The intention is to revise and re-issue the list periodically.

## **Further information**

14 For information on how the various performance levels and classifications are assessed, and their relevance to practical use situations, contact:

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## Standards for respiratory protective equipment

### Face masks

<b>EN 136:1998 - Full face mask</b>	
	<b>CL 1</b> (light duty, not +ve demand SCBA) <b>CL 2</b> (general use) <b>CL 3</b> (special use)
<b>EN 136-10:1992 - Full face mask (pre-1998 equipment only)</b>	
	<b>A</b> (for use with +ve demand SCBA) <b>F</b> (on visor, resistant to radiant heat)
<b>EN 140:1998 - Half or quarter masks</b>	
	size (if more than one available)
<b>BS 8468-2: 2006 – Respiratory protective devices for use against chemical, biological radiological and nuclear (CBRN) agents – Part 2: Negative pressure air purifying devices with full face mask - Specification</b>	
<b>Masks</b>	As for EN 136 and marked with <b>BS 8468-2:2006</b>
Filters	<ul style="list-style-type: none"> <li>- Class and colour code (orange / white):               <ul style="list-style-type: none"> <li>- <b>15</b> – 15 mins</li> <li>- <b>30</b> – 30 mins</li> <li>- <b>45</b> – 45 mins</li> <li>- <b>60</b> – 60 mins</li> <li>- <b>90</b> – 90 mins</li> <li>- <b>120</b> – 120 mins</li> </ul> </li> <li>- indication if multi-filter</li> <li>- <b>For single use only</b></li> <li>- <b>BS 8468-2:2006</b></li> <li>- year and month of end of shelf life (<b>yyyy/mm</b>)</li> <li>- manufacturer and model identification</li> <li>- <b>See information supplied by the manufacturer</b></li> </ul>
Filter packaging	<ul style="list-style-type: none"> <li>- year and month of end of shelf life (<b>yyyy/mm</b>)</li> <li>- manufacturer and model identification</li> <li>- storage conditions</li> </ul>

## Filters

<b>EN 143:2000 - Filters - particles</b>	
	<b>P</b> - for use against particles + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)
	Additional markings: - whether the filter is for use on a multi-filter device - indication ( $\pm$ expired hourglass symbol) showing shelf life expiry date in 'yyyy/mm' format
	<b>R</b> – reusable, or <b>NR</b> – not reusable (single shift)
<b>EN 371:1992 - Filters - AX gas and combined filters</b>	
<b>Superseded by EN 14387:2004</b>	
	<b>AX</b> - certain organic compounds with bp <65°C, optionally plus: <b>P</b> - for use against particles + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)
<b>EN 372:1992 - Filters - SX gas and combined filters</b>	
<b>Superseded by EN 14387:2004</b>	
	<b>SX</b> - for use against specific named gases and vapours, optionally plus: <b>P</b> - for use against particles + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)
<b>EN 12083:1998 - Filters with breathing hoses (non-mask mounted filters)</b>	
	Markings as for ENs 141, 143, 371 or 372
<b>EN 14387:2004 - Filters - gas or gas and combined</b>	
One or more of:	
	<b>A</b> - organic gases/vapours, bp >65°C <b>B</b> - inorganic gases/vapours (not CO) <b>E</b> - acid gases <b>K</b> - Ammonia and organic derivatives + <b>1, 2</b> , or <b>3</b> (capacity: low, med, high), optionally plus: <b>P</b> - particles + <b>1, 2</b> , or <b>3</b> (efficiency: low, med, high) <b>NO-P3</b> - nitrogen oxides <b>Hg-P3</b> - mercury vapour <b>AX</b> - certain organic compounds with bp <65°C, optionally plus: <b>P</b> - for use against particles + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)

	<p><b>SX</b> - for use against specific named gases and vapours, optionally plus:  <b>P</b> - for use against particles  + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)</p>
	<p>Additional markings:  - whether the filter is for use on a multi-filter device  - indication (<math>\pm</math> expired hourglass symbol) showing shelf life expiry date in '<b>yyyy/mm</b>' format</p>
	<p>For filters including a particle filtering element:  <b>R</b> – reusable, or  <b>NR</b> – not reusable (single shift)</p>
	<p>NO-P3 filters - <b>For single use only</b></p>
	<p>Hg-P3 filters - <b>Maximum use time 50 hours</b></p>
	<p>AX filters - <b>For single use only</b></p>
	<p><b>D</b> - suffix indicates dust clogging resistance.</p>

### Simple filtering devices

<p><b>EN 149:2001 - Filtering facepieces against particles</b></p>	
	<p><b>FFP</b> - filtering face piece  + <b>1, 2</b> or <b>3</b> (efficiency: low, med, high)  <b>D</b> - resistant to dolomite clogging test  - indication (<math>\pm</math> expired hourglass symbol) showing shelf life expiry date in '<b>yyyy/mm</b>' format</p>
	<p>Revision imminent in 2008 to include:  <b>R</b> – reusable, or  <b>NR</b> – not reusable (single shift)</p>
<p><b>EN 405:2001 - Valved filtering half masks for use against gases or gases and particles</b></p>	
	<p><b>FF</b> - filtering facepiece  + one or more of:  <b>A, B, E, K + 1</b> or <b>2</b> (capacity)  AX  SX  <b>P</b> - for use against particles  + <b>1, 2</b> or <b>3</b> (efficiency- low, med, high)  <b>D</b> - resistant to dolomite clogging test  - indication (<math>\pm</math> expired hourglass symbol) showing shelf life expiry date in '<b>yyyy/mm</b>' format</p>
	<p>Revision imminent in 2008 to include:  <b>R</b> – reusable, or</p>

	<b>NR</b> – not reusable (single shift)
<b>EN 1827:1999</b> - Filtering half masks without inhalation valves	
	<b>FF</b> - filtering facepiece + one or more of: <b>A, B, E, K + 1 or 2</b> (capacity) AX SX <b>P</b> - for use against particles + <b>1, 2 or 3</b> (efficiency- low, med, high) <b>D</b> - resistant to dolomite clogging test

### Powered/assisted filtering devices

<b>EN 146:1991</b> - Powered particle filtering helmets / hoods	
<b>Superseded by EN 12941:1998</b>	
	<b>THP</b> - 'turbo hood', particles + <b>1, 2 or 3</b> (efficiency - low, med, high)
<b>EN 147:1991</b> - Power assisted particle filtering full, half or quarter mask	
<b>Superseded by EN 12942:1998</b>	
	<b>TMP</b> - 'turbo mask', particles + <b>1, 2 or 3</b> (efficiency: low, med, high)
<b>EN 12941:1998</b> - Powered filtering device with helmet / hood	
	<b>TH</b> - turbo hood <b>1, 2 or 3</b> - inward leakage class (10%, 2% or 0.2%) + one or more of: <b>A, B, E, K + 1, 2 or 3</b> (capacity: low, med, high) AX SX <b>P</b> - for use against particles + <b>S</b> or <b>SL</b> - use against solids only or solids and liquids <b>NO</b> (with TH3P only) <b>Hg</b> (with TH3P only)
	Revision imminent in 2008 to include filter marking: <b>R</b> – reusable, or <b>NR</b> – not reusable (single shift)

<b>EN 12942:1998 - Powered filtering device with full, half or quarter mask</b>	
	<b>TH</b> - turbo hood <b>1, 2 or 3</b> - inward leakage class (10%, 2% or 0.2%) + one or more of: <b>A, B, E, K + 1, 2 or 3</b> (capacity: low, med, high) AX SX <b>P</b> - for use against particles + <b>S</b> or <b>SL</b> - use against solids only or solids and liquids <b>NO</b> (with TM3P only) <b>Hg</b> (with TM3P only)
	Revision imminent in 2008 to include filter marking: <b>R</b> – reusable, or <b>NR</b> – not reusable (single shift)

### Hose/airline breathing apparatus

<b>EN 138:1993 - Fresh air hose with half or full facemask</b>	
	<b>FAH</b> - fresh air hose <b>Class 1</b> hose, light duty (not unassisted types), or <b>Class 2</b> hose, heavy duty (not half masks)
<b>EN 139:1994 – Compressed air line BA full or half mask or mouthpiece</b>	
<b>Superseded by EN 14593 for demand valve apparatus, and EN 14594 for constant flow</b>	
<b>EN 269:1994 - Powered fresh air hose with hood</b>	
	FAH - fresh air hose Class 1 - light duty hose, or Class 2 - heavy duty hose Anti-static Heat resistance
<b>EN 270:1994 - Compressed air line BA with hood (Amended 2000)</b>	
<b>Superseded by EN 14594</b>	
<b>EN 271:1995 - Compressed air line / powered fresh air hose BA with hood for abrasive blasting</b>	
<b>Superseded by EN 14594</b>	
<i>Note: EN 271 contained requirements for powered fresh air hose abrasive blasting helmets. The replacing standard does not contain any requirements for this specific type of equipment – there are no known examples on the market.</i>	

<b>EN 1073-1:1998</b> - Protective clothing against particulate radioactive contamination - Ventilated suits	
	as for EN 340 (Protective Clothing), plus: <b>pictogram</b> - particulate radioactive contamination (Fig 11 in Clothing document) <b>IL: class x</b> - where x = inward leakage class <b>1-5</b> . 1 is lowest protection, 5 is highest
<b>EN 1835:1999</b> - Light duty compressed air line helmet or hood	
<b>Superseded by EN 14594</b>	
	<b>LDH</b> - light duty, hood <b>1, 2 or 3</b> - inward leakage class (10%, 2% or 0.5% respectively)
<b>EN 12419:1999</b> - Light duty compressed airline masks	
<b>Superseded by EN 14594</b>	
	<b>LDM</b> - light duty, mask <b>1, 2, or 3</b> - inward leakage class (2%, 0.5% or 0.05% respectively)
<b>EN 14593-1:2005</b> - Compressed air line BA with demand valve - full mask	
	On the apparatus: <ul style="list-style-type: none"> <li>- year of manufacture (4 digits)</li> <li>- temperature limitations, or appropriate pictogram</li> <li>- <b>F</b> if flammability requirement met</li> </ul> On the supply tube: <ul style="list-style-type: none"> <li>- Year of manufacture (4 digits)</li> <li>- <b>H</b> - heat resistance</li> <li>- <b>S</b> - anti-static</li> <li>- <b>F</b> – higher flame resistance</li> </ul>
<b>EN 14593-2:2005</b> - Compressed air line BA with demand valve - half mask	
	On the apparatus: <ul style="list-style-type: none"> <li>- Year of manufacture (4 digits)</li> <li>- Temperature limitations, or appropriate pictogram</li> <li>- <b>F</b> if flammability requirement met</li> </ul> On the supply tube: <ul style="list-style-type: none"> <li>- Year of manufacture (4 digits)</li> <li>- <b>H</b> - heat resistance</li> <li>- <b>S</b> - anti-static</li> <li>- <b>F</b> – higher flame resistance</li> </ul>

<b>EN 14594:2005 – Continuous flow compressed air line BA</b>	
	<p>On the apparatus:</p> <ul style="list-style-type: none"> <li>- Protection class <b>1</b> (lowest) to <b>4</b> (highest)</li> <li>- Year of manufacture (4 digits)</li> <li>- Temperature limitations, or appropriate pictogram</li> <li>- <b>F</b> if flammability requirement met</li> <li>- Pictogram for abrasive blasting if applicable</li> </ul> <p>On the supply tube:</p> <ul style="list-style-type: none"> <li>- Year of manufacture (4 digits)</li> <li>- <b>A</b> – lower strength requirements</li> <li>- <b>H</b> - heat resistance</li> <li>- <b>S</b> - anti-static</li> <li>- <b>F</b> – higher flame resistance</li> </ul>
<b>EN 15333-1 Respiratory Protective devices- Surface supplied diving apparatus Part 1: Demand valve Apparatus</b>	
	<p>General:</p> <ul style="list-style-type: none"> <li>- manufacturer, type, serial number and standard number plus:</li> <li>- rated pressure on pressure reducers and gauges</li> <li>- date of manufacture (at least the year) on parts which may be affected by ageing</li> </ul>

### Self contained breathing apparatus (including diving)

<b>EN 137:1992 - Self-contained open circuit compressed air BA</b>	
<b>Superseded by EN 137:2006</b>	
	<b>A</b> (for use with +ve demand SCBA)
<b>EN 137:2006 - Self-contained open circuit compressed air BA with full face mask</b>	
	<p>Manufacturer, model, serial number and standard number, plus:</p> <ul style="list-style-type: none"> <li>- year of manufacture/shelf life (also on perishable components)</li> <li>- Classification: <ul style="list-style-type: none"> <li>- <b>Type 1</b> – industrial use</li> <li>- <b>Type 2</b> – firefighting use</li> </ul> </li> <li>- <b>cl 3+</b> - on mask if it passes flame engulfment</li> <li>- <b>A</b> – on demand valve if specific pressure requirements met</li> <li>- any abnormal temperature range</li> <li>- provision for marking test dates on pressure reducer</li> </ul>
<b>EN 145:1997 - Self contained closed circuit compressed oxygen or oxygen/nitrogen BA</b>	
	<p><b>O<sub>2</sub></b> or <b>O<sub>2</sub> - N<sub>2</sub></b>  <b>1, 2</b> or <b>4</b> - nominal duration in hours  <b>P</b> or <b>N</b> – positive or negative demand</p>

<b>EN 250:2000 - Open circuit compressed air diving apparatus.</b>	
	<p>General:</p> <ul style="list-style-type: none"> <li>- manufacturer, type, serial number and standard number plus:</li> <li>- rated pressure on pressure reducers and gauges</li> <li>- date of manufacture (at least the year) on parts which may be affected by ageing</li> </ul> <p>Demand regulator:  <b>&gt;10°C</b> on demand regulators not designed for use in cold water</p>
<b>BS 8468-1: 2006 – Respiratory protective devices for use against chemical, biological radiological and nuclear (CBRN) agents – Part 1: Positive pressure self-contained open-circuit breathing apparatus - Specification</b>	
	<p>As EN 137, plus:  <b>BS 8467-1:2006</b> on SCBA and facepiece</p>
<b>EN 13949:2003 – Open-circuit self-contained diving apparatus for use with Nitrox and oxygen</b>	
	<p>As EN 250 plus:  - <b>Nitrox</b> or <b>O<sub>2</sub></b> or <b>Nitrox/O<sub>2</sub></b> on any pressure vessel valve body, demand regulator and safety device</p>
<b>EN 14143:2003 – Self-contained re-breathing diving apparatus</b>	
	<ul style="list-style-type: none"> <li>- manufacturer, type, serial number and standard number plus:</li> <li>- rated pressure on pressure reducers and gauges</li> <li>- date of manufacture (at least the year) on parts which may be affected by ageing</li> </ul>
<b>EN 14435:2004 - Self-contained open circuit compressed air breathing apparatus with half mask designed to be used with positive pressure only</b>	
	<p>Manufacturer, model, serial number and standard number, plus:</p> <ul style="list-style-type: none"> <li>- year of manufacture (also on perishable components)</li> <li>- any abnormal temperature range</li> <li>- provision for marking test dates</li> </ul>

### Escape/self rescue devices

<b>EN 400:1992 - Compressed oxygen closed circuit escape BA</b>	
<b>Superseded by EN 13794</b>	
	<p># rated duration in minutes  <b>Special use</b> - for carrying or transportation</p>

<b>EN 401:1992 - Chemical oxygen (KO<sub>2</sub>) self contained escape breathing apparatus</b>	
<b>Superseded by EN 13794</b>	
	# rated duration in minutes <b>S</b> - for special use (carrying or transportation)
<b>EN 402:2003 - Self contained open circuit compressed air escape BA</b>	
	# - rated duration in minutes (steps of 5)
	For escape only
<b>EN 403:2004 - Filtering devices with hood for escape from fire</b>	
	<b>M</b> or <b>S</b> - class; designed to be carried on the person, or stored respectively # - maximum mass (for condition checking)
<b>EN 404:2005 - Filter self-rescuer from carbon monoxide with mouthpiece assembly</b>	
	<b>FSR</b> - filter self rescuer <b>1, 2, 3</b> or <b>4</b> - class; rated duration 60, 75, 90 or 120 mins respectively <b>A</b> or <b>B</b> - tested at 30 lpm or 40 lpm <b>R</b> – rough usage tested # - mass
<b>EN 1061:1996 – Self-contained chemical oxygen (NaClO<sub>3</sub>) escape BA</b>	
<b>Superseded by EN 13794</b>	
	# - rated duration in minutes <b>S</b> – for special use (carrying or transportation)
<b>EN 1146:1997 - Self contained open circuit compressed air escape BA with hood</b>	
	# - rated duration in minutes For escape only
<b>EN 13794:2002 – Self contained closed circuit BA for escape</b>	
	<b>C</b> – NaClO <sub>3</sub> type <b>D</b> – compressed oxygen type <b>K</b> – KO <sub>2</sub> type # - rated duration in minutes <b>S</b> - for underground use
<b>EN 14529:2005 - Self-contained open circuit compressed air breathing apparatus with half mask designed to include a positive pressure lung governed demand valve for escape purposes only</b>	
	Manufacturer, model, serial number and standard number, plus: - year of manufacture/shelf life (also on perishable components) - Classification: <b>C1x</b> , where x = <b>5</b> to <b>30</b> in steps of 5, representing duration (minutes) in a standard test - identified as for escape only - maximum vessel pressure If unit supplied in a sealed container, marking to be on the container.

## Other standards relevant to RPE

Occupational equipment is unlikely to be marked with these Standard numbers, but they may contain useful information on equipment performance or test methods.

<b>EN 132:1998</b>	Glossary of RPE terms
<b>EN 133:2001</b>	Classification of RPE
<b>EN 134:1998</b>	Nomenclature of RPE components
<b>EN 135:1998</b>	List of equivalent terms in English, French and German
<b>EN 142:2002</b>	Mouthpieces for RPE
<b>EN 144-1:2000</b>	Gas cylinder valve insert connector thread specification
<b>EN 144-2:1999</b>	Gas cylinder valves - outlet connectors
<b>EN 144-3:2003</b>	Gas cylinder valves – Diving gases Nitrox and Oxygen
<b>EN 148-1:1999</b>	Facepiece standard thread connector specification
<b>EN 148-2:1999</b>	Facepiece centre thread specification
<b>EN 148-3:1999</b>	Facepiece M 45x3 thread specification
<b>EN 529:2005</b>	Respiratory protective devices – Recommendations for selection, use, care and maintenance – Guidance document
<b>BS EN 837-1,2,3 1996</b>	Bourdon tube pressure gauges, dimensions and testing selection design, diaphragm gauges dimension and testing
<b>EN 1972:1997</b>	Diving accessories – Snorkels – safety requirements and test methods
<b>BS 4275:1997</b>	Guide to implementing an effective respiratory protective device programme – <b>Now superseded by EN 529</b>
<b>BS EN 12021:1999</b>	Compressed air for breathing apparatus <i>Note: National foreword reducing the general requirement for contaminant content of air to be generally &lt;10% of the relevant 8-hour TWA OEL. CO limit for breathing air stated in HSE guidance (HSG53) as 5ppm.</i>
<b>BS 8478:2006</b>	RPE Breathing gases for diving and Hyperbaric applications
<b>EN 13274-1:2001</b>	RPE test methods – inward leakage
<b>EN 13274-2:2001</b>	RPE test methods – practical performance tests
<b>EN 13274-3:2001</b>	RPE test methods – breathing resistance
<b>EN 13274-4:2001</b>	RPE test methods – flame tests
<b>EN 13274-5:2001</b>	RPE test methods – climatic conditions
<b>EN 13274-6:2001</b>	RPE test methods – rebreathed CO <sub>2</sub> measurement
<b>EN 13274-7:2008</b>	RPE test methods – particle filter penetration
<b>EN 13274-8:2002</b>	RPE test methods – dolomite clogging
<b>DD ISO TS 16976-1:2007</b>	Human factors – Metabolic rates and respiratory flow rates
<b>IEC 61508-1,2,3,4,5,6,7</b>	Functional safety of electrical/electronic/programmable electronic safety related systems.

The following standards relate to cylinders and associated equipment used on SCBA and diving equipment.

<b>BS EN 1089-2:2002</b>	Transportable gas cylinders gas cylinder identification part 2 precautionary labels
<b>BS EN 1089-3:2002</b>	Transportable gas cylinders gas cylinder identification part 3 colour coding (revision being prepared)
<b>BS EN 1795:1998</b>	Transportable gas cylinders procedures for change of gas service
<b>BS EN 1802:2002</b>	Transportable gas cylinders Periodic inspection and testing alloy
<b>BS EN 1920:2000</b>	Transportable gas cylinders for compressed gases inspection at time of filling
<b>BS EN 1964-1,3:2000</b>	Transportable gas cylinders steel
<b>BS EN 1968:2002</b>	Transportable gas cylinders Periodic inspection and testing steel
<b>BS EN 1975:2000</b>	Transportable gas cylinders aluminium
<b>BS 5045-6:1987</b>	Transportable gas containers less than 0.5l water capacity
<b>BS 5045- 7:2000</b>	Transportable gas containers water capacity 0.5 to 15 l
<b>BS 5045-8:2000</b>	Transportable gas containers water capacity 0.5 to 15 l up to 300 bar
<b>BS 5430-6:1994</b>	Periodic inspection, testing and maintenance of transportable gas containers
<b>BS EN ISO 11114-1:1998</b>	Transportable gas cylinders compatibility of cylinder and materials Metallic materials
<b>BS EN ISO 11114-2:2001</b>	Transportable gas cylinders compatibility of cylinder and materials Non Metallic materials
<b>BS EN ISO 11114-3:1998</b>	Transportable gas cylinders compatibility of cylinder and materials Autogenous ignition test in oxygen
<b>BS EN ISO 11623:2002</b>	Transportable gas cylinders Periodic inspection and testing composite cylinders
<b>BS EN 12245:2002</b>	Transportable gas cylinders
<b>BS EN 12257:2002</b>	Transportable gas cylinders
<b>BS EN ISO 13341:1998</b>	Transportable gas cylinders fitting of valves to gas cylinders
<b>BS ISO 13679:2002</b>	Gas Cylinders stamp marking
<b>BS EN 14189:2003</b>	Transportable gas cylinders - inspection and maintenance of cylinder valves at time of periodic inspection and testing
<b>EN ISO 12209-1, 2 and 3:2001</b>	Pressure vessels intended for compressed air.
<b>BS IEC 60877:1999</b>	Procedures for ensuring the cleanliness of industrial process measurement and control equipment in oxygen service.