

Protective clothing —

Protection against liquid chemicals —

**Performance requirements for
chemical protective suits with
liquid-tight connections between
different parts of the clothing for
emergency teams
(type 3-ET equipment)**

ICS 13.340.10

Confirmed January 2010

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PH/3, Protective clothing, to Subcommittee PH/3/3, Clothing for protection against chemicals, upon which the following bodies were represented:

British Clothing Industry Association
British Safety Industry Federation Test and Certification Association
Chief and Assistant Chief Fire Officers Association
Chemical Industries Association
Fire Brigades Union
Health and Safety Executive
Institute of Occupational Medicine
Institution of Occupational Safety and Health
London Fire and Emergency Planning Authority
NHS Purchasing and Supply Agency
Office of the Deputy Prime Minister (Her Majesty's Fire Services Inspectorate)
Personal Safety Manufacturers Association
SATRA Technology Centre
Textile Services Association Limited
Co-opted members

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 January 2004

© BSI 9 February 2004

Amendments issued since publication

Amd. No.	Date	Comments
15007 Corrigendum No. 1	9 February 2004	Correction to title on front cover

The following BSI references relate to the work on this British Standard:
Committee reference PH/3/3
Draft for comment 02/562256 DC

ISBN 0 580 43184 3

Contents

	Page
Committee responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Materials	2
5 Suit components	3
6 Seams, joins and assemblages	4
7 The whole suit	5
8 Marking	6
9 Information supplied by the manufacturer	6
Bibliography	9
Table 1 — Performance classes for chemical protective suit materials	2
Table 2 — Test chemicals for permeation tests and their generic representation	3

Foreword

This British Standard has been prepared by Subcommittee PH/3/3.

This British Standard is to be used in conjunction with BS EN 943 which specifies requirements for protective clothing against liquid and gaseous chemicals.

This British Standard is also to be used in conjunction with BS 7184 which gives guidance on the use and maintenance of chemical protective clothing.

NOTE BS 7184 references prEN 466-2 as specifying requirements for liquid-tight chemical protective suits for emergency teams. However, prEN 466-2 is no longer being developed for publication as a European Standard and so reference should be made to this British Standard, BS 8428, instead.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

1 Scope

This standard specifies performance requirements for chemical protective suits with liquid-tight connections between different parts of the clothing for use by emergency teams, e.g. fire brigades, in situations where the chemical hazards are not immediately identifiable.

This standard specifies performance requirements for both the materials of construction of the chemical protective suit and for the suit as a whole, including component parts, seams, joins and assemblages.

This standard is applicable to reusable and limited-use chemical protective suits.

Chemical protective clothing conforming to this standard is not designed to provide protection against gases and vapours. Performance requirements for gas-tight chemical protective suits for emergency teams are given in BS EN 943-2.

NOTE Suits conforming to this standard can be suitable for use in situations other than those involving purely chemicals, e.g. situations involving infective agents and radioactive contamination. Information supplied by suit manufacturers can indicate such additional performance applications.

The chemical protection suits specified in this standard are designed to be used with respiratory protective devices. However, this standard does not specify requirements for respiratory protective devices.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 340, *Protective clothing — General requirements*.

BS EN 345-2:1997, *Safety footwear for professional use — Part 2: Additional specifications*.

BS EN 374-1, *Protective gloves against chemicals and micro-organisms — Part 1: Terminology and performance requirements*.

BS EN 463, *Protective clothing — Protection against liquid chemicals — Test method: Determination of resistance to penetration by a jet of liquid (Jet test)*.

BS EN 943-1:2002, *Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles — Part 1: Performance requirements for ventilated and non-ventilated “gas-tight” (Type 1) and “non-gas-tight” chemical protective suits*.

BS EN 943-2:2002, *Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles — Part 2: Performance requirements for “gas-tight” (Type 1) chemical protective suits for emergency teams (ET)*.

PD CEN ISO/TR 11610, *Protective clothing — Glossary of terms and conditions*.¹⁾

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in PD CEN ISO/TR 11610¹⁾, BS EN 943-2 and the following apply.

3.1

type 3-ET suit

liquid tight chemical protective suit for use by emergency teams (ET)

3.2

type 3a-ET suit

type 3-ET suit with a breathable air supply independent of the ambient atmosphere and worn inside the suit

NOTE For example, when a self-contained open-circuit compressed air breathing apparatus is worn inside a type 3-ET suit, it is considered a type 3a-ET suit.

¹⁾ In preparation.