

To: *National Brownfield Forum*

Please feel free to pass on to any of your contacts who might be interested.

INTRODUCTION

BSI EH4 Soil Quality is the BSI technical committee responsible for the production of standards relating to soil quality including contaminated land and natural and near-natural sites (e.g. farm land). Standards cover sampling, chemical analysis, physical testing, biological testing, and soil and site assessment. EH4 also deals with standards for the analysis and testing of wastes, standards relating to soil and climate change, and ecosystem services.

BSI EH4 shadows ISO (International Organization for Standardization) Technical Committee *TC 190-Soil Quality* and CEN *TC444-Environmental characterization of solid matrices*. CEN is the European standards organisation.

EH4 actively seeks to broaden its membership. The wider the membership, the greater the confidence that the standards produced are technically sound and known about by potential users from a wide variety of backgrounds. Participation in BSI, CEN and ISO committees can contribute to CPD. Contact the Committee Manager, Joanna Macnamara (joanna.macnamara@bsigroup.com) for more information.

Mike Smith



ASBESTOS

ISO TC/190/SC3 Chemical and physical characterization,

CEN/TC 444/WG3 Environmental characterization of solid matrices – Inorganic analysis, and

CEN TC/351/WG5 – Assessment of release of dangerous substance -Content and eluate analysis in construction products

all have an interest in production of standards related to the determination of asbestos concentrations in granular materials including sampling and analysis.

CEN/TC 351/WG5 started work on production of a draft document at a dedicated Working Group meeting on 1 December 2021. A further dedicated meeting was held in March 2022. The UK was represented by Stephen Forster and John Hubbard. Further meetings will be held once working arrangements, e.g. appointment of a Project Leader/Rapporteur have been completed. A meeting of CEN/TC351/WG5 was held on 28 October at which hopefully the situation was clarified.

This project is being dealt with in the UK by BSI committee B/557 *Construction products - Assessment of dangerous substances* which “shadows” CEN TC/351. Liaison has been established with EH/4 with the intent of trying to ensure wider UK participation in the work than might otherwise be the case.

ADOPTION OF EUROPEAN AND INTERNATIONAL STANDARDS AS BRITISH STANDARDS

BSI as a member of CEN is required to adopt all European Standards (ENs) except under very particular circumstances. BSI can add a national foreword if required for clarification.

BSI is not required to adopt ISO standards. It can decline to do so for a variety of reasons including non-relevance in the UK, technical issues or lack of expertise in the relevant BSI shadow committee. BSI can add a national foreword if required for clarification.

FUNDING OF UK PARTICIPATION IN CEN AND ISO MEETINGS

BSI has traditionally made a contribution, albeit dwindling, towards the cost of UK experts travelling to CEN and ISO meetings. The underlying government funding was withdrawn during the COVID period during which all meetings were held virtually. CEN and ISO have both started holding hybrid meetings in recent months. BSI has made some limited funds available to the end of 2022 but the future of the Assisted International Travel Scheme remains uncertain. Without at least some BSI contribution, however small, organisations that have contributed to the costs of their members representing the UK on CEN and ISO committees and working groups could be less likely to do so.

LEACHING OF SOILS, WASTES AND CONSTRUCTION PRODUCTS

A web-site concerning leaching tests supported among others by CEN TC444/WG1 and is now available at:
<http://www.leachingtests.com/>

This website aims to inform the reader about the availability and suitability of standardized leaching tests to solve their questions. It focusses on interrelationships between existing leaching tests to improve understanding of the meaning of a test result. In addition, it provides information on characteristic leaching behaviour of a range of bulk material streams, for which leaching information may be sought to compare one's own material of product.

Note that the web-site, which is largely funded by the Dutch government, is still under development.

SOIL HUB

The on-line hub for 'all things soil' ([uksoils](#)) brings together the best available resources, including educational information and school activities, books and films, data and maps, plus guidance for farmers and land managers on how to support healthy soils. It is also a forum to enable the sharing of knowledge and experiences, encouraging people to link up and carry out initiatives to improve soil health and share locations around the country where soil health pioneers are trying out new technologies and management practices.

The hub is supported by a partnership comprising the UK Centre for Ecology & Hydrology (UKCEH), the Sustainable Soils Alliance, Earthwatch, the University of Sheffield, the British Soil Science Society and Scotland's Rural College (SRUC).

Standards Relating to Investigation, Assessment, Remediation and Development of Potentially Contaminated and Contaminated Sites

This AGS document provides key information required for a proper understanding and use of Standard Guidance documents and Standard Specifications. It also provides information about in which Standards guidance on various topics such as investigation, reporting and remediation can be found. It can be downloaded from:

<https://www.ags.org.uk/item/standards-relating-to-investigation-assessment-remediation-and-development-of-potentially-contaminated-and-contaminated-sites/>

LISTINGS

Note: This is not necessarily a complete listing of on-going projects in ISO TC190 and CEN TC444 and, in the case of geotechnical standards, ISO TC182 and CEN TC341. At any one time there are also likely to be a number of other chemical analytical, biological testing, geotechnical and ground engineering standards, progressing through the ISO/CEN/BS system.

KEY
Drafts - New or amended entries – 1 January to 31 December 2021
Drafts - New or amended entries – 1-January to 31 July 2022
Drafts - New or amended entries – 1 August to 30 September 2022
Drafts - New or amended entries – 1 to 15 November 2022
Published standards – 1 August to 30 September 2022
Published standards – 1 to 15 November 2022

ISO terminology: NWIP = New Work Item Proposal, WD = Working Draft, CD = Committee Draft, DIS = Draft International Standard, FDIS = Final Draft International Standard.

CEN terminology: prEN = enquiry stage (equivalent of DIS), FprEN = for Final Vote (equivalent of FDIS)

Draft International Standards (DISs) and their CEN equivalents are publically available documents. Some are posted for comment on the standards development area of BSI's web-site. Committee Drafts and their CEN equivalents are not publically available but can be distributed within organisations represented on the relevant BSI committee.

Copies of draft standards are available from the representatives of organisations that are members of the BSI Technical Committee concerned. In the case of EH4, these include for example, AGS, EIC, SCI (see "background" note at the end of this Newsletter for other members). If you do not know who represents an organisation to which you belong, you need to ask the organisation – this is not information that BSI is permitted to supply. However, in most cases I can supply copies for review. The BSI Committee Manager might also be willing to supply a copy.

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RECENTLY PUBLISHED STANDARDS		
BS ISO 11271:2022	Soil quality – Determination of redox potential – Field method	Published August 2022
(bsi) PD CEN TS 17847:2022	Characterization of waste – Determination of selected low boiling point alcohols using gas chromatography with flame ionization detection after static head-space extraction (HS-GC-FID)	Published October 2022
BS EN ISO 17892-1:2014+A1:2022	Geotechnical investigation and testing – Laboratory testing – Part 1: Determination of water content <i>Replaces BS EN ISO 17892-1:2014</i>	Published August 2022
BS EN ISO 17892-12:2018+A2:2022	Geotechnical investigation and testing. Laboratory testing of soil. Determination of liquid and plastic limits <i>Replaces BS EN ISO 17892-12:2018 +A1:2021</i>	Published September 2022
BS EN ISO 23611-4:2022	Soil quality - Sampling of soil invertebrates – Part 4: Sampling, extraction and identification of soil-inhabiting nematodes <i>Replaces BS EN ISO 23611-4:2011</i>	Published September 2022
PD CEN ISO/TS 24283-2:2022	Geotechnical investigation and testing – Qualification criteria and assessment – Part 2: Responsible expert	Published August 2022

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DRAFT ISO/CEN GEOTECHNICAL STANDARDS		
<i>These standards form part of the programme of work of BSI committee B526/3.</i>		
CEN EN 1997-1	Eurocode 7 - Geotechnical design – General Rules <i>Will partially replace BS EN 1997-1: 2004 + A1: 2013</i>	Comment period ended 22 November 22
CEN EN 1997-2	Eurocode 7 - Geotechnical design – Ground properties <i>Will replace BS EN 1997-2: 2007</i>	Comment period ended 22 November 22
CEN EN 1997-3	Eurocode 7 - Geotechnical design – Geotechnical structures <i>Will partially replace BS EN 1997-1: 2004</i>	Comment period ended 22 November 22
NWIP EN ISO 18674-7	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 7: Measurement of strains: Strain gauges	Approved to proceed in June 2021
ISO CD 18674-8	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 8: Measurement of forces: Load cells	Comment period has ended
ISO FDIS, CEN FprEN 22476-1	Geotechnical investigation and testing – Field testing – Part 1: Electrical cone and piezocone penetration test	Comment period ended on 15 August 2021 <i>Publication has been delayed by a need to make last minute corrections.</i>
ISO DIS 22476-5	Geotechnical investigation and testing – Field testing – Part 5: Prebored pressuremeter test	Comment period on DIS ended 5 June 2022
ISO CD 22476-16	Geotechnical investigation and testing – Field testing – Part 16: Borehole shear test	ISO comment period ended 27 September
ISO DIS 22477-2	Geotechnical investigation and testing – Testing of geotechnical structures – Part 2: Testing of piles: static tension load test	Comment period ended 5 June 2022
ISO FDIS 24057	Array measurement of microtremors to estimate shear wave velocity profile	ISO comment period on FDIS ended on 22 September 2022

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DRAFT ANALYTICAL AND BIOLOGICAL TESTING STANDARDS etc. <i>These standards form part of the programme of work of BSI committee EH4</i>		
ISO DIS 4974	Soil quality – Guidance on soil temperature measurement	Comment period ended on 6 April 2022. Proceeding to FDIS.
ISO DIS 5120	Soil quality – Determination of perchlorate in soil using liquid chromatography-tandem mass spectrometry (LC-MS/MS)	Comment period ended on 5 March 2022
ISO CD TS 5594	Guidance document on designing interlaboratory trial for validation of biotests	Comment period ended 7 June 2021
ISO NWIP 7303	Soil quality – Simplified method for oral bioaccessibility of metal(loids) in soils <i>Will complement BS ISO 17924 – see also NWIP 8259</i>	Approved to progress
ISO CD 8259	Soil quality – Bioaccessibility of organic and inorganic pollutants from contaminated soil and soil-like material <i>Based on DIN 19738. Will complement BS ISO 17924 – see also NWIP 7303</i>	BSI Comment period ended 25 September 2022
ISO DIS 11267 CEN prEN	Soil quality – Inhibition of reproduction of <i>Collemba (Folsomia candida)</i> by soil contamination <i>(will replace BS EN ISO 11267:2014)</i>	Comment period on DIS ended 3 October 2022 Comment period on prEN ended 10 October 2022
ISO FDIS 11268-2	Soil quality – Effects of pollutants on earthworms – Part 2: Determination of effects on reproduction of <i>Eisenia fetida/Eisenia Andrei</i> and other earthworm species <i>(will replace [BS] EN ISO 11268-2:2015)</i>	Comment period ended 21 November 2022
ISO DIS 13914	Soil, treated biowaste and sludge – Determination of dioxins and furans and dioxin-like polychlorinated biphenyls by gas chromatography with high resolution mass selective detection (HR GC-MS)	Comment period ended 30 November 2021
ISO DIS 16387	Soil quality – Effects of pollutants on Enchytraeidae (<i>Enchytraeus sp.</i>) – Determination of effects on survival reproduction <i>(revision of BS EN ISO 16387:2014)</i>	Comment period ended on 2 April 2022

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CEN EN 17503: 2022	Environmental solid matrices – Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC) <i>(will supersede EN 15527:2008 & EN16181:2018)</i>	EN 17503 has been published. Publication of the BS has been delayed by the need to add a national foreword.
CEN prEN 17505	Soil and waste characterization – Temperature dependent differentiation of total carbon (TOC400, ROC, TIC900)	Comment period ended 3 September 2022
CEN prEN 17516:2022	Waste – Characterization of granular solids with potential for use as construction material – Compliance leaching test – Up-flow percolation test <i>(Text will be the same as EN 16637-3 on leaching of construction products)</i>	Comment period ended 19 April 2022
CEN prEN 17813	Environmental matrices – Halogens and sulfur by oxidative pyrohydrolytic combustion followed by ion chromatography detection and complementary determination methods	Comment period ended 7 March 2022
NP 18718	Assessment of soil functions and related ecosystem services: definitions	Approved to progress October 2022
NP18721	Assessment of soil functions: indicators and methods	Approved to progress October 2022
NP 18227	Environmental soil matrices – Determination of elemental composition by X-ray fluorescence spectrometry <i>Includes merger of ISO 18277 and EN 15309</i>	Approved to progress October 2022
ISO CD 18745	Environmental solid matrices – Determination of polychlorinated biphenyls (PCB) by gas chromatography – Mass selective detection (GC-MS) or electron-capture detection (GC-EC) <i>Involves adoption by ISO of EN 17322. Will replace</i> <ul style="list-style-type: none"> • <i>ISO 10382:2002, Soil quality – Determination of organochlorine pesticides and polychlorinated biphenyls – Gas-chromatographic method with electron capture detection and</i> • <i>ISO 13876:2013, Soil quality – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electroncapture detection (GC-ECD)</i> 	
ISO DIS 18400-301	Soil quality – Sampling - Sampling for volatiles and on site semi-quantitative determination in field investigations	Comment period on DIS ended 16 February 2022

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ISO DIS 21268-5	Soil quality — Leaching procedures for subsequent chemical and ecotoxicological testing of soil and soil-like materials — Part 5: Batch test with forced aerobic or anaerobic conditions	Comment period ended 12 January 2022
ISO DIS 22036 CEN prEN 22036	Soil treated biowaste and sludge – Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	Comment period ended 6 August
ISO DIS 22171	Soil quality – Determination of potential cation exchange capacity (CEC) and exchangeable cations buffered at pH 7 using a molar ammonium acetate solution	Comment period on DIS ended 12 April 2022
ISO FDIS 23265	Soil quality – Test for estimating organic matter decomposition in contaminated soil	Comment period ended 25 September 2022
ISO CD 23611-2	Soil quality -Sampling of soil invertebrates - Part 2: Sampling and extraction of micro-arthropods (Collembola and Acarina)	Comment period ends 5 December 2022
ISO CD 23611-5	Soil quality — Sampling of soil invertebrates — Part 5: Sampling and extraction of soil macro-invertebrates	Comment period ends 5 December 2022
ISO FDIS 23992	Soil quality – Framework for the recording and monitoring of changes in dynamic soil properties	Comment period on FDIS ended 21 June 2022
ISO CD 24212.2	Remediation techniques applied at contaminated sites	Comment period on Second CD ended on 8 May 2022

NEW WORK ITEM PROPOSALS SUBJECT TO APPROVAL BY CEN TC444 and/or ISO TC190		
CEN NWIP 444044	Characterization of waste - Determination of the content of elements and substances in waste	Approved by CEN, May 2021 Working Draft available May 2022
CEN NWIP	Environmental characterization of leachates from waste and soil using reproductive and toxicological gene expression in <i>Daphnia magna</i>	Approved March 2021
NP 18386	Soil quality – Screening method for soil temperature	Comment period ended 16 September 2022

BACKGROUND

BSI EH4 Soil Quality is the BSI technical committee responsible for the production of standards relating to soil quality including contaminated land and natural and near-natural sites (e.g. farm land). Standards cover sampling, chemical analysis, physical testing, biological testing, and soil and site assessment. EH4 also deals with standards for the analysis and testing of wastes produced by CEN TC444.

BSI EH4 shadows ISO (International Organization for Standardization) Technical Committee *TC 190 Soil Quality* and *CEN TC444 (Environmental characterization of solid matrices)*. CEN is the European standards organisation.

EH4 is also responsible for BS10175 (investigation of contaminated sites), BS 8576 (ground gas investigations), BS8454 (protection of buildings against gas) and BS 10176 (soil sampling for VOC determination of VOCs).

There are about twenty organisations (e.g. trade bodies, learned societies, professional bodies, quasi-government bodies etc.) represented on the committee at present together with a handful of individual experts who represent the UK on various ISO and CEN Working Groups. To find out who represents a particular organisation, the organisation should be contacted.

Nominated representatives of member organisations receive copies of formal drafts of standards, known in the case of ISO as Committee Drafts (CDs), Draft International Standards (DISs) and Final Draft International Standards (FDISs); and in the case of BSI as Drafts for Public Comment. They also receive copies of published standards for personal use.

Those representing an organisation are expected to circulate papers to, and consult, those they represent. Draft standards can be posted on “members-only” sections of web-sites for downloading or can be e-mailed to all members of the organisation that is represented.

EH4 actively seeks to broaden its membership. The wider the membership of EH4, the greater the confidence there can be that the standards produced are technically sound and known about by potential users from a wide variety of backgrounds. It also increases the pool of people from which it might be possible to draw on from time to time to represent the UK in ISO and CEN Working Groups. BSI can nominate one or more experts to each of the numerous Working Groups in ISO TC190 and CEN TC444. Whilst experts will hopefully attend meetings of the WGs, in practice this is not always possible and participation is limited to receipt and review of papers.

BSI has in the past made a contribution towards the costs of UK experts attending ISO and CEN meetings but the form and magnitude is currently (November 2022) uncertain.

Member organisations of EH4 include:

Association of Geotechnical and Geoenvironmental Specialists (AGS), British Society of Soil Science, Centre for Ecology & Hydrology, Chartered Institute of Environmental Health, Environment Agency, Environmental Industries Commission (EIC), EIC Contaminated Land Working Group, Environmental Services Association, Institution of Environmental Sciences, Ministry of Defence, National House Building Council (NHBC), Royal Society of Biology, Society of Brownfield Risk Assessment (SOBRA), Society of Chemical Industry (SCI), the James Hutton Institute, University of Glasgow, Water UK, Yorkshire & Lincolnshire Pollution Advisory Group.

Note (15.11.22): *A number of the organisations listed above are currently unrepresented on EH/4 as a result of replacement representatives not being named by the organisations concerned.*