

To: National Brownfield Forum

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

This occasional newsletter is intended to provide a window on current activity of BSI committees EH/4-Soil quality and B526/7-Ground properties and its sub-committees (B526/7/1,2,3), and associated CEN and ISO Technical Committees. It provides a listing of current BSI, CEN and ISO projects, including recently published standards and draft documents open for comment.

INTRODUCTION

BSI EH4 Soil Quality is the BSI technical committee responsible for production of standards relating to soil quality including contaminated land and natural and near-natural sites (e.g. farmland). 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



REVISION OF BS 10175

The extended period for comments on the Draft for Public Comment for revision of BS 10175 *Investigation of potentially contaminated sites – Code of Practice* closed in January. Work is in progress to resolve how to respond to the numerous comments submitted. Publication of the revised BS 10175 is probably still a few months away.

REVISION OF BS8576:2013

BS 8576:2013 Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs). BSI committee *EH/4-Soil quality* has decided, based on comments received, that revision is needed. It is expected that the revision will start early in 2025.

PROPOSED BS 10777 - Soil and soil-like materials quality assessment – Use on site of [handheld/portable] energy dispersive x-ray fluorescence spectrometers – Code of Practice

The standard will provide guidance on how handheld/portable XRF equipment can be used during investigations in accordance with BS 10175, including to provide quantitative data of sufficient quality and reliability to be used in human health risk assessments. It is intended for use in conjunction with **BS EN ISO 13196 Soil quality – Screening soils for selected elements by energy dispersive X-ray fluorescence spectrometry using a handheld or portable instrument** which is currently being revised. Finalisation will depend on completion of a revised version of BS EN ISO 13196.

CEN TC444 and the Proposed EU Soil Monitoring Law

The proposed EU “Soil Monitoring Law” will require European Standards (ENs) for the wide range of measurements specified to ensure consistency in the data gathered in member countries.

There are many suitable ENs in CEN TC444’s existing portfolio but there are gaps that need to be filled by new or amended standards. Filling the gaps is likely to dominate TC 444’s activities for the next few years. This is likely to also influence ISO TC190’s programme given the close working relationships between the two TCs and the commitment to have unified ISO and European standards whenever possible.

All new and amended ENs will automatically become British Standards so there will potentially be some impact in the UK, especially if the UK (or its separate jurisdictions) decide to mirror the requirements of the new EU Soil Monitoring Law in their own programmes.

CEN TC444/WG8-*Assessment* will hold its first meeting in the form of a Workshop to be held on 15 May in conjunction with the annual meeting of TC444 in Prague. It will consider all forms of soil degradation and solid wastes. CEN TC444/WG-7-*Sampling* has also been activated and will meet for the first time during the TC444 meeting in Prague in May.

REVISION OF EN 12457-1, EN12457-2, EN 12457-3 and EN 12457-4

Characterisation of waste - Leaching – Compliance test for leaching of granular waste materials and sludges - Parts 1, 2, 3 & 4

Revision of EN 12457-1:2002, EN12457-2:2002, EN 12457-3:2002 and EN 12457-4:2002 has started. The standards will be renamed:

Granular waste materials, sludges, soil, soil like materials and sediments – Leaching – Compliance test for leaching – [Part X]

to reflect changes in their Scopes. The drafts are expected to appear as draft European Standards (prENs)) later this year. The new versions will be adopted as British Standards.



SocEnv Soils and Stones Project

Information about the Society for the Environment's "Soils and Stones project can be found here:

[Soils and Stones Project | Society for the Environment \(socenv.org.uk\)](http://socenv.org.uk)

The project has three key aims, bringing Chartered Environmentalists (and those pursuing the registration) together to lead the way and deliver change, through:

- Sharing good practice on soils use/re-use.
- Advocating for policies which recognise the value of these hugely valuable resources.
- Making connections and finding solutions via collaboration.

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/>

SOIL HUB

The on-line hub for 'all things soil' ([uksoils](http://uksoils.org)) 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).

LEACHING OF SOILS, WASTES AND CONSTRUCTION PRODUCTS

A web-site concerning leaching tests supported among others by CEN TC444/WG1 and is 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.

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 2023
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Drafts - New or amended entries – 1 December 2024 to 28 February 2025
Drafts - New or amended entries – 1 to 31 March 2025
Published standards – 1 December 2024 – 28 February 2025
Published standards – 1 to 31 March 2025

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		
NA to BS EN 1997-2:2024	UK National Annex to Eurocode 7: Geotechnical design - Part 2: Ground properties	Published March 2025
BS ISO 8259:2024 (+ corrigendum 2025)	Soil quality - Bioaccessibility of organic and inorganic pollutants from contaminated soil and soil-like materials	Published January 2025
BS EN ISO 11074:2025	Soil quality – Vocabulary	March 2025

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DRAFT ISO/CEN GEOTECHNICAL STANDARDS		
<i>These standards form part of the programme of work of BSI committees B526/7/1, B526/7/2 & B526/7/3</i>		
CEN EN 1997-3	Eurocode 7 - Geotechnical design – Geotechnical structures <i>Will partially replace BS EN 1997-1: 2004 in due course</i>	Publication of EN 1997-3 is likely about April 2025. Preparation of the National Annexes to the three standards has started.
ISO DIS 16383-1 CEN prEN 16383-1	Geotechnical investigation and testing – Laboratory testing of rock – Part 1: Determination of water content	Comment period ended 5 September 2024
ISO NWI 16383-3-	Geotechnical investigation and testing – Laboratory testing of rock – Part 3: Determination of the uniaxial compressive strength and deformability	New standard proposal. Approved February 2025
ISO NWI 1683-4	Geotechnical investigation and testing – Laboratory testing of rock – Part 4: Determination of the basic friction angle of flat rock surfaces	New standard proposal. Approved February 2025
CEN ISO NWI 17892-13	Geotechnical investigation and testing – Laboratory testing of soil – Part 13: Swelling test for Soils, Hard Soils and Soft Rocks – Procedure with cycles on a single specimen	New standard proposal. Approved February 2025
ISO CD 18674-6	Geotechnical investigation and testing -Geotechnical monitoring by field instrumentation – Part 6: Measurement of settlement: Hydraulic settlement systems	Commenting period ended 8 April 2024
CEN prEN, ISO DIS 18674-7	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 7: Measurement of strains: Strain gauges	Commenting period ended 15 March 2024
CEN, ISO NP 18674-9	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 9: Measurement of displacements by geodetic means	New standard proposed. Approved to proceed January 2024.
CEN prEN, ISO DIS 22476-6	Geotechnical investigation and testing - Testing of geotechnical structures - Part 6: Load testing of soil nails and rock bolts (ISO/DIS 22477-6:2025)	Comment period ends 11 May 2025
CEN FprEN, ISO FDIS 22476-16	Geotechnical investigation and testing – Field testing – Part 16: Borehole shear test	Comment period ended 19 November 2023

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NWIP	Multi-channel active measurement of the surface wave to estimate shear wave velocity profile	
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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 7303	Soil quality – Simplified method for oral bioaccessibility of metal(loids) in soils <i>Will complement BS ISO 17924 and BS ISO 8259</i>	Comment period ended 21 November 2024. Proceeding to FDIS
ISO DIS 11265 CEN prEN 11265	Environmental solid matrices – Determination of the specific electrical conductivity <i>(Proposal with CEN TC444 to merge with CEN/TS 15937:2013 awaiting approval).</i>	Comment period ended 27 November 2024
ISO FDIS 11267 CEN FprEN 11267	Soil quality – Inhibition of reproduction of <i>Collemba (Folsomia candida)</i> by soil contamination <i>(will replace BS EN ISO 11267:2014)</i>	BSI comment period ended 17 June 2023
ISO DIS 11465	Sludge, treated biowaste, soil and waste – Determination of dry residue or water content and calculation of the dry matter fraction on a mass basis <i>(Merger of ISO 11464 with EN 12889 & EN 15934)</i>	Comment period ended 11 October 2024
ISO DIS 13196 CEN prEN 13196	Soil quality – Screening soils for selected elements by energy dispersive X-ray fluorescence spectrometry using a handheld or portable instrument <i>(Revision of BS EN ISO 13196:2013)</i>	BSI comment period ended 23 March 2025
ISO DIS 15192 CEN prEN 15192	Soil and waste – Determination of chromium (VI) in solid material by alkaline digestion and ion chromatography with spectrometric detection <i>Will replace ISO 15192:2010</i>	Comment period ended 21 February 2024
ISO DIS 16703 CEN prEN 16703	Environmental soil matrices – Determination of hydrocarbon content in the range C ₁₀ to C ₄₀ by gas chromatography.	Comment period ended 31 October 2024
CEN prEN, ISO DIS 16965	Environmental solid matrices – Determination of elements using inductively coupled plasma spectrometry (ICP-MS) <i>(will supersede BS EN ISO 16965:2018)</i>	Comment period ended 5 September 2024

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ISO DIS 17505	<i>Adoption as an ISO standard of:</i> [BS] EN 17505:2023 Soil and waste characterization – Temperature dependent differentiation of total carbon (TOC400, ROC, TIC900)	Comment period ended 31 October 2024
ISO DIS 17601	Soil quality – Estimation of abundance of selected microbial gene sequences by quantitative PCR from DNA directly extracted from soil	Comment period ended 12 October 2024
ISO DIS 18227 CEN prEN 18227	Environmental soil matrices – Determination of elemental composition by X-ray fluorescence spectrometry <i>Includes merger of ISO 18277 and EN 15309</i>	Comment period ended 20 November 2024.
ISO DIS 18386	Soil quality – Screening method for soil temperature – Measurement by IR thermometer	Comment period ended 19 May 2024
ISO DIS 18400-105	Soil quality – Sampling – Part 105: Packaging, transport, storage and preservation of samples <i>Will replace BS ISO 18400-105:2017</i>	Comment period ended 26 September 2024
ISO Draft DTS 18718	Assessment of soil functions and related ecosystem services: definitions, descriptions and conceptual framework	Draft Technical Specification pending.
ISO Draft DTS 18721	Assessment of soil functions: indicators and methods	Draft Technical Specification pending
ISO CD 19204	Soil quality – Procedure for site-specific ecological risk assessment of soil contamination (soil quality TRIAD approach)	Comment period ended 25 August 2024
ISO DIS 19254	Soil quality - Simultaneous determination of multi-class pesticide residues in soil using GC-MS/MS and LC-MS/MS analysis	Comment period ends 24 April 2025
ISO CD TS 21251	Soil quality – Methods to estimate biogeochemical stability or residence time of organic carbon in soils	Comment period ends 6 April 2025
ISO CD 21285	- Soil quality - Inhibition of reproduction of soil mite (<i>Hypoaspis aculeifer</i>) by soil contaminants	Comment period ends X April 2025
ISO WD 25370	Soil quality – Guidance on determining key parameters of soil and materials regarding transfer and mobility of components	Project started October 2024.

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NEW WORK ITEM PROPOSALS <i>SUBJECT TO APPROVAL BY CEN TC444 and/or ISO TC190</i>		
CEN EN 16179 ISO NP 25652	Sediment, soil, sludge and waste – Analysis of PFAS by HPLC and mass spectrometry	Vote on CEN lead in closed 11 February 2025
ISO & CEN WI 21744	Environmental solid matrices – Guidance for sample pretreatment <i>Will replace several CEN & ISO standards.</i>	Circulated for comment to relevant CEN TC444 and ISO TC190 Working Groups on 19 January 2024.
ISO NP TS 25008-1	Soil quality — Measurement of sublethal effects of pollutants on soil flora — Part 1: Part 1: Physiological parameters for stress evaluation	Comment period ended 6 March 2024
ISO/NP TS 25008-2	Soil quality — Measurement of sublethal effects of pollutants on soil flora — Part 2: Antioxidant defence enzymes activities	Comment period ended 7 March 2024
ISO NP 25251	Determination of inorganic arsenic species in soil and soil-like materials	ISO comment period ended 5 August 2024
ISO NP 25352	Soil quality — Effects of soluble contaminants on soil algae with paper-disc	
ISO NP TS 25672	Soil quality - Determination of phenol oxidase (laccase) activity in soil using micro-well plates	Comment period ended 14 February 2025

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.

Member organisations of EH/4 include:

Association of Geotechnical and Geoenvironmental Specialists (AGS), Chartered Institute of Environmental Health, Environment Agency, Environmental Industries Commission (EIC) , EIC Contaminated Land Working Group, Environmental Services Association, Institution of Environmental Sciences, National House Building Council (NHBC), Society of Brownfield Risk Assessment (SOBRA), Society of Chemical Industry (SCI), the James Hutton Institute, Water UK, Yorkshire & Lincolnshire Pollution Advisory Group.

[13-01-25]