



NOTE: This guidance is intended for situations where there is a prior agreement to reuse site claimed soils. If this is not agreed then Section 5 of the BS (sampling of topsoil) will apply. This guidance is intended to assist in formulating a Working Methodology Statement for Planning purposes.

(All references are taken from the BS)

BS Introduction

Topsoil provides the function of supporting the growth of vegetation. Topsoil is a dynamic and fragile material, which when managed appropriately, fulfils its function, but is easily damaged by mishandling. It is important that topsoil is lifted, transported, stored and spread carefully over a non-compact substrate. Damage during handling can result in a rapid deterioration in the functions topsoil provides.

Annex A (informative)

Recommendations for stripping, handling and preparing topsoil

A.1 General

Soils generally lose strength and become less resistant to damage as they become wetter; therefore, it is essential that they are stripped, handled and trafficked only in the appropriate conditions of weather and soil moisture, and with suitable machinery. If sustained heavy rainfall (e.g. >10 mm in 24 h) occurs during soil stripping operations, work should be suspended etc.....

*..... a **detailed stripping plan** showing soil units to be stripped, haul routes and the phasing of vehicle movements.*

Topsoil and subsoil should be stripped separately and they should be kept separate. Topsoils of different quality should also be kept separate from each other.

*NOTE Topsoil spoil heaps **should not exceed 3 m in height**, including topsoil existing on site, and should be used within 12 months (reference BS 4428:1989 Code of practice for general landscape operations)*

A.3 Preparation of the receiving area and spreading topsoil

The depth of topsoil spread should not normally exceed 300 mm. Suitable (loosened) subsoil should provide the remainder of the minimum rooting depth. The minimum rooting depth should be normally

- ***450 mm for grass,***
- ***600 mm for shrubs and***
- ***900 mm for trees.***

(Subsoil in accordance with BS8601: 2013 specification subsoil)

Prior to spreading topsoil, the receiving area should be de-compacted to increase permeability.

*NOTE 1 The functioning of topsoil within a landscape depends not only on the quality of the topsoil but also on the **care given to the preparation of the receiving area, which will often have been compacted** by the passage of vehicles or storage of materials.*

*NOTE 2 It is particularly important **that the topsoil is not over-compacted during spreading**. Over compaction prevents plant root growth and function, and reduces water attenuation and the ability of excess water to drain away. It is one of the **most common reasons for plant failures in landscape schemes**, and it increases the risk of erosion and runoff. Placement of soil by tracked hydraulic excavators working in strips from ground not yet loosened (the "loose-tipping" method) is a way to avoid this. This method is illustrated in Figure A.2 (in BS doc)*

If over-compaction of subsoils occurs they should be loosened using ripping equipment before receiving topsoil; ripping should only be done when the subsoil is sufficiently dry that it shatters. In small confined areas, such as in gardens and narrow landscaping strips, the **use of a small tracked excavator with a “tine attachment” , or hand cultivation**, should be used. Care should be taken to avoid overworking soils, especially with inappropriate machinery, as this can damage soil structure and increases the risk of erosion and runoff.

All stones and other objects larger than 75 mm brought to the subsoil surface by ripping should be removed from the prepared surface.

NOTE 3 Further guidance on the management, preparation and handling of soils is provided in the Defra publication Construction code of practice for the sustainable use of soils on construction sites [N.1].

A.4 Stones

Stone size and shape can be important factors (see Table A.1 of BS) in relation to ultimate land use. For example, large stones, especially sharp stones, are of greater detriment in playing field soil than in planting areas.

Recommended maximum stone size for different land uses
Land use /Maximum stone size (mm)

Planting areas 50mm

Tree planting 50 mm

Informal recreation 20 mm

Formal recreation 20 mm

Native habitats 50 mm

Agriculture 50 mm

NOTE 4 Further guidance on the specific quality of topsoil for formal recreation is provided in the SAPCA publication The SAPCA Code of practice for the design, construction and improvement of natural sports turf [10].

2 Normative references

Standards publications

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

BS 7755-3.7:1995, Soil quality – Part 3: Chemical methods – Section 3.7:

Determination of total nitrogen – Modified Kjeldahl method

BS EN 12579:2013, Soil improvers and growing media – Sampling

BS EN ISO 3696:1995, Water for analytical laboratory use – Specification and test Methods

BS ISO 10390:2005, Soil quality – Determination of pH

BS ISO 11277:2009, Soil quality – Determination of particle size distribution in mineral soil material – Method by sieving and sedimentation

BS ISO 16729:2013, Soil quality – Determination of nitric acid soluble fractions of Elements

Other publications

[N1] DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS. Construction code of practice for the sustainable use of soils on construction sites.

London: DEFRA, 2009.

NOTE-This document is for guidance only and is not intended as a substitute for BS3882:2015 Specification for topsoil



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