

Corby Heritage Trail Pump Track

Preambles

October 2020

Table of Contents

Title

D20	Excavating and filling
E05	In situ concrete construction generally
E10	Mixing/casting/curing in situ concrete
E41	Worked finishes to in situ concrete
E42	Accessories cast into in situ concrete
Q20	Granular sub-bases to roads/ pavings
Q22	Asphalt roads/ pavings
Q28	Topsoil and soil ameliorants
Q30	Seeding/ turfing
Q35	Landscape maintenance
Q50	Site/ street furniture/ equipment
R12	Below ground drainage systems
R13	Land drainage
R17	Soakaway, septic tank and sewage treatment units
Z20	Fixings and adhesives
Z22	Sealants

D20 Excavating and filling

To be read with Preliminaries/General conditions

GENERALLY/THE SITE

CLEARANCE/EXCAVATING

168 SITE CLEARANCE

- Timing: Before topsoil stripping, if any.
- General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.

220 STRIPPING TOPSOIL

- General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, paving and other areas, as required.
- Depth:
 - Remove to an average depth of 150mm.
 - Give notice where the depth of topsoil is difficult to determine.
- Handling: Handle topsoil for reuse or sale in accordance with clause 225.
- Around trees: Do not remove topsoil from below the spread of trees to be retained.
- Site storage: Contractor's Proposal.

225 HANDLING TOPSOIL

- Standard: To BS 3882.
- Aggressive weeds:
 - Species: Included in the Weeds Act, section 2 or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
 - Give notice: Obtain instructions before moving topsoil.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other soil or material containing aggressive weeds, sharps, plastics and non-soil forming materials and notifiable animal or plant diseases.
 - Oil, fuel, cement or other substances harmful to plant growth.
 - Other classifications of topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.

250 PERMISSIBLE DEVIATIONS FROM FORMATION LEVELS

- Embankments and cuttings: ± 50 mm.

260 INSPECTING FORMATIONS

- Give notice: Make advance arrangements for inspection of formations.
 - Notice (minimum): Two Days.

310 UNSTABLE GROUND

- Generally: Ensure that the excavation remains stable at all times.
- Give notice: Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
- Take action: If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

DISPOSAL OF MATERIALS

420 TOPSOIL STORAGE HEAPS

- Location: TBC.
- Standard: To BS 3882.
- Height (maximum): TBC.
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination.

450 WATER

- Generally: Keep all excavations free from water until:
 - Formations are covered.
 - Below ground constructions are completed.
 - Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
- Drainage: Form surfaces of excavations and fill to provide adequate falls.
- Removal of water: Provide temporary drains, sumps and pumping as necessary. Do not pollute watercourses with silt laden water.

460 PERMANENT DRAINAGE SYSTEM

- Disposal of water from the excavations through system: Contractor's Design.

FILLING**500 PROPOSED FILL MATERIALS**

- Details: Submit full details of proposed fill materials to demonstrate compliance with specification, including:
 - Type and source of imported fill.
 - Proposals for processing and reuse of material excavated on site.
 - Test reports as required elsewhere.
- Timing: Tender.

510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

- General: Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
 - Frozen or containing ice.
 - Organic.
 - Contaminated or noxious.
 - Susceptible to spontaneous combustion.
 - Likely to erode or decay and cause voids.
 - With excessive moisture content, slurry, mud or from marshes or bogs.
 - Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
 - Unacceptable, class U2 as defined in the Highways Agency 'Specification for highway works', clause 601.

520 FROST SUSCEPTIBILITY

- General: Except as allowed below, new fill must be non-frost-susceptible as defined in Highways Agency 'Specification for Highway Works', clause 801.8.
- Test reports: If the following fill materials are proposed, submit a laboratory report confirming they are non-frost-susceptible:
 - Fine grained soil with a plasticity index less than 20%.
 - Coarse grained soil or crushed granite with more than 10% retained on a 0.063 mm sieve.
 - Crushed chalk.
 - Crushed limestone fill with average saturation moisture content in excess of 3%.
 - Burnt colliery shale.
- Frost-susceptible fill: May only be used:
 - At depths below the finished ground surface greater than: 450mm.

530 PLACING FILL

- Surfaces of excavations and areas to be filled: Free from loose soil, topsoil, organic material, rubbish and standing water.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
- Adjacent structures, membranes and buried services:
 - Do not overload, destabilise or damage.
 - Submit proposals for temporary support necessary to ensure stability during filling.
 - Allow 14 days (minimum) before backfilling against in situ concrete structures.
- Layers: Place so that only one type of material occurs in each layer.
- Earthmoving equipment: Vary route to avoid rutting.

535 COMPACTION GENERALLY

- General: Compact fill not specified to be left loose as soon as possible after placing.
- After compaction: Surface of each layer must be well closed, showing no movement under compaction plant, and without cracks, holes, ridges, loose material and the like.
- Defective areas: Remove and recompact to full thickness of layer using new material.

540 BENCHING IN FILL

- Adjacent areas: If, during filling the difference in level between adjacent areas of filling exceeds 600 mm, cut into edge of higher filling to form benches 600 mm minimum width and height equivalent to depth of a layer of compacted filling.
- New filling: Spread and compact to ensure maximum continuity with previous filling.

550 GEOTEXTILE SHEET, GRIDS & NETS

- Protect from:
 - Exposure to light.
 - Contaminants.
 - Materials listed as potentially deleterious by geotextile manufacturer.
- Wind uplift.

610 COMPACTED FILLING FOR LANDSCAPE AREAS

- Fill: Material capable of compaction by light earthmoving plant.
- Filling: Layers not more than 200 mm thick. Lightly compact each layer to produce a stable soil structure.

615 LOOSE TIP FILLING FOR LANDSCAPE AREAS

- Filling: Do not firm, consolidate or compact when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

617 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE

- Fill: To Highways Agency 'Specification for highway works', clauses 801 and 803:
 - Crushed rock (other than argillaceous rock).
 - Crushed concrete.
 - Recycled aggregates.
 - Crushed non-expansive slag.
 - Well-burned non-plastic colliery shale.
- Filling: To Highways Agency 'Specification for highway works', clause 802.

626 COMPACTED GENERAL FILL

- Excavated material: Select suitable material and keep separate.
- Filling: Spread and level material in layers. As soon as possible thoroughly compact each layer.
- Proposals: Well in advance of starting work submit details of proposed:
 - Materials to be used, including quantities of each type.
 - Type of plant.
 - Maximum depth of each compacted layer.
 - Minimum number of passes per layer.

640 STARTER LAYER OF COMPACTED FILLING

- Fill: Suitable hard granular material. Compact thoroughly.

650 PROTECTION OF COMPACTED FILLING

- Temporary protective filling: Before allowing construction traffic, raise level of compacted cohesive soil filling at least 150 mm above formation level using properly compacted temporary filling.
- Removal: Remove temporary protective filling from site before permanent construction.

710 HARDCORE FILLING

- Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any direction:
 - Test requirements:
 - Minimum 10% fines value tested in a soaked condition to BS 812-111.

Impact value SZ tested to BS EN 1097-2.

- Material:
 - In any one layer only one of the following:
 - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - Crushed non-expansive slag.
 - Gravel or hoggins with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - Well-burned non-plastic colliery shale.
 - Natural gravel.
 - Natural sand.
- Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer.

E05 In situ concrete construction generally

To be read with Preliminaries/General conditions.

225 TEMPERATURE RECORDS

- Requirement: Throughout period of concrete construction record:
 - Daily
 - Under adverse temperature conditions: Temperature at commencement and end of placing.
- Location: In the shade, close to the structure.

E10 Mixing/casting/curing in situ concrete

To be read with Preliminaries/General conditions.

CONCRETE

101 SPECIFICATION

- Concrete generally: To BS 8500-2.
- Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

MATERIALS, BATCHING AND MIXING

215 READY-MIXED CONCRETE

- Production plant: Currently certified by a body accredited by UKAS to BS EN ISO/IEC 17065 for product conformity certification of ready-mixed concrete .
- Source of ready-mixed concrete: Obtain from one source if possible . Otherwise, submit proposals .
 - Name and address of depot: Submit before any concrete is delivered .
 - Delivery notes: Retain for inspection .
- Declarations of nonconformity from concrete producer: Notify immediately .

218 SITE MIXED CONCRETE

- Batching by mass:
 - Accuracy of measuring devices: To BS EN 206, clause 9.6.2.2.
 - Tolerances for quantity of constituent material: To BS EN 206, Table 27.
- Batching by volume:
 - Mixing: To BS 8000-2.1, subsections 2, 3 and 4.

221 INFORMATION ABOUT PROPOSED CONCRETES

- Submit when requested:
 - Details listed in BS 8500-1, clause 5.2.

230 INTERRUPTION OF SUPPLY DURING CONCRETING

- Elements without joints: Where elements are detailed to be cast in a single pour without joints, make prior arrangements for a back-up supply of concrete.
- Elsewhere:
 - Preparation: Manage pour to have a full face, and have materials available to form an emergency construction joint while concrete can still be worked.
 - Before pour is completed: Submit location and details of joint, make proposals for joint preparation.

415 ADMIXTURES

- Calcium chloride and admixtures containing calcium chloride: Do not use .

490 PROPERTIES OF FRESH CONCRETE

- Adjustments to suit construction process: Determine with concrete producer . Maintain conformity to the specification.

620 TEMPERATURE OF CONCRETE

- Objective: Limit maximum temperature of concrete to minimize cracking during placing, compaction and curing. Take account of:
 - High temperatures and steep temperature gradients: Prevent build-up during first 24 hours after casting. Prevent coincidence of maximum heat gain from cement hydration with high air temperature and/ or solar gain.
 - Rapid changes in temperature: Prevent during the first seven days after casting.
- Proposals for meeting objective: Submit.

630 PREMATURE WATER LOSS

- Requirement: Prevent water loss from concrete laid on absorbent substrates .
 - Underlay: Select from:

Polyethylene sheet: 250 micrometres thick .
Building paper: To BS 1521, grade B1F .
Installation: Lap edges 150 mm .

648 ADVERSE TEMPERATURE CONDITIONS

- Requirement: Submit proposals for protecting concrete when predicted ambient temperatures indicate risk of concrete freezing or overheating.

650 SURFACES TO RECEIVE CONCRETE

- Cleanliness of surfaces immediately before placing concrete: Clean with no debris, tying wire clippings, fastenings or free water .

670 TRANSPORTING

- General: Avoid contamination, segregation, loss of ingredients, excessive evaporation and loss of workability . Protect from heavy rain .
- Entrained air: Anticipate effects of transport and placing methods in order to achieve specified air content

680 PLACING

- Records: Maintain for time, date and location of all pours.
- Timing: Place as soon as practicable after mixing and while sufficiently plastic for full compaction.
- Temperature limitations for concrete: 30°C (maximum) and 5°C (minimum), unless otherwise specified. Do not place against frozen or frost covered surfaces.
- Continuity of pours: Place in final position in one continuous operation up to construction joints. Avoid formation of cold joints.
- Discharging concrete: Prevent uneven dispersal, segregation or loss of ingredients or any adverse effect on the formwork or formed finishes.
- Thickness of layers: To suit methods of compaction and achieve efficient amalgamation during compaction.
- Poker vibrators: Do not use to make concrete flow horizontally into position, except where necessary to achieve full compaction under void formers and cast-in accessories and at vertical joints.

690 COMPACTING

- General: Fully compact concrete to full depth to remove entrapped air. Continue until air bubbles cease to appear on the top surface.
 - Areas for particular attention: Around reinforcement, under void formers, cast-in accessories, into corners of formwork and at joints.
- Consecutive batches of concrete: Amalgamate without damaging adjacent partly hardened concrete.
- Methods of compaction: To suit consistence class and use of concrete.

700 LIGHTWEIGHT AGGREGATE CONCRETE

- Placing and compacting: Prevent flotation of coarse aggregate and formation of excessive blowholes .

720 VIBRATORS

- General: Maintain sufficient numbers and types of vibrator to suit pouring rate, consistency and location of concrete .
- External vibrators: Obtain approval for use .

730 PLASTIC SETTLEMENT

- Settlement cracking: Inspect fresh concrete closely and continuously wherever cracking is likely to occur, including the top of deep sections and at significant changes in the depth of concrete sections .
 - Timing: During the first few hours after placing and whilst concrete is still capable of being fluidized by the vibrator .
- Removal of cracks: Revibrate concrete.

810 CURING GENERALLY

- Requirement: Keep surface layers of concrete moist throughout curing period, including

perimeters and abutments, by either restricting evaporation or continuously wetting surfaces of concrete.

- Surfaces covered by formwork: Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
- Top surfaces: Cover immediately after placing and compacting. If covering is removed for finishing operations, replace it immediately afterwards.
- Surface temperature: Maintain above 5°C throughout the specified curing period or four days, whichever is longer.
- Records: Maintain details of location and timing of casting of individual batches, removal of formwork and removal of coverings. Keep records on site, available for inspection.

811 COVERINGS FOR CURING

- Sheet coverings: Suitable impervious material .
- Curing compounds: Selection criteria:
 - Curing efficiency: Not less than 75% or for surfaces exposed to abrasion 90% .
 - Colouring: Fugitive dye .
 - Application to concrete exposed in the finished work: Readily removable without disfiguring the surface .
 - Application to concrete to receive bonded construction/ finish: No impediment to subsequent bonding .
- Interim covering to top surfaces of concrete: Until surfaces are in a suitable state to receive coverings in direct contact, cover with impervious sheeting held clear of the surface and sealed against draughts at perimeters and junctions .

812 PREVENTING EARLY AGE THERMAL CRACKING

- Deep lifts or large volume pours: Submit proposals for curing to prevent early age thermal cracking, taking account of:
 - Temperature differentials across sections .
 - Coefficient of thermal expansion of the concrete .
 - Strain capacity of the concrete mix (aggregate dependent) .
 - Restraint .

840 PROTECTION

- Prevent damage to concrete, including:
 - Surfaces generally: From rain, indentation and other physical damage .
 - Surfaces to exposed visual concrete: From dirt, staining, rust marks and other disfiguration .
 - Immature concrete: From thermal shock, physical shock, overloading, movement and vibration .
 - In cold weather: From entrapment and freezing expansion of water in pockets, etc .

E41 Worked finishes to in situ concrete

To be read with Preliminaries/ General conditions.

150 FINISHING

- Timing: Carry out at optimum times in relation to setting and hardening of concrete.
- Prohibited treatments to concrete surfaces:
 - Wetting to assist surface working.
 - Sprinkling cement.

230 BRUSHED FINISH

- Surface on completion: Light even texture.

E42 Accessories cast into in situ concrete

To be read with Preliminaries/ General conditions.

GENERAL

110 ACCESSORIES SPECIFIED ELSEWHERE

- Item/ location: Benches & Sign / TBC.

EXECUTION

610 HOLLOW ACCESSORIES

- Filling/ sealing: Temporally fill or seal accessory to prevent ingress of grout during concreting. Leave filling/ seals in position until accessory is used.

620 TEMPORARY SUPPORTS

- Location: Provide to hold accessories for casting into unshuttered surface of concrete, set at a level that will not adversely affect finish of concrete surface remote from accessory.
- Position: Hold securely to prevent lateral movement or rotation of accessory during concreting.

630 PROTECTIVE COATINGS

- Inspect: Immediately prior to casting concrete.
- Damage to coatings:
 - Minor: Submit proposals for coating repair.
 - Significant: Replace accessory.

640 INSTALLATION

- Cleanliness: At time of casting, surfaces in contact with concrete to be free from contaminants which may adversely affect accessory, reinforcement, concrete, or bond between accessory and concrete.
- Position: Hold accessory firmly in position, preventing displacement during concreting.

Q20 Granular sub-bases to roads/ pavings

To be read with Preliminaries/ General conditions.

140 EXCAVATION OF SUBGRADES

- Final excavation to formation or subformation level: Carry out immediately before compaction of subgrade.
- Soft spots and voids: Give notice.
- Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.

145 PREPARATION AND COMPACTION OF SUBGRADES

- Timing: Immediately before placing sub-base.
- Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

170 GEOTEXTILE FILTER/ SEPARATOR MEMBRANE

- Protect from:
 - Exposure to light, except during laying (maximum five hours).
 - Contaminants.
 - Materials listed as potentially deleterious by geotextile manufacturer.
 - Damage, until fully covered by fill.
 - Wind uplift, by laying not more than 15 m before covering with fill.
- Preparation: Remove humps and sharp projections and fill hollows before laying.

175 IMPERMEABLE MEMBRANE

- Protect from:
 - Exposure to light, except during laying (maximum five hours).
 - Contaminants.
 - Materials listed as potentially deleterious by geotextile manufacturer.
 - Damage, until fully covered by fill.
 - Wind uplift, by laying not more than 15 m before covering with fill.
- Preparation: Remove humps and sharp projections and fill hollows before laying.

211 GRANULAR MATERIAL

- Quality: Of a known suitability for use in sub-bases, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
 - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - Gravel or hoggins with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - Natural gravel.
 - Natural sand.

213 BLINDING PROTECTION FOR MEMBRANES

- Compaction: Moisten as necessary before final rolling to provide a flat, closed, smooth surface.

230 PLACING GRANULAR MATERIAL GENERALLY

- Preparation: Loose soil, rubbish and standing water removed.
- Structures, membranes and buried services: Ensure stability and avoid damage.

241 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS

- Proposals: Well in advance of starting work submit details of:
 - Maximum depth of each compacted layer.
 - Type of plant.
 - Minimum number of passes per layer.
- General: Spread and levelled in layers. As soon as possible thereafter compact each layer.
- At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place: Take particular care to compact fully.
- Defective areas: Remove loose, segregated or otherwise defective areas to the full thickness of the layer and lay and compact new material.
- Sub-base surface after compaction and immediately before overlaying: Uniformly well closed and free from loose material, cracks, ruts or hollows.

250 LAYING GRANULAR SUB-BASES

- General: Spread and levelled.
- Compaction:
 - Timing: As soon as possible after laying.
 - Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

310 ACCURACY

- Permissible deviation from required levels, falls and cambers (maximum):
 - Subgrades:
 - Roads and parking areas: +20 -30 mm.
 - Footways and recreation areas: ± 20 mm.
 - Sub-bases:

330 COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.

340 PROTECTION

- Sub-bases: As soon as practicable, cover with subsequent layers, specified elsewhere.
- Subgrades and sub-bases: Prevent degradation by construction traffic, construction operations and inclement weather.

Q22 Asphalt roads/ pavings

To be read with Preliminaries/ General conditions.

PREPARATORY WORK/ REQUIREMENTS

220 BITUMINOUS MATERIALS GENERALLY

- Suppliers names: Submit.
 - Timing (minimum): Two weeks before starting work.
- Test certificates: At the time of delivery for each manufacturing batch submit certificate:
 - Confirming compliance with this specification and the relevant standard.
Stating full details of composition of mix.

240 ACCEPTANCE OF SURFACES

- Surface: Sound, clean and suitably close textured.
- Level tolerances: To BS 594987.
- Kerbs and edgings: Complete, adequately bedded and haunched and to the required levels.

LAYING

310 LAYING GENERALLY

- Preparation: Remove all loose material, rubbish and standing water.
- Adjacent work: Form neat junctions. Do not damage.
- Channels, kerbs, inspection covers etc: Keep clean.
- New paving:
 - Keep traffic free until it has cooled to prevailing atmospheric temperature.
 - Do not allow rollers to stand at any time.
 - Prevent damage.
 - Lines and levels: With regular falls to prevent ponding.
 - Overall texture: Smooth, even and free from dragging, tearing or segregation.
State on completion: Clean.

320 ADVERSE WEATHER

- Frozen materials: Do not use.
- Suspend laying:
 - During freezing conditions
 - If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.
 - Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.

330 LEVELS

- Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

340 FLATNESS/ SURFACE REGULARITY

- Deviation of surface: Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straightedge placed anywhere on the surface to be not more than:
 - Where a straightedge cannot be used the surface must be of a comparable standard of accuracy when judged by eye.

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

PRODUCTS

300 PREPARATION MATERIALS GENERALLY

- Purity: Free of pests and disease.
- Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
- Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - Corrosive, explosive or flammable.
 - Hazardous to human or animal life.
 - Detrimental to healthy plant growth.
- Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
- Objectionable odour: None.
- Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

315 IMPORTED TOPSOIL TO BS 3882

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
 - Soil textural class to BS 3882, Figure 1:

630 DOCUMENTATION FOR IMPORTED TOPSOIL

- Timing: Submit at handover.
- Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Record drawings showing the location and depth of all soils by type and grade.
 - Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.

655 MECHANICAL TOOLS

- Restrictions: Do not use within 100 mm of tree and plant stems.

660 GRADING SUBSOIL

- Standard: In accordance with BS 8601.
- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
- Areas of thicker topsoil: Excavate locally.
- Avoid compaction.
- Excess subsoil: Remove.

665 SUBSOIL SURFACE PREPARATION

- Standard: In accordance with BS 3882.
- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening:
 - When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
 - Wet conditions: Do not loosen subsoils.
- Stones: Immediately before spreading topsoil, remove stones

680 SURPLUS TOPSOIL TO BE RETAINED

- Generally: Spread and level on site:
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.

690 TOPSOIL STORAGE HEAPS

- Location: TBC.
 - Height (maximum): TBC.
 - Width (maximum): TBC.
 - Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
 - Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
- Prevent compaction and contamination, by fencing and covering as appropriate.

700 GRADING OF TOPSOIL

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Standard: In accordance with BS 3882.
- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit.

710 SPREADING TOPSOIL

- Standard: In accordance with BS 3882.
- Temporary roads/ surfacing: Remove before spreading topsoil.
- Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 LOOSE TIPPING OF TOPSOIL

- Standard: In accordance with BS 3882.
- General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

718 FINAL CULTIVATION

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

750 SITE-MADE TOPSOIL

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Crumb structure: Made up of discernible crumbs.
- Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium to be as for BS 3882 multipurpose topsoil.

830 APPLYING TOP DRESSING

- Timing: Apply prior to cultivation.

Q30 Seeding/ turfing

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

115 SEEDED AND TURFED AREAS

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.

120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

146 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing seed, seedlings or soil.

150 WATER RESTRICTIONS

- Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out seeding/turfing until instructed. If seeding/turfing has been carried out, obtain instructions on watering.

170 SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

PREPARATION

210 HERBICIDE

- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.

290 PREPARATION FOR HYDRAULIC SEEDING

- Clearance: Remove rubbish, and stones
- Herbicide:
 - General weeds: Selective contact herbicide.
 - Pernicious weeds: Selective hormone herbicide.
- Grading: Smooth, flowing levels.
 - Cultivation: Ensure grass roots can penetrate substrate.
- Finished surface: Ribbed or rough textured.

SEEDING

310 QUALITY OF SEED

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
 - Standard: EC purity and germination regulations.
 - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.

330 SOWING

- General: Establish good seed contact with the root zone.

340 PRE-EMERGENT HERBICIDE

- Standard: Pesticide Safety Directorate approved.
- Application rate: In accordance with manufacturer's written recommendation.
 - Timing: Immediately after sowing.

350 TURF EDGING TO SEEDED AREAS

- Standard: To BS 3969, with no perennial ryegrass.

- Seed mix: Similar to seeded area.
- Timing: Before sowing.
- Preparation: Rake back a 750 mm wide margin around prepared seed beds.
 - Level of seed bed: Married in with turf.
- Placement: Single row laid end to end and trimmed to a line.
- Watering: On completion.

TURFING

405 CULTIVATED TURF

- Supplier: Turfgrass Growers Association (TGA) member, to TGA quality standards.

410 TURF TO BS 3969

- Standard: To BS 3969, free from undesirable grasses and weeds.
- Source: Submit proposals.
- Herbicide treatment: Apply not less than four weeks and not more than three months before lifting.

420 DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
 - Standard: To BS 3969.

427 WEED SUPPRESSION MEMBRANE

- Laps: Minimum 100 mm side and end laps.
- Laying sequence: After final cultivation and immediately before turfing.
- Anchoring: Sufficient topsoil or sand spread evenly over membrane to prevent wind uplift.

430 TURFING GENERALLY

- Timing of laying:
 - Spring and summer: Within 18 hours of delivery.
 - Autumn and winter: Within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

440 TURFING ON BANKS EXCEEDING 30° SLOPE

- Turf configuration: Diagonal or horizontal.
- Securing turfs:
 - Fixings: Contractor's Proposal.
 - Frequency of fixings: Contractor's Proposal.

445 TURF NETTING

- Turf configuration: Diagonal or horizontal.

PROTECTING/CUTTING**590 CLEANLINESS**

- Soil and arisings: Remove from hard surfaces.
- General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

MAINTENANCE**610 FAILURES OF SEEDING/TURFING**

- Duration: Carry out the following operations from completion of seeding/ turfing until: End of Defects.
- Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
- Method of making good: Re-cultivation and reseeding/ re-turfing.

Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

GENERALLY

130 REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.

155 WATERING

- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.

190 LITTER

- Extraneous rubbish not arising from the contract work: Collect and remove from site.

195 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

197 CLEANLINESS

- Soil and arisings: Remove from hard surfaces.
- General: Leave the works in a clean, tidy condition at completion and after any maintenance operations.

GRASSED AREAS

210 MAINTENANCE OF GRASSED AREAS

- General: Maintain turf in a manner appropriate to the intended use.
- Soil and grass:
 - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
 - Waterlogging and compaction: Prevent.
 - Damage: Repair trampling, abrasion or scalping.
- Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
 - Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

211 MAINTENANCE OF GRASSED AREAS

- Standard: To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
 - Objectives: To BS 7370-3, Table 6.
 - Programme: To BS 7370-3, clause 11.
 - Mowing methods: To BS 7370-3, Table 3.

220 GRASS CUTTING GENERALLY

- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.
- Edges: Leave neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas: Sweep clear and remove arisings.
- Drought or wet conditions: Obtain instructions.

309 EDGES TO SEEDED AREAS

- Location: Planting beds and around newly planted trees.
- Timing: After seeded areas are well established.
- Edges: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
- Arisings: Remove.

- 310 RE-FORMING GRASS EDGES
- Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.
- 320 LEVELLING HOLLOWS AND BUMPS IN TURF
- Standard: To BS 7370-3, clauses 12.4 and 12.5.
- 345 CONTROL OF JAPANESE KNOTWEED
- Operations: Spot treat in June and September during suitable weather conditions and when plants are growing vigorously

Q50 Site/ street furniture/ equipment

To be read with Preliminaries/ General conditions.

INSTALLATION**510 CONCRETE FOUNDATIONS GENERALLY**

- Standard: To BS 8500-2.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

560 SITE PAINTING

- Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

R12 Below ground drainage systems

To be read with Preliminaries/ General conditions.

SYSTEM PERFORMANCE

211 DESIGN – BELOW GROUND DRAINAGE SYSTEMS

- Design: Complete the design of the below ground drainage system in accordance with BS EN 752, BS EN 1295-1 and BS EN 1610.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

221 DESIGN - SOAKAWAY SYSTEMS

- Design: Complete the design of the soakaway system in accordance with BRE Digest 365.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.
- Maintenance requirements: Submit details.

PRODUCTS

312 ADAPTORS TO PLASTICS DRAINAGE

- Material and standard: Plastics to BS 4660 and Kitemark certified or to BS EN 1401-1 and Kitemark certified.

329 PIPES, BENDS AND JUNCTIONS - SUPPLY

- Pipes and fittings: From same manufacturer for each pipeline.

371 RODDING POINTS

- Standards:
 - Plastics: To BS 4660 and Kitemark certified, to BS EN 13598-1 or Agrément certified.

464 MODULAR STORMWATER ATTENUATION UNITS.

- Manufacturer: Contractor's Proposal.
- Tank capacity/ size (minimum): 15m³.

496 GRANULAR MATERIAL – NATURAL

- Standards: To Water Industry Specification WIS 4-08-02 (as amended by WIS 4-08-02A, 2008).
- Size: Dependent on location – see Execution clauses in this section, and in sections R16, R17 and R18, if used.

EXECUTION

613 EXCAVATED MATERIAL

- Turf, topsoil, hardcore, etc: Set aside for use in reinstatement.

616 SELECTED FILL FOR BACKFILLING

- Selected fill: As-dug material, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve.
Compaction: By hand in 100 mm layers.

623 LOWER PART OF TRENCH – GENERAL

- Trench up to 300 mm above crown of pipe: Vertical sides, width as small as practicable.
 - Width (minimum): External diameter of pipe plus 300 mm.

625 LOWER PART OF TRENCH - TRANSITION DEPTH

- Trench widths up to 300 mm above crown of pipe (maximum):
 - DN 100 pipelines more than 6.0 m deep: 600 mm.
 - DN 150 pipelines more than 5.4 m deep: 700 mm.
 - DN 225 pipelines more than 4.0 m deep: 800 mm.

DN 300 pipelines more than 2.9 m deep: 900 mm.

631 TYPE OF SUBSOIL

- General: Where type of subsoil at level of crown of pipe differs from that stated for the type of bedding, surround or support, give notice.

635 FORMATION FOR BEDDINGS

- Timing: Excavate to formation immediately before laying beddings or pipes.
- Mud, rock projections, boulders and hard spots: Remove. Replace with consolidated bedding material.
- Local soft spots: Harden by tamping in bedding material.
- Inspection of excavated formations: Give notice.

683 LAYING PIPELINES

- Laying pipes: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
- Ingress of debris: Seal exposed ends during construction.
- Timing: Minimize time between laying and testing.

685 JOINTING PIPELINES

- Connections: Durable, effective and free from leakage.
- Junctions, including to differing pipework systems: With adaptors intended for the purpose.
- Cut ends of pipes: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Allowance for movement: Provide and maintain appropriate clearance at ends of spigots as fixing and jointing proceeds.
- Jointing material: Do not allow to project into bore of pipes and fittings.

711 TRENCH SUPPORTS

- Removal of trench supports and other obstacles: Sufficient to permit compacted filling of all spaces.

715 BACKFILLING TO PIPELINES

- Backfilling above top of surround or protective cushion: Material excavated from trench, compacted in layers 300 mm (maximum) thick.
- Heavy compactors: Do not use before there is 600 mm (total) of material over pipes.

720 BACKFILLING UNDER ROADS AND PAVINGS

- Backfilling from top of surround or protective cushion up to formation level: Granular sub-base material, laid and compacted in 150 mm layers.

728 LAYING WARNING MARKER TAPES

- Installation: During backfilling, lay continuously over pipelines.
- Depth: 300-400 mm.
Pipelines deeper than 2 m: Lay an additional tape 600 mm above the top of the pipeline.

COMPLETION

901 REMOVAL OF DEBRIS AND CLEANING

- Preparation: Lift covers to manholes, inspection chambers and access points. Remove mortar droppings, debris and loose wrappings.
 - Timing: Before cleaning, final testing, CCTV inspection if specified, and immediately before handover.
- Cleaning: Thoroughly flush pipelines with water to remove silt and check for blockages.
Rod pipelines between access points if there is any indication that they may be obstructed.
- Washings and detritus: Do not discharge into sewers or watercourses.
- Covers: Securely replace after cleaning and testing.

903 TEMPORARY MEASURES

- Water used to stabilize tanks and the like during installation: Drain.

911 TESTING AND INSPECTION

- Dates for testing and inspection: Give notice.
 - Period of notice: Two Days.

R13 Land drainage

To be read with Preliminaries/ General conditions.

GENERALLY

100 EXISTING DRAINS AND WATERCOURSES

- Setting out: Before starting work, check invert levels and positions of existing drainage against drawings. Report any discrepancies.
- Drains to be retained: Protect. Maintain normal operation.

DRAINS

205 FILTER DRAINS WITH GEOTEXTILE TRENCH LINING

- Level: To within 300 mm of finished ground level. Cover with geotextile membrane

350 LAYING PIPES

- Weather conditions: Lay pipes in good weather using methods suitable for the site conditions.
 - Plastics pipes: Do not lay or backfill at temperatures lower than 5°C.
 - Soil structure: Prevent compaction, smearing, top ponding, rutting and damage.
- General: Lay to line and gradient on a firm bed free from loose soil to give a free-draining installation without backfalls. Do not lay on soil backfill or in slurry.
- Drains closer than 6 m to trees or hedges: Unperforated pipes with positively sealed joints and as-dug backfill.
- Junctions between branches and mains: Purpose made components.
- Upper ends of drain runs: Plug to prevent ingress of soil or animals.
- Backfilling: Do not damage, distort or displace pipes.

EXCAVATING/ BEDDINGS/ SURROUNDS/ BACKFILL

500 TOPSOILING

- Filter drains: Do not lay until soiling operations, including spreading and grading of topsoil, have been completed.
- Segregation: Carefully remove topsoil when forming trenches and prevent mixing with subsoil.

505 EXCAVATION

- Pipe gradients: Between 1 in 200 and 1 in 80.
- Subsoil: Remove from site or to approved locations at end of each day and before pipe laying. Do not disperse on topsoiled areas.

525 GRANULAR BEDS

- Compacted thickness (minimum): 50 mm.
 - Laying pipes: Scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels.

540 GRANULAR SURROUND AND BACKFILL - SURFACE WATER DRAINS

- Material: Clean gravel, broken stone, hard clinker or slag, with no fines, graded 75 to 20 mm or approved recycled material.

555 GRANULAR BACKFILLING TO DRAINS WITH PIPES

- General: Not applicable to narrow trenches where a backfill is placed continuously by machine.
- Placing: In maximum 300 mm thick layers, with mechanical compaction from 300 mm above crown of pipe, up to finished ground level.
 - Surround and backfill material: Do not heap in the trench before spreading.
 - Packing: Carefully pack material around the sides of the pipe. Prevent damage or disruption to pipelines and compact thoroughly.

570 GEOTEXTILE TRENCH LINING

- Preparation: Trim trench. Remove sharp stones and other projections.
- Placing:
 - Dressing geotextile: Uniformly to trench profile without stretching, perforation or rupture.
 - Top of aggregate: Wrap free lengths of geotextile over top surface and overlap by 300 mm. Tuck top layer down trench side by 100 mm.

ANCILLARY CONSTRUCTIONS AND WORK**800 CLEANING**

- General: Thoroughly flush out the whole of the installation with clean water to remove silt and debris immediately before handover.
- Washings and detritus: Dispose of safely. Do not discharge into sewers or watercourses

R17 Soakaway, septic tank and sewage treatment units

To be read with Preliminaries/ General conditions

PRODUCTS

305 BELOW GROUND DRAINAGE SYSTEMS - PRODUCTS

- Products generally: As section R12.

315 MODULAR PLASTICS SOAKAWAY UNITS

- Manufacturer: Contractor's Proposal.
- Soakaway capacity (minimum): 15m³.

345 PIPES, BENDS AND JUNCTIONS - PVC-U - CORRUGATED PERFORATED

- Standard: To BS 4962, Kitemark certified.
- Outside diameters: 100mm

EXECUTION

605 BELOW GROUND DRAINAGE SYSTEMS - EXECUTION

- Execution generally: As section R12.

Z20 Fixings and adhesives

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FASTENERS GENERALLY

- Materials: To have:
 - Bimetallic corrosion resistance appropriate to items being fixed.
 - Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

320 PACKINGS

- Materials: Non-compressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

380 MISCELLANEOUS SCREWS

- Type: To suit the fixing requirement of the components and substrate.
 - Pattern: Self-tapping, metallic drive screws, or power driven screws.
- Washers and screw cups: Where required to be of same material as screw.

390 ADHESIVES GENERALLY

- Standards:
 - Hot-setting phenolic and aminoplastic: To BS 1203.
 - Thermosetting wood adhesives: To BS EN 12765.
 - Thermoplastic adhesives: To BS EN 204.

EXECUTION

610 FIXING GENERALLY

- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
- Appearance: Fixings to be in straight lines at regular centres.

620 FIXING THROUGH FINISHES

- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 FIXING PACKINGS

- Function: To take up tolerances and prevent distortion of materials and components.
- Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
- Locations: Not within zones to be filled with sealant.

640 FIXING CRAMPS

- Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
- Fasteners: Fix cramps to frames with screws of same material as cramps.
- Fixings in masonry work: Fully bed in mortar.

660 SCREW FIXING

- Finished level of countersunk screw heads:
 - Exposed: Flush with timber surface.
 - Concealed (holes filled or stopped): Sink minimum 2 mm below surface.

700 APPLYING ADHESIVES

- Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
- Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Z22 Sealants

To be read with Preliminaries/General conditions.

PRODUCTS

310 JOINTS

- Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.

EXECUTION

610 SUITABILITY OF JOINTS

- Presealing checks:
 - Joint dimensions: Within limits specified for the sealant.
 - Substrate quality: Surfaces regular, undamaged and stable.

620 PREPARING JOINTS

- Surfaces to which sealant must adhere:
 - Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
 - Clean using materials and methods recommended by sealant manufacturer.
- Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
- Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
- Protection: Keep joints clean and protect from damage until sealant is applied.

630 APPLYING SEALANTS

- Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
- Environmental conditions: Do not dry or raise temperature of joints by heating.
- Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
- Sealant profiles:
 - Butt and lap joints: Slightly concave.
 - Fillet joints: Flat or slightly convex.
- Protection: Protect finished joints from contamination or damage until sealant has cured.