

## Series 700: Pavements

		<b>Sub-base</b>	
Units	1	The unit of measurement shall be:	
		(i) sub-base ..... cubic metre.	
Measurement	2	The measurement of sub-base shall be the volume of sub-base measured to the outlines stated in the Contract.	
	3	No deduction shall be made for openings of 1 square metre or less.	
Itemisation	4	Separate items shall be provided for sub-base in accordance with Chapter II paragraphs 3 and 4 and the following:	
		Group	Feature
		I	1 Each group or type of sub-base
		II	1 In carriageway, hardshoulder and hardstrip
			2 In emergency crossing
			3 In lay-by and bus bay
<b>Sub-base</b>	5	The items for sub-base shall in accordance with the Preambles to Bill of Quantities General Directions include for:	
Item Coverage		(a) trial areas and trials;	
		(b) making good after sampling and testing;	
		(c) protection of material in transit and while awaiting tipping;	
		(d) grading, measuring, mixing and depositing materials;	
		(e) spreading and compaction;	
		(f) cleaning, preparing and working on or up to existing surfaces and features;	
		(g) curing and protection;	
		(h) edge support;	
		(i) maintenance of surface;	
		(j) taking measures to protect the subgrade, capping where used, and sub-base from deterioration due to the ingress of water and the use of constructional plant;	
		(k) taking measures to improve the sub-base to protect the sub-base, capping where used, and subgrade from damage due to the Contractor's method of construction and choice of constructional plant;	



**Roadbase, Lower  
Roadbase, Upper  
Roadbase, Basecourse,  
Wearing Course and  
Concrete Slab**

9 The items for roadbase, lower roadbase, upper roadbase, basecourse, wearing course and concrete slab shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) trial areas and trials;
- (b) making good after sampling and testing;
- (c) protection of material in transit and while awaiting tipping;
- (d) designing and verifying mixes;
- (e) grading, measuring, reclaiming, mixing and depositing materials;
- (f) air entrainment;
- (g) spreading and compaction;
- (h) cutting back, saw cutting, cleaning, preparing and working on or up to existing surfaces and features;
- (i) edge support;
- (j) reinforcement (as Series 1700 paragraph 25);
- (k) waterproof and separation membranes;
- (l) chippings;
- (m) surface texturing;
- (n) formwork (as Series 1700 paragraph 14);
- (o) making joints;
- (p) forming or sawing grooves, cleaning, grit blasting, priming, caulking, temporary and permanent sealing of joints;
- (q) longitudinal, expansion, contraction, warping and construction joint assemblies, including joint filler and crack inducers, tie and dowel bars, dowel bar cradles, caps and sheaths and inspection of dowel bars and corrosion protection to tie bars and coating to transverse reinforcement;
- (r) shaping to cambers, falls and crowns;
- (s) forming sockets, recesses, openings, and bays;
- (t) curing and protection;
- (u) protection and masking and unmasking of kerbs, drainage channels, chamber covers, gully gratings, expansion joints, and the like;
- (v) maintenance of surface;
- (w) taking measures to protect and maintain the pavement from deterioration by the use of constructional plant and the ingress of water and other materials;

- (x) anchorages including excavation and disposal, steel beams, ground beams and thickening of slab;
- y) measures required for aftercare and opening the road to traffic;
- (z) protective system to steel beams (as Series 1900 paragraph 4);
- (aa) slurry sealing, surface dressing, bituminous spray, resin based treatment and tack coat forming integral parts of the pavement;
- (bb) admixtures and additives;
- (cc) providing for areas to be kept free of pre-coated chippings.

### Regulating Course

- Units**
- 10** The units of measurement shall be:
- (i) bituminous regulating course ..... tonne or cubic metre.
  - (ii) cement bound regulating course ..... cubic metre.
- Measurement**
- 11** The measurement of bituminous regulating course by tonne shall be calculated from the tonnage of material certified by the Engineer multiplied by the factor stated for the particular aggregate used.
- The tonnage certified by the Engineer shall be only that material included on delivery tickets which is incorporated in the Permanent Works in the locations and to the extent and thickness required by the Contract. Material in excess of the requirements of the Contract and material used for any other purpose shall not be included within the certified tonnage.
- The measurement of bituminous regulating course by cubic metres shall be the volume of material measured to the outlines required by the Contract.
- 12** The measurement of cement bound regulating course shall be the volume of material measured to the outlines required by the Contract.
- Itemisation**
- 13** Separate items shall be provided for bituminous regulating courses and cement bound regulating courses in accordance with Chapter II paragraphs 3 and 4 and the following:
- | Group | Feature                                                |
|-------|--------------------------------------------------------|
| I     | 1 Each group or type of bituminous regulating course   |
|       | 2 Each group or type of cement bound regulating course |
| II    | 1 Lower roadbase                                       |
|       | 2 Upper roadbase                                       |
|       | 3 Roadbase                                             |
|       | 4 Basecourse                                           |
|       | 5 Wearing course                                       |
- Note:** Each item description which includes Group I Feature 1 shall relate to the tabulated list of the different constituent aggregate types and their factors included in the Bill of Quantities.

**Bituminous and Cement Bound Regulating Course**

**14** The items for bituminous and cement bound regulating course shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) roadbase, lower roadbase, upper roadbase, basecourse, wearing course and concrete slab (as this Series paragraph 9);
- (b) weighing, tickets and copies;
- (c) material not laid as regulating course.

**Surface Treatment**

Units

**15** The unit of measurement shall be:

- (i) surface treatment ..... square metre.

Measurement

**16** The measurement of surface treatment shall be calculated using the width of the top surface to be treated as described in paragraph 7.

**17** Surface treatment shall only be measured separately when the Contract requires a separate or additional surface treatment to be applied to the pavement. Surface treatment forming an integral part of any specified group or type of pavement shall not be separately measured.

No deductions shall be made for openings of 1 square metre or less.

Itemisation

**18** Separate items shall be provided for surface treatment, in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Slurry sealing
	2 Surface dressing
	3 Bituminous spray
	4 Resin based surface treatment
II	1 Different types
III	1 Different rates of spread

**Surface Treatment**

**19** The items for surface treatment shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) trial areas and trials;
- (b) spreading and rolling deposited materials;
- (c) tack coat (as this Series paragraph 24);
- (d) in the case of resin based surface treatment certification of spraying equipment and supplying copy of certificate at monthly intervals to the Engineer;
- (e) measures required for aftercare and opening road to traffic;

**Tack Coat**

Units

- 20** The unit of measurement shall be:
- (i) tack coat ..... square metre.

Measurement

- 21** The measurement of tack coat shall be the surface area to be coated.
- 22** Tack coat shall only be measured separately when the Contract requires a separate or additional tack coat to be applied to an existing surface prior to the construction of the following course or treatment. Tack coat forming an integral part of any specified group or type of pavement or surface treatment shall not be separately measured.

Itemisation

- 23** Separate items shall be provided for tack coat in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Tack coat
II	1 Different materials
III	1 Different rates of spread

**Tack Coat**

Item Coverage

- 24** The items for tack coat shall in accordance with the Preambles to Bill of Quantities General Directions include for:
- (a) trial areas and trials;
  - (b) making good after sampling and testing;
  - (c) designing and verifying mixes;
  - (d) grading, measuring, mixing and depositing materials;
  - (e) making joints;
  - (f) cleaning surfaces;
  - (g) protection and masking and unmasking of kerbs, drainage channels, chamber covers, gully gratings, expansion joints, road studs, road markings and the like and obtaining clean markings;
  - (h) cutting back, preparing and working on or up to adjacent faces, surfaces and features;
  - (i) admixtures and additives.



**Reinstatement of Paved Areas**

Units

**33** The unit of measurement shall be:

- (i) reinstatement of paved area ..... square metre.

Measurement

**34** The measurement of reinstatement of paved area shall be calculated using the width of the top surface to be reinstated excluding sides and edges.

No deduction shall be made for openings of 1 square metre or less.

The top surface for the following features shall be the widths or areas described below:

- (a) for drains, sewers, piped culverts, service ducts and filter drains – the width shall be the internal diameter of the pipe plus 600 mm;
- (b) for kerbs, channels, edgings, combined drainage and kerb blocks and the like – the width of the foundations;
- (c) for chambers, gullies, traffic signs, traffic signals, road lighting columns and the like – the horizontal area of the base slab or where no base slab is required the area of the bottom of the excavation.

Itemisation

**35** Separate items shall be provided for reinstatement of paved area in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Each type of paved area reinstatement
II	1 Different thicknesses or depths

**Reinstatement of Paved Area**

**36** The items for reinstatement of paved area shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) determination of the extent of the reinstatement and agreement with the Engineer;
- (b) sub-base (as this Series paragraph 5);
- (c) roadbase, lower roadbase, upper roadbase, basecourse, wearing course and concrete slab (as this Series paragraph 9);
- (d) bituminous and cement bound regulating course (as this Series paragraph 14);
- (e) surface treatment (as this Series paragraph 19);
- (f) kerbs, channels, edgings and combined drainage and kerb blocks (as Series 1100 paragraph 4);



- (g) footways and paved areas (as Series 1100 paragraph 21);
- (h) scarifying;
- (i) milling (as this Series paragraph 28);
- (j) drilling holes;
- (k) tack coat (as this Series paragraph 24);
- (l) bringing to correct levels and surface regularly following settlement.

**Repairs to Existing Concrete Carriageway**

Units

**37** The units of measurement shall be:

- (i) thin bonded repairs ..... square metre.
- (ii) joint repairs ..... linear metre.

Measurement

**38** The measurement of thin bonded repairs shall be calculated using the plan area of the top surface of each repair patch excluding areas of joint sealant.

**39** Thin bonded repairs and joint repairs shall only be measured separately when areas and lengths to be repaired are stated in the Contract.

Itemisation

**40** Separate items shall be provided for thin bonded repairs and joint repairs in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Thin bonded repairs
	2 Joint repairs
II	1 Each type
III	1 Individual areas not exceeding 1 square metre on plan
	2 Individual areas exceeding 1 square metre but not exceeding 2 square metres on plan and so in steps of 1 square metre
	3 In individual lengths not exceeding 1 linear metre
	4 In individual lengths exceeding 1 linear metre but not exceeding 2 linear metres and so on in steps of 1 linear metre
IV	1 Different thicknesses or depths

**Thin Bonded Repairs  
and Joint Repairs**

41 The items for thin bonded repairs and joint repairs shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) determination of the area or length of the repair and agreement with the Engineer;
- (b) roadbase, lower roadbase, upper roadbase, basecourse, wearing course and concrete slab (as this Series paragraph 9);
- (c) removal of any existing joint sealant and caulking material;
- (d) removal of unsound concrete and cutting back reinforcement within the repair area;
- (e) treatment of repair area and surrounds;
- (f) wetting and removal of excess water;
- (g) finishing repair material flush with the level of the surrounding concrete slab and brushing and applying surface texture to match existing;
- (h) reinstatement of sub-base;
- (i) disposal of material (as Series 600 paragraph 39).